



Birla Institute of Technology & Science, Pilani
Pilani | Dubai | Goa | Hyderabad
Practice School Division

CHRONICLES

Information Technology



PRACTICE SCHOOL - I
SUMMER - 2021

From the Desk of the Editor

It is my great pleasure to bring forth the 3rd edition of the PS-I Chronicles. This edition features over 1800 articles from PS-I students sharing their experiences during summer 2021.

The basic premise behind the release of PS-I Chronicles is to document the PS-I learning experience of students keeping the below objectives in view.

- To provide more information on the learning experiences by immediate senior students and PS-I faculty about stations, and thereby enlightening the learning opportunity among the student community.
- To provide the faculty with the enhanced information about the type and nature of work carried out at the organization.
- To transform the knowledge gained at the organization into class room teaching and also to identify the scope of deepening the collaborations with organization.

The articles have been classified into five categories based on the industry domain.

- Chronicle 1: Information Technology
- Chronicle 2: Electronics
- Chronicle 3: Chemical, Mechanical, Cement, Textile, Steel, Infrastructure
- Chronicle 4; Health Care and other
- Chronicle 5: Finance and Management

I would like to thank students for sharing their experiences during their stint at the organization. I would also like to thank Prof. Arun Maity and Prof. M. K. Hamirwasia for reviewing the articles and providing us the feedback. I would also like to extend my thanks to Mr. Om Prakash Singh Shekhawat, Prof. S Murugesan, Prof. G Muthukumar and Mr. Varun Singh of the Practice School Division, of BITS, Pilani – Pilani Campus for their help in bringing out this edition of PS-I Chronicles.

I would be happy to receive any feedback regarding the Chronicles. Please feel free to email me at psd@pilani.bits-pilani.ac.in or at anil.gaikwad@pilani.bits-pilani.ac.in.

Anil Gaikwad

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Domain: IT

PS-I station: Afour tech -Mobile App development , Pune

Student

Name: ANSARI ZAEEM NURUL .(2019A7PS0057H)

Student Write-up

Short Summary of work done : Our project RATS - Recruitment Application Tracking System is concerned with developing an application that makes the process of hiring employees easier for both employers and employees. It is made using Material-UI and React js. We integrated Application Programming Interfaces made using Fast Application Programming Interface into the frontends.

PS-I experience: Our station, Afour tech, has provided us with an opportunity to work on a live project. This in itself will enable us to learn how large projects are developed in software companies and will expose us to industry level coding practices.

Learning Outcome : We were able to learn React js and Material UI, which are both in demand technologies in the web development industry.

Name: KOMARAGIRI BHARATH .(2019A7PS0098H)

Student Write-up

Short Summary of work done : I worked on developing a few web pages and adding few functionalities using React and Material UI. The project I worked on was an application tracking system designed to make the company's hiring process more manageable. By having this application, the company can have all the hiring process components in one place. It has different views as per the role of the user accessing it

such as hiring manager, technical analyst, etc. I was assigned the technical analyst view. I designed the functionalities which would allow to him view the positions which need to be filled and also schedule interviews for candidates who have qualified the technical test round.

PS-I experience: It was an excellent experience for me. My internship experience at AFour Technologies was terrific. I was delighted to get the opportunity to work as an intern for this organization. I worked with people who were very skilled and experienced. I learned a lot from them. We had meetings frequently where I received suggestions to improve my work. All the project members were very helpful and quick to respond to any queries.

Learning Outcome : Before the start of PS 1, I had very little knowledge of web development, but now I am able to develop few web pages on my own using React and Material UI. I got the first glimpse of a professional work environment, with its deadlines and various members working sequentially in different parts of the same project. I also got to do a lot of research to complete the tasks assigned to me, which improved my skill in programming languages like React and JavaScript.

Name: [DIYA GOYAL\(2019A7PS1327H\)](#)

Student Write-up

Short Summary of work done : Frontend development of the website using React JS and other tools.

PS-I experience: The work was challenging and engaging enough to keep my interest throughout the project. Mentors were also very supportive.

Learning Outcome : I got to learn about many different technologies and software such as React JS, Python, PostgreSQL, Git, and Postman. Apart from technical skills, I learned soft skills like report making, participating in group discussions, etc.

Name: AVIRAL SRIVASTAVA .(2019B2A70007G)

Student Write-up

Short Summary of work done : Worked on front end development using React js

PS-I experience: Good, was able to learn basic React js.

Learning Outcome : Learnt React js.

Name: AVIRAL SRIVASTAVA .(2019B2A70007G)

Student Write-up

Short Summary of work done : Worked on front end development using React js and Material UI.

PS-I experience: This PS station will give ample opportunities to do actual work. We got the chance to work on a live project. But they are demanding and expect you to perform.

Learning Outcome : Learnt React js and Material UI.

Name: ARYAN JAIN(2019B3A70603G)

Student Write-up

Short Summary of work done : Virtual Startup Platform, is a project under VirtualLabs, where we at Afour Technologies are building and developing a web application as an initiative to connect aspiring students as well as graduates with entrepreneurs through this online platform. With our work, we contributed to resolving software issues in the project using various technologies like React js, flask and ORM.

PS-I experience: Our Practice School experience with Afour Tech has been educational and intriguing, which has helped in providing a better understanding of how huge projects are managed by teams and built-in software businesses.

Learning Outcome : It has exposed us to industry-level coding standards, for which, we had to learn about ReactJS, Flask, ORM, PostgreSQL, Webpack, Apache Server and Material UI, which not only helped us in gaining an in-demand, industry skill but also opened opportunities for developing and contributing to other projects as well.

Name: TATI SAI NIKHIL .(2019B3A70676H)

Student Write-up

Short Summary of work done : I was assigned to solved some bugs to an ongoing project, which was almost completed by some seniors. The bugs that I have solved are:
Phone number validation: The phone number blank only takes numbers which are exactly 10 digits.

Responsive: I made some of the webpages responsive.

Logout button: I have created a fully functional logout button to the website.

PS-I experience: I started my PS journey hoping to learn about mobile app development and worked on web app development. I did know many new things about web development. This opportunity of working on an ongoing project was excellent, and I thank bits for making this possible.

Learning Outcome : Learned languages like, React Js, Flask Tools like, Git & Github, DBeaver

Name: SHIVAM SAWLANI .(2019B4A70806G)

Student Write-up

Short Summary of work done : My project RATS- Recruitment Application Tracking System was in the web development domain. RATS is a portal of the company to make the hiring process easier for both employees and employers. My work was to implement the functionality of various views of the project using React.js and sync them with the backend and APIs

PS-I experience: My experience was good. Enjoyed working with AFour Tech. My mentor was helpful and guided me throughout. My overall PS experience was quite enriching.

Learning Outcome : I learned quite a few new technologies. I spend the first few days of my PS learning React.js and Material UI. I also got industry exposure and learned the coding conventions that is followed in professional companies.

PS-I station: Agile connect - Cloud Application Dev , Mumbai

Student

Name: GAURAV SINHA .(2019A7PS0131H)

Student Write-up

Short Summary of work done : Energy Consumption Pattern for Predictive Analysis of Equipment and Ambient Weather Vs Zone Temperature Control for Predictive Analysis of Equipment

PS-I experience: It was a very informative and educative experience which helped me in learning numerous new technical as well as soft skills. The mentor helped me a lot in learning and working on my project

Learning Outcome : Learnt to use Docker, Spyder, Pandas etc as technical skills and Presentation, Cooperation etc as part of soft skills

Name: DIVAKARLA VAMSI KRISHNA .(2019A8PS0651H)

Student Write-up

Short Summary of work done: Our major focus was predictive analysis of equipment's at various commercial spaces. For this we started with learning python Then we moved on to Docker for data extraction. Then by using various python libraries we have dig deep into data analysis of power equipment's.

PS-I experience: Our experience was very worth. We could work on different python libraries.

Learning Outcome: AT the end of the PS-1 were able to use different python libraries and perform data analysis in different efficient methods .We got familiar with data extraction tools too.

**PS-I station: Agile Connects Private Ltd - Embedded Systems/IoI ,
Mumbai**

Student

Name: GOUNI DEEPAK KUMAR REDDY .(2019B1A31551H)

Student Write-up

Short Summary of work done: AgileConnects provides an IoT platform for integrated facility management for commercial spaces. It aims at reducing the energy consumption, mainly of HVAC systems. Our project involves writing a programme to analyse a large data about HVAC and agile equipment collected over a period of 2 months and generate alerts where there is inconsistency with the ideal values, thus helping the customers decide on giving the device for maintenance. We used python with pandas and NumPy libraries to do the data analysis.

PS-I experience: I have had a valuable PS-1 experience. I have got to experience the work culture and improved my soft skills. It was very interesting to know about AgileConnect's work of saving energy and money.

Learning Outcome: Learnt about HVAC functioning and agileWorks architecture. Learnt using many software and tools like docker, Anaconda navigator, spyder etc. Learnt using NumPy and pandas dataframe libraries. Developed my soft skills, presentation skills and team work.

Name: NISHTHA PAREEK .(2019B1A81044P)

Student Write-up

Short Summary of work done: I learned about the HVAC system and the working of its various components. Then, we learned more about Modbus protocol and AgileWise Infrastructure. For the first task, we found out the IR hex code value of various AC manufacturers. We installed Anaconda IDE. Learned about Anaconda Navigator, creating environments, and installed Spyder and Powershell Prompt. After this, we also installed Docker. We learnt about app container, images, and how to create them using Windows shell terminal. Using docker, we created a container for a MySQL file containing records of employees. Later, we learnt to perform simple data extraction and analysis using Pandas, and NumPy in Spyder IDE taking example of same MySQL file. Finally, 16 problem statements were given by PS mentor where I imported values from .csv files, importing python libraries, concluding the state of blower and compressor based on current obtained from various relay points. Based on the given data, I wrote code to calculate total current consumption, generate alerts. Later, we were asked to make flowcharts and write code for few more problem statements. I was given AC Cycle

Analysis where through python libraries, I calculated the percentage of time when the compressor was running

PS-I experience: Our assignment concluded with us learning multiple technical skills such as pandas, docker, matplotlib and more as well as soft skills such as presentation skills, time management, and team work which helped us gain an understanding of how to work in a professional environment. Overall, it was a fruitful experience

Learning Outcome: Learnt about HVAC Systems and data analysis through Python libraries Pandas, NumPy, Matplotlib. Enhanced my inter-personal skills

PS-I station: Agnext tech- AL/ML , Sahibzada Ajit Singh Nagar

Student

Name: AYUSH AGARWAL .(2019B4A70652P)

Student Write-up

Short Summary of work done: The use of Deep Neural Networks on Orthogonal Signal Corrected Data from NIR Spectroscopy. Since the data is already signal corrected, the preprocessing of the data is considered to be complete. A model was created from the given sample size of 36963 and 216 feature labels. The model was trained with this data first as Classification and then Regression. This model then predicts the output from a given spectral data. This data will further be used by respective organizations for quality assessments of the product in inspection. Also, understanding O-PLS Regression through several Research Papers and its application in the model we built. Other than that, we also focused on increasing the accuracy of the deep learning model by understanding and trying various Algorithms like Support Vector Machines, K-Nearest Neighbors, K-Means Clustering and Principle Component Analysis. Libraries in Python like Scikit-learn and Lazy Predict were studied and implemented in the model.

PS-I experience: An emerging tech-based startup at its initial phase has a lot of potentials for everyone to gain experience. This makes my internship with AgNext so special.

Working in a emerging startup has its own merits and demerits. We'll explore both sides of working in a startup company.

Starting with the merits, the scope of work in limitless and extreme. They made us read several research papers of the latest and ongoing research to implement it practically in real -life NIR Spectroscopic Data. The assigned work was a lot and I learned a lot of Deep Learning Models and Machine Learning Algorithms. I also got a glimpse of the startup culture and how people are motivated and dedicated to what they do and their purpose. Agnext conducts daily morning assembly where people share their motivation to work and anything that drives them. This was something that I enjoyed a lot as I got the perspective of many employees working in AgNext.

Learning Outcome: For building my deep learning model I had to self explore a lot of fields like Linear Regression, Logistic Classification, Support Vector Machines, K-Nearest Neighbors, K-Means Clustering, Principle Component Analysis, Partial Least Squared(PLS) Regression. Also I learned about several preprocessing steps to reduce noise from the real life collected NIR Data. I understood about Feature Selections, choosing between models to find out what works with the best accuracy. I explored several Python libraries like Scikit Learn, Lazy Predict, Extra Class Classification and several others. I also went through Keras API to apply Deep Learning Models in my assigned work. I had the liberty to understand concepts on my own and as I wished. Taking advantage of this liberty, I gained a lot of experience in this summer term.

Name: PATTANI VATSAL ROHITBHAI .(2019B5A70697P)

Student Write-up

Short Summary of work done: I was originally allotted AI-ML project. But later joined the Computer Vision team. My project was 'Segmentation of Overlapping Objects'. For quality assessment of chillies, we need to segment them out from a given image. I wasn't provided with any data set from the company. They advised me to make my own data set. Due to time constraints, creating and labeling a huge data set was impractical. So, I decided to use Classical Computer Vision approaches. That is, using various image processing algorithms like edge detector, corner detector, contour detector, watershed algorithm for Image segmentation. At the end I was able to solve the problem by using these classical methods.

PS-I experience: Our BITS faculty mentor supported us throughout the PS. He held very frequent meets and always addressed our issues. Mentor from Agnext always guided us in all the technical aspects. I learnt a lot about Digital Image Processing and Computer

Vision during my PS-1. I got chance to apply these skills on real life images and solve real life problems. Since it has its applications in numerous fields, I believe that whatever I've learnt so far will be useful in the future. I would love to keep pursuing this field. Overall, it was a wonderful learning experience.

Learning Outcome: I learnt about Digital Image Processing, Edge detection, Corner detection, Image segmentation, Watershed algorithm, Image pre-processing, Contour detection, Contour approximation and various other algorithms.

PS-I station: Agnext tech-Computer Vision , Sahibzada Ajit Singh Nagar

Student

Name: ANIRUDH SINGH .(2019A7PS0107P)

Student Write-up

Short Summary of work done: I had to build a computer vision pipeline to estimate the physical parameters of fruits using their images taken from a mobile phone, without using Deep Learning. The project started with single images and using perspective transformations to remove distortions from images taken from different angles, but went on to be more complex with multiple images and 3D vision techniques. The project went deep into the fundamentals of camera geometry and multi-view imaging.

PS-I experience: I was more-or-less free with however I wanted to approach the problem, with the initial direction given by my mentor. The organisation was supportive throughout the process and helped me evaluate any ideas I had to solve the task.

Learning Outcome: soft skills and the basics of computer vision. I went through various online sources and MOOCs to understand existing vision techniques for 2D and 3D vision.

Name: MRIDUL BHATIA .(2019B3A70410P)

Student Write-up

Short Summary of work done: I was responsible for designing a deep neural network to perform classification and regression on OSC (orthogonally signal corrected) data in order to correctly map the inputs to the corresponding outputs (derived from experiments). By doing so, this model could be used to predict the outputs of other inputs without having to carry out any experimentation in future. This would have saved on time and costs.

PS-I experience: Since the PS-I was online, issues were faced in having a fluid communication with the industry mentor. Nevertheless, it was an enriching experience due to the exposure to the regular functions and activities at a startup, trying to revolutionise the agriculture sector in India. I also got a chance to have a look into the philosophies some of the other employees had in mind which were truly intriguing.

Learning Outcome: I got to apply the concepts of Deep learning and Machine Learning. I mainly used PyTorch as framework. Among the python libraries which I used were pandas, numpy, sklearn etc. Seminars helped me improve my presentation skills and soft skills. The presentations of other students also helped me take insights in other fields.

Name: PAYAL BASRANI .(2019B5A70809P)

Student Write-up

Short Summary of work done: I have built a model that takes an already Pre-processed NIR spectroscopy data then train itself using the data and predict the qualitative and quantitative properties of the input spectrum. For making the model, I have used Extraclassclassifior for classification and PLS regression for regression and overall getting an accuracy around 98-99%.

PS-I experience: PS-1 experience was fruitful. It helped me to enhance my communication, presentation skills and taught me how to balance work and life.

Learning Outcome: Learned many libraries of python, many algorithms of ML and DL and also learned what methods can be used for comparing the output of two algorithms.

PS-I station: Agnext tech-Software Development , Sahibzada Ajit Singh Nagar

Student

Name: Manan Gulati(2019A8PS0393P)

Student Write-up

Short Summary of work done: We worked on an open source software called Senaite LIMS. Senaite LIMS is a Laboratory Information Management System (LIMS) for enterprise environments. This software helps laboratories automate their tasks such as tracking and processing of samples and to increase their overall efficiency. We mostly focused on the pre-development stage and the goal was to come up with an approach to re-engineer and modify the software in accordance with client needs. We worked on integrating new features and modifying the existing ones according to the client requirements.

PS-I experience: I got first-hand exposure to the corporate culture. The environment at AgNext was welcoming, the mentors were very cooperative and guided us whenever we were stuck. I got to learn new things both from technical and inter-personal perspective.

Learning Outcome: I learnt about software development using python and frameworks like Zope and Plone and the importance of team-work in building an industry level software. I also got to work upon and improve my presentation and communication skills.

Name: RITVIJ KUMAR SHARMA .(2019A8PS0666G)

Student Write-up

Short Summary of work done: I was allotted the Software Development team in AgNext. Here I and my team's work was to plan and document the approaches for the creation of Laboratory Information Management System (LIMS) Software. This software, AgLIMS, is to be used as a SaaS by AgNext. With the help of this software, laboratories working in collaboration with AgNext will be able to manage their work well. We had to work on finding approaches and documenting them, for re-designing and re-engineering of the popular Open Source LIMS software, Senaite LIMS.

Senaite has a lot of features built-in but there are certain features which are also paid. So we had to focus on such features which were either paid, or were not implemented in the Senaite application. Some examples of such features are Inventory Management and Multi-user functionality.

I had to focus on Inventory Management part and also understanding how the database works in Senaite. Since Senaite works on Plone CMS which uses Zope Object Database (ZODB), its is not possible to see schema of database visually, in ZODB only option is to go through the python object files. Also we cannot query the data directly as it is not SQL type database. So we took reference from another open sourced LIMS called Baobab LIMS which has inventory management implemented. Final plan we decided upon and documented was to add inventory management to Senaite as a Plone Add-on. Since Senaite is built upon a modular approach it is possible to add add-ons.

PS-I experience: My PS1 experience was really good and I got to learn and explore a lot of new things and develop some good skills.

Learning Outcome: I learnt a lot about:-

- 1) LIMS and their importance in laboratories.
- 2) Important features for a good LIMS.
- 3) Work in Ag tech field.
- 4) Collaborating with senior professionals and team-mates on an industry level project.

Name: DIVYANSHU PRAKASH .(2019B5A80678P)

Student Write-up

Short Summary of work done: Agnext requires a LIMS for use in agriculture food quality testing labs and also to provide to clients as SaaS. The plan was to use the open source Senaite LIMS and make changes to it as per the needs of Agnext.

The Senaite LIMS makes use of zope object database which is an object based database for python. We can access this data using existing API provided with senaite which allows us to view specific fields such as client, sample type, instrument etc. in json format. This is done through http get/post requests.

The json api provides basic functions of create, read and update (CRU operations) to the user. A possible approach for using this in the inventory management module and also in the admin access website was to use Flask and pandas to convert the zodb json data into csv for easy interpretation and representation. This was the work done for the backend of the software. Apart from this some frontend modifications were to the existing software through changes to the .pt files.

PS-I experience: PS1 was interesting and educational as well being a new experience in terms of working in a corporate setting and facing the new challenges that such a setting brings with it. A case in point being the work that goes on in a corporate team where everyone has to make their timely contributions to keep things functioning smoothly. This served as a good introduction to what one should expect if they take the corporate career path.

Learning Outcome: The experience from PS1 included technical learning outcomes in working with python and more specifically plone and the zope object database. PS1 was also a great exercise in the whole process of documenting your work which was highly stressed upon by both, the industry mentor and the faculty mentor.

Learning outcomes in terms of soft skills included getting used to constant presentations and meetings with senior personnel in the organization, which definitely improved my communication skills and also my comfort levels in such an environment which some might define as stressful.

PS-I station: Arbunize Digital Media Pvt. Ltd - Information Extraction/NLP , Delhi

Student

Name: KARAN GOPALANI ,(2019A3PS0443G)

Student Write-up

Short Summary of work done: Mainly the project was divided into 3 stages -

1. Research Part - Finding and collecting a new dataset of resumes.
2. Annotation - The resumes were to be annotated before feeding them to the machine learning model. We used doccano tool for annotation.
3. Training - All the data set that is prepared from research and annotation will be used to train the already existing model to check its accuracy on the new unseen dataset.

PS-I experience: This internship was a huge learning curve for us. Learned a lot about industrial life and its work culture. We got work experience by working with industries experts. Our mentor was really helpful and keen to help us whenever we were stuck somewhere. Overall it was a great experience.

Learning Outcome: During the PS-I internship, we learned and developed lots of skills that are important in the professional world. We learned about the use of various tools and technologies that are used in the industry such as Docker, postman(API testing tool), python Django(backend web framework), spacy(open-source library for NLP), and Selenium(automating web-based applications). Our company also organized various sessions to improve our soft skills, some of which were based on topics like business plan building, problem framing and solving, leading an interview, personal branding, time and project management, etc.

Name: RISHITA PANDEY .(2019A7PS0104H)

Student Write-up

Short Summary of work done: Resume Parser :

It is an asset project for the company . The project is associated with GetBoarded. The Resume Parser Will act as an extension in GetBoarded Platform. Using AI to extract information from resumes. The system can parse resumes in pdf, word, or txt format. The parser works by segmenting the resumes into various sections like Personal Details, Educational Details, Skills (Technical as well as Psychological), Hobbies, Work Details, Certifications & Projects .

PS-I experience: It was a nice experience working with Arbunize Digital Media Private Limited . I met some wonderful mentor who helped me learn relevant things for the project. Apart from just providing the resources, they also helped me to understand how the project worked and then assigned tasks to me.

Learning Outcome: I gained knowledge about Natural Language Processing and the various libraries in Python like spacy for language detection of Resume . I also learned about django , web scraping using selenium and beautifulsoup , docker and doccano . I also learnt about best practices that should be followed while writing the code.

Name: KAUSHAL KHATOR .(2019A7PS0180G)

Student Write-up

Short Summary of work done: Our project was to create a website for development of soft skills for students sitting in placements. It would serve as an e-training manual, where students could learn what selection processes recruiters follow to select candidates and what do they expect from the candidates. We used MERN for development of website. Apart from that we had to do content research for the above stated e-training manual.

PS-I experience: It was great experience as we learnt both technical skills and soft skills from the project. The seminars conducted by the company provided a good learning opportunity. We had sessions on cloud computing, problem framing, emotive storytelling to name a few.

Learning Outcome: The main learning outcome was website development and content research. We worked on Html, CSS, Bootstrap for frontend, flask, python and JavaScript for the backend part.

Name: ROHIT RAJESH JAIN .(2019B4A70727G)

Student Write-up

Short Summary of work done: We worked on a web Development project for Learning and Development. Our project name was Fresher's Capsule, portal for development of soft skills aimed at students sitting for placements or internships. We created a dynamic website which includes quizzes, blogs, video content and searching functionality.

PS-I experience: - We had to come up with a project idea and then make a team from a pool of people from various fields as per our need.

- There were mentors assigned by the company, to guide us during the project.
- There were seminars on different topics from field experts to help us get a basic understanding of wide range of topics including cloud computing, marketing practices etc. to enable us to explore further.

Learning Outcome: During PS1 we learned variety of skills including soft and tech skills such as teamwork, professionalism etc and technical skills for web development such as Python, Django, JavaScript, flask etc.

PS-I station: Arocom IT - Machine Learning , Gandhinagar

Student

Name: P V SRI HARSHA .(2019A2PS1521H)

Student Write-up

Short Summary of work done: Worked on 4 projects related to Machine Learning. We were given different datasets involving Mobile Prices, Warehouse Shipping, Stroke Prediction etc. We had to predict the target variable from the given features. We used various Machine Learning Models to predict the target variable. We also used EDA to find hidden insights from the data.

PS-I experience: The overall experience was really pleasant and the company representatives were really helpful in guiding us and making us understand the topics required for completing the projects.

Learning Outcome: I was able to find out more about the steps involved in the process of figuring out the insights from a dataset. Also got to know more about different machine learning models and their applications.

Name: ANAND S.(2019A7PS0061G)

Student Write-up

Short Summary of work done: We worked on 4 projects ranging from basic regression to sentiment analysis. All of them were end to end projects starting from preprocessing and going up-to the deployment of the model.

PS-I experience: Overall it was a good experience with a good amount of learning involved. Peers were dedicated and knowledgeable and the best part of PS was learning from each other and working as a team. The company staff was also really helpful and they kept daily meetings to know our progress and give suggestions accordingly.

Learning Outcome: Improved my practical ML and DL skills and also developed soft skills like teamwork and communication.

Name: SHREY NANDLAL PANDIT .(2019A7PS0138G)

Student Write-up

Short Summary of work done: The Initial few weeks begin with training process, we were taught everything from the basics, python numpy everything.

Moving on to next few weeks we had to do a total of 4 projects in 4 weeks. 1 in each week, the project were basically datasets pulled from kaggle.

We had to make the entire pipeline for the dataset starting from the data cleaning, visualisation, feature engineering, Modelling, conclusion and finally deployment of the model using flask. Finally a PPT had to be made and presented to the AROCOM people. This was a weekly iterative process. The dataset varied from mobile price prediction, amazon fine food reviews, Amazon delivery prediction, Stroke prediction. Could not contribute much towards the company. Overall a really good learning experience that required no pre-req knowledge.

PS-I experience: The overall experience was good enough. The work wasn't "light" as there were always some deadline we were trying to match up. Learned a lot on presentation of things and ML pipeline etc. Overall a good experience.

Learning Outcome: I learned mostly about the flow of a machine learning model, that its not always about the model rather its about the visualization, insights, feature engineering etc. Got to learn Flask, that is used to deploy the ML models created.

Name: ABHIPAL SHARMA .(2019A7PS0161H)

Student Write-up

Short Summary of work done: We were given four different projects to work on - Mobile price prediction, Sentiment analysis of Amazon food reviews, Shipment status prediction and Stroke prediction. We had to analyze the given dataset, visualize it's components and develop a model that would carry out binary/multiclass classification. We also had to develop a web app for each of the above projects.

PS-I experience: The overall experience was pretty good owing to good guidance from our PS industry mentors. Also, I particularly learnt the importance of being organized and punctual.

Learning Outcome: Learnt in brief about NLP, ML and DL and about the proper guidelines to be followed while setting up a data science project notebook along with the implementation of a professional ppt for the same.

Name: Sathvik Bhaskarpandit(2019A7PS1200H)

Student Write-up

Short Summary of work done: The first week included introduction, training and teaching of basic prerequisites and concepts of machine learning. Following the training 4 projects were given.

The first project included mobile price prediction. The second project was sentiment analysis of Amazon reviews of various food items. The third project involved analysis of warehouse shipping orders. The final project was based on stroke prediction of patients.

PS-I experience: The PS-I experience turned out to be very exciting. Concepts were well taught and explained. At each step lots of feedback, insights and possible improvements were given by the station members. Interns were required to make and submit presentations, as well as present their work to the team. There was lots of useful interaction between the interns and Arocom team that helped students to learn, get better, and be exposed to the corporate world.

Learning Outcome: PS-1 at Arocom taught me a lot of things. I learned about the core concepts of machine learning such as data preprocessing, feature engineering, modelling, ensembling and deployment. I was also taught about the general and best approach to any machine learning problem. Through the meetings with the Arocom team I learned about how to speak, present and interact with others. Overall it was a very useful and eye-opening experience.

PS-I station: Asanify Technologies- Business development , Kolkata

Student

Name: MANNEMELA LIKHITHA REDDY .(2019AAPS0247H)

Student Write-up

Short Summary of work done: During the entire course of PS-I, I was assigned to collect contact details of different startups in India and categorized them according to company's criteria. This collection was done with various tools. First started to work manually and slowly tried to do using different tools.

PS-I experience: Overall, my PS-I experience was quite good and had good mentor. Everyday's work is allotted and checked accordingly. I got to know about how sales prospecting can be done efficiently and cold emailing- to get our dream clients.

Learning Outcome: I have learnt how important sales is to a company and how a BD can get right people and maintain a long term relationship with the company. Also I have learnt how cold emailing automation is done. MS Excel, presentation skills, interpersonal skills, communication skills were improved.

Name: NARAYANABHATLA SAVYASACHI ABHIJITH(2019B5AA1072H)

Student Write-up

Short Summary of work done: We found details of Indian startups which were funded recently. We have concentrated mainly on Pre-seed, Seed, & Series -A fundings as the software Asanify has, works best for startups with less than 30 employees. Overall, we found contacts for 500+ startups and started automation. We also founded 5000+ contacts for government recognized startups and started its automation too.

PS-I experience: It was good but the work was too monotonous. Had regular meets with the mentor.

Learning Outcome: I understood how a startup works and various challenges that startups face. I also understood how cold emails are sent and what inbound and outbound sales are.

PS-I station: Bharat Electronics Limited , Bangalore

Student

Name: RUBAN S.(2019A7PS0097H)

Student Write-up

Short Summary of work done: This project is a practical implementation of TWAMP, using Java programming language. It is required to implement socket programming in Java to establish a connection between the session sender and session reflector. The layer 4 stack of the OSI-ISO model is for the initial handshake between two end points of TWAMP segment, and for the UDP datagram, the layer 4 stack of the OSI-ISO model is used for sending/receiving the packets for analysis of network metrics. TWAMP does not choke the bandwidth of user due to the low datagram payload used.

PS-I experience: It was a new experience for us. The industry mentors were well-aware of our capabilities that they trusted that our application would not require testing with industry-grade software, nor the lab facilities. We surely have experienced the work culture during this period. Also gave us the perfect opportunity to co-ordinate with our peers. Industry mentors were quite helpful and did give adequate resources and guidance to help us finish the project. We had the motivation to learn something new in the industry. Overall it was a good experience.

Learning Outcome: In this project, we have learnt the basics of networking, different network protocols, network programming, as well as using various tools like Oracle VirtualBox, Wireshark and PuTTY.

Name: VIGHNESH N G.(2019A7PS0131P)

Student Write-up

Short Summary of work done: We developed an application for the Indian Air Force using Java that they can use to playback different media files in a synchronised manner. The aim is to use this to playback multiple media recorded by them in the same time frame like the in-flight recording, air traffic control instructions audio etc. All the controllers of all media players were synchronised using a mediator design pattern so that if one of their media is paused / sped up / skip 10s etc, all others do the same.

PS-I experience: It was a new experience working with people from a state owned company and doing a project that can be used by the Indian Army. It was much different from both the startup culture and also corporate experiences.

Learning Outcome: Java, JavaFx, design patterns, rapid application development (front end and backend)

Name: CHEPE SANIKA SACHIN .(2019A7PS0285G)

Student Write-up

Short Summary of work done: My project was "AI-based Chatbots for Citizen-Centric Services in Smart Cities". Our aim was to make a conversational chat solution for providing information about essential services to the citizens. We used the RASA opensource framework and Python for building the backend of the chatbot. We also used different APIs for fetching 3rd party data for the chatbot. We also integrated the chatbot with a MySQL database for storing the User information. Finally, we integrated the chatbot with a frontend Android Application, for which we used Android Studio and Kotlin.

PS-I experience: It was an amazing experience. Our mentors encouraged us to learn new things and guided us very well throughout the project. This internship gave me an opportunity to experience working in a professional environment.

Learning Outcome: Apart from technical skills, I also gained soft skills like project planning, teamwork, communication, presentation skills and decision making.

Name: KANISHK YADAV .(2019B2A71452H)

Student Write-up

Short Summary of work done: My PS1 Project under BEL was based on designing an object detection model capable of detecting ships approaching the Indian coastal border and automating the system of ship detection currently done manually by ICG(Indian Coast Guards) and the Navy. The project was based on Deep Learning and the implementation of YOLOv5 Object detection model.

PS-I experience: The PS1 started off with me and my team mate getting used to all the basic Deep learning concepts and understanding how a Neural Network is implemented and how it functions.

Getting used to all this took around 4 weeks and we had 3 weeks left for our project. We first started off with implementing YOLOv3 and YOLOv4 models but due to runtime issues in Google Colab, we couldn't continue working on that. We proceeded with YOLOv5 model and the model worked fine. To improve the accuracy of the model, we implemented techniques such as Freezing Layers and Hyperparameter tuning which involved manipulating the learning rate, epoch number and the image resolution. In the end we ran our trained model on a YouTube video and the model was able to detect the ships(nine types) present in every frame.

Learning Outcome: We got exposed to a whole new field of Deep Learning. Implemented a state of the art object detection model YOLOv5 and understood how Neural Networks function and how do we make them better for different datasets.

Name: SHREYAS RAVISHANKAR SHEERANALI(2019B3A70387P)

Student Write-up

Short Summary of work done: In the first five weeks, we learnt the concepts related to our project by completing the first four courses of deeplearning.ai 's Deep Learning Specialization on Coursera and the "Python for Computer Vision with OpenCV and Deep Learning" course by Jose Portilla on Udemy.

Then, our industry mentor provided us with a dataset consisting of 6350 labelled images belonging to one of the nine ship classes: Ferry, Buoy, Vessel/ship,

Speed boat, Boat, Kayak, Sailboat, Flying bird/plane, Other (all other types of ships). We applied the YOLO V5 object detection algorithm to the dataset. Based on the training results, we tuned a few hyperparameters and achieved superior performance. The main limitation was lack of access to GPU, which was offline at BEL, and the Colab version had constraints on the continuous GPU runtime.

PS-I experience: It was a great learning experience, considering very limited background to Deep Learning. We could not have completed the five courses in five weeks in ordinary circumstances. If PS-1 was offline, we could've got access to GPU and achieved the end product.

Learning Outcome: Concepts of Deep Learning : CNN, Hyperparameter Tuning (a practical experience), Object Detection Algorithms (YOLO, Fast R-CNN).
Soft skills: Working/Learning under pressure of limited time

Name: PULKIT GUPTA .(2019B3A70481P)

Student Write-up

Short Summary of work done: We have upgraded our java skills from theoretical knowledge to live project implementation in an industrial setup. We developed a specialized media player that plays multiple media files concurrently with synchronized controllers. Apart from the application of Java we have also implemented Design Patterns for proper efactoring and structuring of code to robustify the logic and increase the readability. We have also learnt about supporting technologies like Version Control Systems that is used by every major software player. This project exposed us to generating test data and testing an application in a rigorous manner. We also used industry standard methods like pugh matrix for decision making and happy path flow

testing. We have also been introduced to the collaborative nature of the software industry along with the quick thinking necessary to understand the requirements of the project to effectively use the time of the project mentors.

PS-I experience: It was a wholesome experience and great learning opportunity. Our mentors were very good and understanding.

Learning Outcome: Learnt JavaFx and communication skills. Improved my coding abilities.

Name: SARANSH PRUTHI .(2019B4A70718G)

Student Write-up

Short Summary of work done: Project Title - 'Flood forecast system using machine learning'

Our project involved making a machine learning model which would be able to forecast floods and its danger level with a lead time of at least forty-eight hours and an acceptable accuracy. This model was then to be integrated by the station officials in their system and deployed for analysis and flood prediction in upcoming smart cities project by Govt of India

To accomplish this flood prediction model, we made river water level and rainfall forecast models using ML and then input forecasts from these models and apply ML classifiers to it in order to predict floods and its intensity. I used ARIMA to make water level and rainfall forecast models as this data was in the form of time-series. Then, I applied Linear Regression and KNN classifiers to it in order to predict floods and its intensity.

PS-I experience: The experience was good. Although, the project was very interesting and I personally learnt a lot, it would have been better if we had frequent meetings with experts from the station. Still, I managed to make the most out of this amazing opportunity provided to me and developed a lot of skills, both technical and non technical. My contribution in the project was highly appreciated by the organization and I was very satisfied with the final ML model made as it was highly efficient and at par with all the requirements of the project. Overall, it was a good experience.

Learning Outcome: I was totally new to ML and by the end of this PS-1 duration was able to develop and deliver a very complex and efficient ML model that could be deployed by Bharat Electronics Limited in their smart cities project by government of India. I also developed many non-technical skills like formal communication skills, presentation skills, etc.

Name: MANSVI BHATIA .(2019B5A71088H)

Student Write-up

Short Summary of work done: Making a Chatbot using RASA

PS-I experience: Had a good learning experience learning. Faculty incharge and instructor were helpful

Learning Outcome: Learnt RASA and python

PS-I station: Big Scale tech- Mobile and Web Developemet , Surat

Student

Name: AYUSH MEHTA .(2019A1PS0651P)

Student Write-up

Short Summary of work done: We worked to training of a deep learning model for ASR and then integrate it with a backend API.

PS-I experience: It provided us practical experience about how the work is being done and carried out

Learning Outcome: We learned many social and technical skills like team work, leadership, neural networks, deep learning, Django, NodeJS etc.

Name: YAMAN VALECHA .(2019A1PS0820P)

Student Write-up

Short Summary of work done: The work involved making an online editor using Konva.js, where one could upload edit and download the image. The editor was further improved by adding 3D part to it. User can select from model provided and edit them as required. We got to research about various techniques about designing models and also learned to use babylon.js for implementing 3D into the work.

PS-I experience: Mentor was very helpful and helped alot in developing the approach to the work. The overall PS experience was nice and Work from home didnt act as much of a barrier.

Learning Outcome: I learnt alot during the PS including Web Development, 3D modelling and design. Not only technical skills but developed soft skills too through various evaluation components like seminar , group discussion, presentation, etc.

Name: ADITYA SAINI .(2019A3PS1292H)

Student Write-up

Short Summary of work done: The objective of the project was to make and publish an image editor for 3D human models or their organs to be used in the medical field to reduce

the communication gap caused by online mode. It could also be used for uploading and downloading other images if required. The work started by implementing the 2D demo using Konva JS and further it was bonded with Angular framework. It was then improved for 3D implementation using Babylon JS and finally both the 2D and 3D works were integrated into one module to be published using Node Package Manager(NPM).

PS-I experience: My mentor was very cooperative and helped me in developing the approach of the task to be done on each day. The overall experience of PS-1 was very fascinating and provided a good amount of industrial exposure and opportunity to learn new things besides the barrier of Work from Home. Finally the continuous evaluation like Group discussions, Seminars and Project reports were also fun and a new experience.

Learning Outcome: I learnt a lot of new technical skills including frameworks as Angular and libraries like Konva and Babylon that can be used while improving a Web Development project. Besides this I also got to improve my soft skills by participating in various assessments like seminar and group discussions and also meetings conducted by the PS station. Summing up, this helped me to improve both on technical and personal grounds.

Name: [DURGAVARAPU SRI KRISHNA KARTHIK\(2019A7PS0189H\)](#)

Student Write-up

Short Summary of work done: The work involved making an online image editor using Konva.js, JavaScript, Angular where one could upload edit on it then download the image. The editor was further improved by adding a 3D part to it. User can select from either human body or various human body organs models provided by us and edit on them as per their requirement. We got to research about various techniques about designing models and also learned to use three.js and babylon.js JavaScript 3D libraries for implementing 3D into our work.

PS-I experience: My mentor was very helpful and helped me in developing good approach to the work to be done in each week. The overall PS experience was quite nice and the Work From Home didn't seem to be a barrier in the learning experience. Finally, the online group discussions and seminars were a new experience and fun too.

Learning Outcome: I learnt a lot during my internship including web development, 3D modelling and design and developed soft skills and technical skills through various assignments and evaluative components like seminar, presentations and group discussion. Technical skills gained were JavaScript, TypeScript, Angular, using three.js and babylon.js libraries. Non Technical Skills include team work , work management.

Name: VISHWAS BAYA .(2019AAPS0224H)

Student Write-up

Short Summary of work done: Speech to Text Transcription API using various pre-built models as well as building a compatible web app

PS-I experience: It was a valuable learning experience and we were exposed to the workings of a corporate environment

Learning Outcome: We learnt how corporate environment works, as well as gained experience in speech to text models and neural networks and essential team communication for effective workflow

Name: SHASHWAT SRIVASTAVA .(2019AAPS0267H)

Student Write-up

Short Summary of work done: The work involved making an online image editor using Konva.js , where one could upload edit then download the image. The editor was further improved by adding a 3D part to it. User can select from various human body and organs models provided by us and edit on them as per their requirement. We got to research about various techniques about designing models and also learned to use three.js and babylon.js for implementing 3D into our work.

PS-I experience: My mentor was very helpful and helped me in developing the approach to the work to be done in each week. The overall PS experience was quite nice and the Work From Home didn't seem to be a barrier in the learning experience. Finally, the online group discussions and seminars were a new experience and fun too.

Learning Outcome: I learnt a lot during my internship including web development, 3D modelling and design and developed soft skills and technical skills through various assignments and evaluative components like seminar, presentations and group discussion.

Name: GAURAV KUMAR .(2019B3A71324H)

Student Write-up

Short Summary of work done: We were a team of five members. Our project's objective was to create and publish a module that provides a 3D model of the human body or its parts that can be edited according to the user in real-time and with ease. The prime focus behind this project was to solve the problems faced by the doctors while illustrating their patients in online mode.

Our approach was divided into four steps. At first, we started off with building a basic demo on CodePen using the KonvaJS library. Initially, basic 2D shapes were implemented, followed by transformers to change size and cleaning options concluding with image upload and download functions. In the second step, we shifted to the Angular framework to manage our web app better. The next critical step was shifting to 3D. In the beginning, we started to create fundamental models and tried various features of 3D object rendering. After that, we picked BabylonJs library to work upon, and imported various external 3D models, and added camera control to it so that different parts of the model could be accessed. After creating and testing different functionality of the two libraries, KonvaJs and BabylonJs, we created a final component by integrating both the implementations into a single module, and this project was finally published as a package using Node Package Manager.

PS-I experience: It was a great learning experience. The period of the last two months was exciting and taught us a lot, from technical skills to soft skills. Though I could not take complete advantage of the Practice School due to the online mode, it was a rich experience overall. I got some exposure to the corporate world and learned how things work in the IT industry and the work culture. The most important skill that I learned is

accepting challenges and manage our workflow to reach the goal despite some unavoidable situations that might arise. Mentors were also very supportive and helped me wherever needed. Working as a team and brainstorming to solve a problem was fun and exciting altogether.

Learning Outcome: I learned various technical skills like front-end web development, use of different libraries for different purposes, Angular framework. These skills are highly needed in IT industries nowadays. Apart from technical skills, I learned communication and presentation skills, maintaining work life balance, and accepting challenges given by the organization and completing them in the the given time despite unavoidable situations that might arise. Above all, I got an exposure to the work culture of IT industries and learned to achieve bigger goals by working together as a team.

PS-I station: Bill Cloud Pvt Ltd , Pune

Student

Name: ABHINAV CHHABRA .(2019B4AA1005H)

Student Write-up

Short Summary of work done: We made a ML/AI Model to classify bank statements.We made machine learning model for the same.

PS-I experience

Learning Outcome: Machine Learning

PS-I station: Bintix Waste Research Private Limited - Tech-Software Development , Hyderabad

Student

Name: TOSHIT CHEELI .(2019A3PS0462H)

Student Write-up

Short Summary of work done: I've been given couple of mobile application which are being developed by the company and I have to perform tests with various cases and report bugs found. later done research on testing tools used for automating this process.

PS-I experience: Informative.

Learning Outcome: Learnt a segment in development process.

Name: GULLAPALLI MYTHRI .(2019AAPS0201H)

Student Write-up

Short Summary of work done: Bintix website has admin portal and customer portal. Bintix regularly distributes 6 bags to each customer for free. Recently it released a new feature called Purchase New Bags. The customer can buy a set of 6 bags by paying money. But it will not affect the regular distribution.

I tested different functionalities used in the process of raising a ticket for purchasing new bags in Customer Portal and checking if the payment details got updated after receiving the bags. I also tested different functionalities used in the process of creating new batch pickups for purchase new bags request in Admin Portal and checking if the payment details got updated after the bags are delivered. Then I prepared test documents for the functionalities that are tested in both the portals separately.

I prepared user document for Customer Portal.

It consisted of steps on how:

1. To raise a new ticket for purchasing new bags.

2. To check the payment details after receiving the bags.
3. To check no of regular bags and on demand bags available with the customer in bag inventory.

I also prepared user document for Admin Portal.

It consisted of steps on how:

1. To create a new batch pickup for purchase new bags request.
2. To check if the bags are delivered to the customer.
3. To check if the payment details are updated in the customer details

Finally I prepared release note for Purchase New Bags feature.

PS-I experience: I learnt many things regarding documenting a website during my PS

Learning Outcome: I learnt how to do manual testing, prepare test document, prepare user document and prepare a release note.

PS-I station: Cateina Technologies Pvt. Ltd. , Mumbai

Student

Name: SARVAGYA SHARMA .(2019A7PS0037H)

Student Write-up

Short Summary of work done: The first task was to create a simple login and signup page with the backend, which I did with the help of the MEAN stack. I used cookie-based authentication and stored the JWT (JSON web token) required for identification in a cookie for authenticating users. The next task given was to use Swagger to create a specification for the written API. I was tasked with creating an authentication API and write its specification using Swagger. The final task was to integrate the login and signup part of the application with the existing frontend web application.

PS-I experience: It was a good experience. I learnt about the work environment in a company and how things proceed in a real company. I learnt about how to work and collaborate with a team. The mentors in Cateina Tech. were helpful and supportive.

Learning Outcome: I learnt about Angular and documenting API using Swagger.

Name: SNEHA .(2019A7PS0042P)

Student Write-up

Short Summary of work done: As part of Task-1, I worked on building a MEAN stack-based user registration and authentication application. Task-2 involved using Angular to develop a mock up website built based on a FIGMA wireframing. The purpose of the first project was to create an application that would allow new users to create an account by providing a username (email format), password etc. Once registered, a user can use their credentials to log into the application by providing the correct password and username. Upon logging in, the application takes them to their account. The details about a user are stored on a database using MongoDB. The purpose of the second project was to develop a mock up website built using Angular by following the design in FIGMA wireframing. The application provides an interface for the clients to interact with the company. The application facilitates a platform for availing subscriptions to the various services offered by the company, selecting an API (Application programming interface) according to a customer's requirements, placing an order for an API, gaining an understanding of the work of the company, contact information etc. During the course of these two projects, I had the opportunity to familiarize myself with the fundamental aspects of development – both front-end as well as back-end.

The Tech stack used by us for this project was MEAN. A MEAN stack is a JavaScript-based framework for developing web applications, named after MongoDB, Express, Angular, and Node, the four key technologies that make up the layers of the stack.

PS-I experience: PS-1 gives us great opportunity to learn about the corporate world and use various tools and skills which are highly demanded in the Industry. In PS-1, you get to learn a lot of new stuff which is not taught in the academics. PS-1 helped me understand the importance of team work and communication which are essential for the project to be a success. I got an opportunity to learn a lot of new stuff and also understood the working of a startup. The overall PS-1 experience was very enlightening.

Learning Outcome: Familiarized myself with both Front-end and Back-end Development. Gained the experience of working in a corporate setting for the first time.

Picked up various soft skills through the Group Discussions, Seminars and general collaborative teamwork undertaken as part of the internship.

Name: PRIYANSHU VATS .(2019A7PS0047G)

Student Write-up

Short Summary of work done: We were required to build a MEAN based web application that have the following functions: registration, login, user profile, subscription page. So first of all, we were given a task to build a simple MEAN application during which we learned the MEAN technology. Then the main project. It was similar, but the main project was based on front end only.

PS-I experience: It was my first exposure to cooperate world. I learned many disciplines of professionalism. It was good to work with my team and students from other campuses as well.

Learning Outcome: It was nice to work with students from different campuses. I got to learn how an organization works and time management. I learned that a software engineer requires to be adaptable and should be ready to learn new technology. I learned many technical skills related to MEAN stack development and documentation.

Name: DHARMIK BATRA .(2019A7PS0071P)

Student Write-up

Short Summary of work done: In the start few weeks we learnt web development using MEAN Stack technologies and after that we were divided into different projects in which we were introduced to various other technologies as needed for our project. My project was to render services the client want to offer online.

PS-I experience: It was a good overall experience as I got to learn a lot from the technical as well as professional aspect. It felt nice to interact and be guided by a mentors ,to learn new technical stuff from them, to collaborate with a team and work together and get used to corporate environment.

Learning Outcome: Proficiency in web development, got exposure to the work environment of a IT company, learnt how to communicate and contribute in a group project

Name: KARANDIKAR ATHARVA PARASHURAM(2019A7PS0083G)

Student Write-up

Short Summary of work done: Task-I involved in the creating a MEAN Stack Application for Registration, Login and logout.

Task-II involved the creation of a web-application for Cateina Technology that would facilitate easy client interaction. The application provides an interface for the clients to interact with the company. We used MEAN Stack to develop the website and did wireframing in figma.

PS-I experience: I did not have any experience in web development domain. The organization mentors gave us a task of developing a MEAN Stack Web Application for user registration, Login, Logout. Due to this I got involved in some tutorials of MEAN Stack and learnt how to integrate these technologies together. The organization mentors allotted work on wireframing in figma and cloning the design using MEAN Stack to develop an interface for the clients to interact with the company. Thus, I gained a lot of skills required for web development domain.

Learning Outcome: Technical skills gained : Learnt MongoDB, Express JS , Node JS and Angular, Web development, Wireframing of UI/UX in figma.
Soft skills gained : Effective communication, Team collaborative work, punctuality and time management.

Name: UPPALAPATI KARTHIK .(2019A7PS0089G)

Student Write-up

Short Summary of work done: Task-I was an individual task which involved the creating a MEAN Stack web application which enables a user to Login, register to a particular enterprise which includes authentication and validation of users.

Task-II involved the creation of a mock-up web-application that would facilitate easy client interaction. The application provides an interface for the clients to interact with the company. The application facilitates a platform for availing subscriptions to the various services offered by the company, selecting an API (Application programming interface) according to a customer's requirements, placing an order for an API, gaining an understanding of the work of the company, contact information etc.

PS-I experience: I did not have prior experience with Angular, Backend stuff and FIGMA. Initially the mentors from our PS-I station gave a basic task of creating a MEAN stack Login, Registration web application. I have struggled at the start but gradually picked up the pace and completed the given task. Later on they have allotted work on wireframing in FIGMA and reconstruction of the FIGMA Design using Angular. Initially I am uncomfortable with Angular environment but I got habituated to it and completed the given task before the deadline.

Learning Outcome: I have learnt Nodejs, Express js, MongoDB, Angular, wireframing with FIGMA, communication skills and some soft skills

Name: RISHAB SAPHAL .(2019A7PS0089H)

Student Write-up

Short Summary of work done: The domain of my PS-I station was web development.It involved full stack development using MEAN Stack.

1.My first task was to build a registration,login interface using MEAN Stack.After login,it redirects to a landing page and an option to log out of the session.

2. My second task was developing the front-end part of the homepage for a mock-up services website developed by the interns.

PS-I experience: PS-I was an eye-opening experience for me. I really understood how corporates work and how a project is actually carried out and executed. Interactions with the company staff and various inputs from their side is well appreciated. They were very open to doubts and ideas from our part.

Learning Outcome: During the course of PS-I, I learnt many technical skills including HTML, CSS, node.js, Angular etc. which I was very unfamiliar with. Working as a team with professionals as mentors was indeed a valuable experience. Another key takeaway from PS-I was the evaluation components like diary, GD and seminars, which inculcated a systematic and organized way of working and contributed to soft skills.

Name: [KARIWALA KUNAL ASHISH .\(2019A7PS0134G\)](#)

Student Write-up

Short Summary of work done: MEAN Stack Web Development, Login page, registration page, UI/UX

PS-I experience: fairly pleasant

Learning Outcome: MEAN Stack

Name: [ABHISHEK MOLLERA SINGH .\(2019A7PS1113P\)](#)

Student Write-up

Short Summary of work done: We had to learn and develop a MEAN stack for a mock product services web application, and then had to create a website with Angular.js

PS-I experience:

Learning Outcome: I did learn JavaScript and different software stack coding languages. Eventhough the PS was difficult, I did manage to learn some technical skills from the experience.

Name: RAJ SRIVASTAVA .(2019B1A71426H)

Student Write-up

Short Summary of work done : Ours was a MEAN stack web development project.As our first task,we were asked to create a simple register,login and logout form along with a loading page by using mean stack.Basic knowledge of Html,css and js was also required for this task along with the knowledge of MEAN(MongoDB,Express, Angular,NodeJs) ofcourse.As our second task we were divided into groups of 2 or 3 and each group was asked to develop a particular page(like homepage,login page, subscription page, product overview page etc.) using MEAN for the actual project.Later we integrated all those pages to build a final single web application with multiple pages.

PS-I experience: My overall experience for PS1 was pretty decent I'd say.After realising that most of students are completely new to web development field our mentors gave us enough time to learn basics.

Learning Outcome: I learnt quite a lot from PS1 course.Before PS 1 I didn't have any idea about web development whatsoever.Through this course I gained basic knowledge of Html,css,javascript,Nodejs(for backend),MongoDB and Angular (for frontend)which is important for building full stack web applications.

Name: ALAPATI NAGA TARUN KUMAR .(2019B3A70733H)

Student Write-up

Short Summary of work done: Developed a website using MEAN stack application and made some wireframes and UI/UX design for the site before development using figma

PS-I experience: Learned a lot of new technical and soft skills and worked together with others to make a website from scratch. All in all it was good. Mentors were supportive and provided guidance when necessary

Learning Outcome: MEAN stack,Figma, Communication skills, Report writing, Presentation skills

Name: LAKSHYA GUPTA .(2019B5A70275G)

Student Write-up

Short Summary of work done: I first worked on a Login app using MEAN stack. This is a portal where the user can register with their details. This data is saved in a MongoDB database in the backend and is later used to authenticate the user while they try to login. During the second half of my internship we were asked to make a website that lets the user to login to a platform and purchase services. My job was to make the subscription page of the app. This page lists down all the services that the user had purchased. It also lets the user to search and filter out the results. We only had to make the frontend part of our application so this was done mainly using Angular framework.

PS-I experience: The overall experience was good. There were nice orientation sessions in the beginning. Then we had meetings with people from the company. The meetings were interactive where we would discuss the work each of us were doing.

Learning Outcome: I learnt to make apps with MEAN stack. I also learnt to use Figma to create designs for the app. Along with all the technical skills, I experienced working in a corporate culture, working in a team and mostly important how to convey my thoughts in a professional manner.

Name: NIKHIL(2019B5A71079H)

Student Write-up

Short Summary of work done: My first task was to make a simple login and sign-up app using MEAN stack. I started with learning basics HTML, CSS, JS following learning Node, Express, MongoDB, Angular. My next task was to create a profile page for a webapp that act as an interface to sell API's to customers. I learnt about API's while doing that. Finally I tried to integrated everything in one single project.

PS-I experience: Initially we are assigned a lot of work in first 3-4 days and we didn't knew how to proceed with it so, it was very demotivating actually but later when I learnt the topics it was good.

Learning Outcome: Concepts; NodeJS, Express, SQL Database, MongoDB, and Angular.

Handling work pressure and coping challenges etc, are many other things that I learned as well. I got experience of corporate meets, company policies, handling with HR, etc. Group discussions and project were good learnings to my soft skills.

PS-I station: CDAC- Web Deveopment , Pune

Student

Name: BARUN AGARWAL .(2019A7PS0157H)

Student Write-up

Short Summary of work done: We created a website and related APIs(Application Programming interfaces) that communicate with the database and interact with the machine learning algorithms through backend to populate the filtered data according to the registered user of the vehicle. Vehicle owner can change his registered license plate number through admin if the machine learning algorithm detects the wrong license plate number.The whole website is containerized and ready to be deployed on the servers. The project website is completely responsive and adaptable to all the screen sizes.

PS-I experience: PS1 experience was overall good .The quality of the project given was fine. It was a good experience for a web development project.

Learning Outcome: Learnt new languages: Flask, Reactjs, Docker Also improved communication skills and presentation skills

Name: MAHESH CHANDAK .(2019A8PS0744H)

Student Write-up

Short Summary of work done: Developed a full-stack website using Flask, ReactJs, MySQL and node.js for an AI application(Number Plate Auto recognition application) pre built by the company. Also containerized the project using Docker.

PS-I experience: Overall it was a good experience, both faculty and industry mentors were supportive. Even though it was online new skills were learnt and implemented like a team.

Learning Outcome: Learnt Web application development.

PS-I station: Celebal Technologies Pvt Ltd , Jaipur

Student

Name: AAKARSH GOYAL .(2019A3PS0096G)

Student Write-up

Short Summary of work done: My project was "Topic Categorization". We're aiming to determine the heading of a paragraph in this project and to do so, we have constructed a Python code that uses machine learning algorithms to generate a set of words that are closely related to the content of the paragraph.

PS-I experience: PS-1 is a good learning opportunity where one gets to apply theoretical knowledge acquired in the classroom to practical, real-world problems as well as picking up new skills in industry-leading technologies. The significance of communication between team members and management was the most eye-opening learning outcome for me personally.

Learning Outcome: I learnt a lot about working in a professional environment, managing deadlines, and effectively working in a team. Technical skills include coding in Python, employing machine learning ideas, using NLP for text classification, working with LDA models, and using libraries like nltk and gensim.

Name: PRAKHAR JAIN .(2019A3PS0370G)

Student Write-up

Short Summary of work done: It was a Machine learning project under which we need to find the Heading of document by using machine learning algorithms.

PS-I experience: It was a decent experience.

Learning Outcome: Got introduced to the basics of machine learning.

Name: DEVASHISH GIDWANI .(2019A3PS0389H)

Student Write-up

Short Summary of work done: Worked under the PaaS & Integration team on one of the Company's projects. The project involved development of an e-commerce website with an integrated Payment Gateway. Fulfilled the requirements such as :

User registration and login system, Adding/removing products and order details from database, Integration of PayTm payment gateway as an Integrated payment gateway. Gained experience with Django and Integration of payment gateways.

PS-I experience: PS1 helped me to understand the challenges faced during website development. I also got the chance to communicate with different professionals from the company and got a few insights of the corporate culture.

Learning Outcome: I learnt full stack web development using django framework, HTML, CSS and JavaScript. I also learnt a few things about the background of E-commerce on which my project was based.

Name: SUDHANSHU SINGH .(2019A3PS0391G)

Student Write-up

Short Summary of work done: Predicting customer churn using ML. We have data to work with, much like in machine learning jobs. We determine what data they need to collect based on their objectives. The data is then prepped, preprocessed, analyzed graphically, and converted into a format that can be used to create machine learning models and then their accuracies are tested and compared. Finally we choose the model having the highest accuracy on the test data.

PS-I experience: Learned a lot of things like ML models, presentation skills, python libraries and feel satisfied with them.PS faculties were supportive and the project was really interesting.

Learning Outcome: Learned python, ML, and confidence for future.

Name: AZHAAN SALIM SHAIKH .(2019A3PS1336H)

Student Write-up

Short Summary of work done: Developed a Machine learning Model which suggests/recommends best-optimal prices of a products sold online.

PS-I experience:

Learning Outcome: Hands on experience of different Machine learning models

Name: YAMA SHANMUKH CHANDRA .(2019A7PS0028P)

Student Write-up

Short Summary of work done: We have worked on a machine learning classification problem where we have to predict whether any customer accepts a particular marketing campaign. It was supervised classification problem.

PS-I experience: Apart from company I have got new acquaintances and got to learn a lot from few of them. It was a good opportunity for learning about machine learning and data science techniques.

Learning Outcome: Learnt Data science techniques and Learnt Machine learning that is required for the project mainly on supervised classification problems.

Name: T V CHANDRA VAMSI.(2019A7PS0033H)

Student Write-up

Short Summary of work done: Our project was based on web development. We created a web messaging application that allows users to join rooms and send messages. The messages were end-to-end encrypted, i.e., only the sender and the user could read the messages. We came up with a secure way to send messages that used strong encryption techniques. The application also ensures anonymity and privacy of users.

Technologies Used: HTML, CSS, JavaScript, Node.js, Express JS, socket.io

PS-I experience: PS - I had started off with students and company mentors being enthusiastic for the first few days. The company mentors had conducted meets once in 2-3 weeks to clarify as many doubts regarding the projects. In the first week, we were provided with minimum further resources to get started off with our projects, which helped us learn to be independent.

Overall, PS - I helped me experience the independence and the hard-work that goes into surviving in the industry environment.

Learning Outcome: I learnt how to be independent, self-reliant and find resources on my own to ensure that the work assigned by the station was completed. The deadlines helped me try my best and apply whatever I had learnt in the most effective manner.

Name: ANUJ SINGHAL.(2019A7PS0039G)

Student Write-up

Short Summary of work done: My project is to make a registration page. It should have the functionality to register the user, allow the user to sign-in and then sign-out. Everything has to be made from the scratch including the website layout. I used Django to build it.

PS-I experience: It was a learning experience where I got some experience of how the industry works. The group discussions overseen by the PS faculty were very informative and engaging.

Learning Outcome: I learnt how Question / Answer systems work and their development cycle. I also got some experience with Django.

Name: GARVIT SINGH .(2019A7PS0073G)

Student Write-up

Short Summary of work done: Realtime Chatbot Application - we have to make google meet kind of rooms where person can join a group chat using invite links. Later to be integrated with companies ML/AI chatbot.

PS-I experience:

Learning Outcome: MERN stack and Socket.io

Name: RAGHAV CHAUDHARY .(2019A7PS0082P)

Student Write-up

Short Summary of work done: Our project was “Computer Vision Based Text Scanner” and we built that with the help of Deep learning(CNN). We made our initial prototype

model using KNN and then we improvised it in order to increase the accuracy and our final project was in CNN. While building the project we learned many things like python, deep learning, machine learning, pytesseract and OpenCv library. Apart from all this technical learning there was lots of soft skills learning involved like we learned proper format of presentation and proper way of delivering a presentation. We learned many aspects related to the corporate world and my very first experience with the technical world was very fruitful thanks to PSD.

PS-I experience: My PS station was decent and me and my team was assigned the project "Computer Vision Based Text Scanner" which comes under the domain of Machine Learning. During PS1 we learnt various ML algorithms and deep learning models which was quite interesting. We learnt how the IT industry works and our PS station was mainly focused in 4 domains - AI/ML, Cloud, Big Data and Dynamics 365. In overall it was a great experience and we are very thankful to our PS division.

Learning Outcome: I learned many things like deep learning, many libraries in python like OpenCv, tesseract and we learned about KNN(machine learning) and apart from all this technical knowledge we learned about proper way of giving a presentation and proper communication skills.

Name: PRIYANSH MEHTA .(2019A7PS0142G)

Student Write-up

Short Summary of work done: I was assigned a Project to make Realtime Chatbot Application, along with a teammate. The technologies used for the same are - React.js, Node.js, Socket.io, Google Auth0, HTML,CSS. We made an application capable of providing its users a medium to interact in the form of text messages, login is through email/google account and then there are option to join or create a chat room.

PS-I experience:

Learning Outcome: I got to learn various frontend and backend technologies and also working with a team through GitHub collaborations, it was a good medium to begin with my Web Development Journey.

Name: AKSHAY WAKHARE(2019A7PS0184H)

Student Write-up

Short Summary of work done: The project was to create our own unique encryption methodology and implement it in our web-based chat application service to facilitate end-to-end encrypted messaging. The messaging service allows users to join or create rooms and chat securely with the other users in the room.

PS-I experience: It was a great learning experience. We got to understand and work closely on the different stages of a software development lifecycle. We had a real world problem in our hands, and after days of brainstorming and extensive research we came up with a solution and a work plan to implement it. The organisation coordinator was helpful and we received a lot of support from our faculty mentor. I never thought we would be able to complete the project within the deadline but we did, and it really is an achievement. More than the technical skills, its the soft and peoples skills we gained that would help us in the long run. The exposure we got, though limited because of the work from home nature would go a long way in helping us in our career and I'm excited more than ever for an even better leaning journey during PS-II.

Learning Outcome: In the beginning I worked on the backend to setup a server for the website using Node.js and handled various website routes and implemented socket.io listeners for chat functionality. Later I also worked to beautify the front end using CSS and implement user interactive and useful functionalities using Javascript. Gained knowledge about the workings of encryption algorithms and how it can be integrated with chat messages, and a full stack development experience along with knowledge on many node.js plugins. Along with all this the Group Discussions helped my confidence and gained various soft skills.

Name: SEEMALA BALA THARUN REDDY .(2019A7PS0190H)

Student Write-up

Short Summary of work done: Our project "Computer vision-based Text Scanner" is to basically create an OCR for scanning text inside an image and convert it into text format which can be edited and various other computations can be performed on it which we can perform on text. Here input will be of .png (which can be changed to .jpg or other formats with little changes) and after some computation our model will give output of .txt format.

PS-I experience:

Learning Outcome:

3.1. Skills acquired

1. Coding OCR with machine learning from scratch using KNN.
2. Learned basic image processing using opencv and numpy.
3. Learned ANN, CNN and differences between them and which one to choose in a particular situation.
4. Gained experience in machine and deep learning.
5. Got hands on experience with tesseract OCR.

3.2. Soft Skills acquired

1. We gained experience by engaging in Group Discussion.
2. We learnt various things in a time efficient manner and also how to work as a team so that work is divided effectively.
3. We got experience of giving a presentation and it taught us a lot.

Name: AKSHAT .(2019A8PS0492G)

Student Write-up

Short Summary of work done: We choose the project "Topic Categorization" in which we were supposed to find the title of the input text using machine learning algorithms so we used nltk to reduce our sample space, clean and lemmatize the input text then we used gensim to train and test our model.

PS-I experience: It was a decent experience we came to know about different algorithms of machine learning like LDA.

Learning Outcome: I was able to implement different machine learning algorithms related to text classification with help of python libraries like nltk, gensim.

Name: RAGHAV KHANDELWAL .(2019A8PS0541G)

Student Write-up

Short Summary of work done: Worked on frontend of project forum like Quora.

PS-I experience: This was a nice station. The project was well defined and was interesting. The professor was really helpful. It helped me improve my skills.

Learning Outcome: I have learned MERN stack and team work. This project helped me improve my leadership skills while leading the team.

Name: SHIVAM AGRAWAL .(2019AAPS0326H)

Student Write-up

Short Summary of work done: We worked under the PaaS & Integration team on one of the Company's projects.

The project involved development of an e-commerce website with an integrated Payment Gateway. Fulfilled the requirements such as :

- 1)User registration and login system
 - 2)Adding/removing products and order details from database
 - 3)Integration of PayTm payment gateway as an Integrated payment gateway.
- Gained experience with Django and Integration of payment gateways

PS-I experience: PS1 helped me to understand the challenges faced during website development. I also got the chance to communicate with different professionals from the company and got a few insights of the corporate culture

Learning Outcome: I learnt full stack web development using django framework, HTML, CSS and JavaScript. I also learnt a few things about the background of E-commerce on which my project was based.

Name: SHREYAS SANTOSH PAWAR .(2019B1A70994G)

Student Write-up

Short Summary of work done: Development of a web application using React.js, chart.js, JavaScript and CSS for the front-end. Further, integration of a Api in the web application made using React.js. Also learned adding charts in React.js.

PS-I experience: This was something new and exciting for me. I have never worked in the field of web development before and there were many new things I had to learn before I started making the webpage. For example, languages like React.js, HTML, CSS and JavaScript. I have never worked with these languages before. I would also add that it was a challenge at times. But there it is the beauty I have come to associate with the webpage design process. It has its up's and down's, but one has to learn to fight it and move on. This experience has been perfect. I learned so much about this field of we development and interacting with people. And I'm glad I got involved in this Project.

Learning Outcome: I have learned a lot about my work and about the office work and the experience I have gained from working to work under some institution. I learned about web development using JavaScript, its benefits over other languages and why its used so much after all. I learned about API and how it is used to extract data and information. I also learned how the API communicates with the server and the API request process to extract data from the server. I learned about libraries that help the API to request to a server and send feedback in response to a client's query. I also learned how to bring professionalism to the code so that everyone can understand it.

Name: Vineet Vatsal(2019B1A71085G)

Student Write-up

Short Summary of work done: We were given a choice of multiple projects in different domains. Me and 3 other members chose to create the project "Forum like Quora" which aimed to create a forum much like Quora. We elected to use the MERN Stack to build this forum as it was what we were most familiar with.

PS-I experience:

Learning Outcome : MERN Stack, and I had already learnt through self study. Not knowledge as to the functioning or the development pipeline of an industry ready Full Stack project was required. It was an "autopilot" experience so the company expected us to look for resources and study them.

Name: P H RAHUL KISHORE .(2019B2AA1479H)

Student Write-up

Short Summary of work done: We created a question answering webapp similar to Quora using the MERN stack. The features are adding a question, answering a question, upvoting and downvoting questions, and adding comments.

PS-I experience: The experience was okay.

Learning Outcome: I learnt about mongoDB, ReactJS, NodeJS, and express tech stack.

Name: SINGH ADITYA ANIL .(2019B3A70478G)

Student Write-up

Short Summary of work done: The company assigned us a project called Predict Bidding. We made a team of 2, and worked on the project. The project required a ML model to predict price based on some attributes provided as inputs. We successfully cleaned the dataset and trained a good ML model to complete the task

PS-I experience: PS-1 experience was good and informative, but being online, wasn't excellent. There would be a lot to learn and implement on a more hands on experience.

Learning Outcome: Working for company taught us to finish work efficiently and on time. I also gained a lot of skills and knowledge regarding Machine Learning which would help into other projects and challenges to come. I also learned about team building and working with peers on projects. I also gained coding skills of python.

Name: HARSH VARDHAN GUPTA .(2019B3A70630H)

Student Write-up

Short Summary of work done: Our project was "Computer Vision Based Text Scanner" and we built that with the help of Deep learning(CNN). We made our initial prototype model using KNN and then we improvised it in order to increase the accuracy and our final project was in CNN. While building the project we learned many things like python, deep learning, machine learning, PyTesseract and OpenCv library. Apart from all this technical learning there was lots of soft skills learning involved like we learned proper format of presentation and proper way of delivering a presentation. We learned many aspects related to the corporate world and my very first experience with the technical world was very fruitful thanks to PSD.

PS-I experience: My PS station was decent and me and my team was assigned the project "Computer Vision Based Text Scanner" which comes under the domain of Machine Learning. During PS1 we learnt various ML algorithms and deep learning models which was quite interesting. We learnt how the IT industry works and our PS station was mainly focused in 4 domains - AI/ML, Cloud, Big Data and Dynamics 365. In overall it was a great experience and we are very thankful to our PS division.

Learning Outcome: In technical skills I learnt concepts of Machine learning, Deep learning, PyTesseract and under soft skills learnt to work under a team and improved my communication and writing skills.

Name: ARIHANT PANDEY .(2019B3AA0687H)

Student Write-up

Short Summary of work done: Worked under the PaaS & Integration team on one of the Company's projects.

The project involved development of an e-commerce website with an integrated Payment Gateway.

Fulfilled the requirements such as :

User registration and login system

Adding/removing products and order details from database

Integration of PayTm payment gateway as an Integrated payment gateway.

Gained experience with Django and Integration of payment gateways

PS-I experience: PS1 helped me to understand the challenges faced during website development. I also got the chance to communicate with different professionals from the company and got a few insights of the corporate culture.

Learning Outcome: Full stack web development using Django as backend and HTML, CSS and JS as frontend.

Name: MIHIR SRIVASTAVA .(2019B4A30689P)

Student Write-up

Short Summary of work done: My project was to build a chatbot application which could answer customer FAQ questions as well as place orders. The project was based on full stack development and I used Angular for frontend development, Node.js for backend development, Python for building an NLP classifier and MongoDB as the database for the project. In order to use angular to build the web portal, I learnt HTML and CSS, which were necessary to design the different web pages. I also had to learn JavaScript to start working in Node.js as well as TypeScript (programming language for Angular). I learnt mongoose in order to interact with the database using Node.js. I also got the experience for building a classifier using NLTK in Python.

PS-I experience: It was a great experience since I got to learn a lot about programming. I always wanted to work on a full-stack development project and PS-1 gave me a chance to work on one. I learnt about how frontend and backend interact with each other and I was able to use that knowledge to complete the project. My PS-1 instructor (BITS faculty) was very helpful and always tried to help us in any way he could.

Learning Outcome:

1. Developing full-stack projects
2. Interaction skills to communicate with people in Group Discussions
3. Presentation skills useful for presenting the project

Name: PUSHPAM SINGH .(2019B4A71272H)

Student Write-up

Short Summary of work done: With the help of python and open cv I had to construct a program that would track and keep a log of all vehicle on the road so that the toll booth system could be optimized. For this project I used contour based object detection and with the help of python and open cv made a system that would keep a log(.csv file) of all the vehicle that pass the toll gate. I have used pandas and numpy of storing the data in the runtime so that it could be saved in a data frame for future use.

PS-I experience:

Learning Outcome: OpenCV, Computer Vision, object detection

Name: AYUSHMAAN SINGH .(2019B5A30745P)

Student Write-up

Short Summary of work done: Contributed to a Full Stack ChatBot development project. Involved mainly in backend part of it using nodeJS and integrating it with a python based classifier model to train it with natural language. This project aimed at developing a chatbot portal which can either place orders for some products as per the user's choice, or answer some frequently asked questions, or FAQs for short. The frontend application used Angular for frontend (client side), Node.js for backend (server side) and MongoDB as a database for the application.

PS-I experience: Went well overall. HR was humble enough to take up meetings.

Learning Outcome: Got a hang of writing modular codebases and how it gets integrated professionally.

Name: GUPTA DEVESH PRAVEENKUMAR .(2019B5A70641G)

Student Write-up

Short Summary of work done: The domain of our project was Machine Learning. The project's objective was to build a ML model that can predict which customers are most likely to stop using/purchasing the company's products or services(or likely to churn). In this project, I worked on several aspects of Machine Learning such as performing Exploratory Data Analysis(EDA) on the dataset, Data preprocessing, Modelling and Testing. Finally, we were able to build 8 models based on different algorithms and then we compared their accuracies to obtain the best model that fits the dataset.

PS-I experience: It was a great learning experience. The people at Celebal Technologies are friendly and supportive. Also, our BITS Faculty in Charge was very helpful, and gave timely inputs.

Learning Outcome: I learnt Python and got familiarized with all its libraries. But the major learning was the modelling part, where i was introduced to various Machine Learning Algorithms such as Logistic Regression, Random Forests, etc.

PS-I station: Centre for Railway Information Systems , New Delhi

Student

Name: VACHHANI CHIRAG MANOJ(2019A7PS0041P)

Student Write-up

Short Summary of work done: The mentors at CRIS were great. We were alloted projects based on our interest and skills. I was alloted a project of full stack development with two other batchmates. The objective was to develop a web app to monitor social distancing protocols. We created a bootstrap dashboard website which had panels for cctv cameras, a face mask detector and a dashboard with graphs and statistics. We used the ml5 library of TensorFlow to detect people in the cctv video and displayed the results with bounding boxes on a website using p5.js. We also created a face mask detector using APIs. Finally all the data collected from the frames of the video were stored in a database created using mongoose and mongodb atlas. Using this database, charts and graphs were drawn showing the number of people and violations with their timestamps. Pictures of people violating norms were also saved for the supervisor.

PS-I experience: Great experience overall, had helpful and encouraging mentors. Got to learn a lot.

Learning Outcome: I was introduced to full stack development and had the opportunity to learn a bunch of front end and backend end technologies like HTML, CSS, Javascript, jQuery, p5.js , Bootstrap, Node js, express, Mongodb, express, mongoose etc. Also learnt machine learning libraries on TensorFlow.

Name: TARANG AGARWAL .(2019A7PS0062G)

Student Write-up

Short Summary of work done: I was allotted a text-analytics project. The aim was to match different products having similar descriptions. As part of the project, I tested various string-distance, string-matching, and natural language processing algorithms.

PS-I experience: It was a good learning experience. Also, interacting with multiple people, including my mentor and the general manager helped me look at the problem from more than one perspective. Being work from home, the working hours were flexible.

Learning Outcome: Working on a real-world data set taught me how to deal with erroneous data. I learnt various text-analytics techniques. Also, the weekly review meetings helped me better my communication and presentation skills.

Name: JAIN AKSHAT ANIL .(2019A7PS0117H)

Student Write-up

Short Summary of work done: I worked on a machine learning project of Spatial analysis of crime . My job was to build a model to identify vulnerable regions for theft . I completed the project using a bayesian model . It was a good project and I learned a lot.

PS-I experience: It was a great experience . I got to learn how projects work in real industry.

Learning Outcome: 1) Machine learning, 2) How to handle real data, 3) Presenting and explaining my work to business users.

Name: Shubham Kalantry(2019A7PS0141G)

Student Write-up

Short Summary of work done: The project was to build a model to predict rail track geometry parameters in order to enhance the rail maintenance strategy. The domain of the project was time series analysis.

PS-I experience: It was a much needed experience. Got an exposure to the challenges faced in the industry.

Learning Outcome: Learnt about time series analysis and related ML algorithms.

Name: DAS INDRASHIS PARTHA BIJOY .(2019AAPS0248H)

Student Write-up

Short Summary of work done: The project that we were given was very interesting. We were working on a project which required us to create a website that could analyze CCTV footage for face mask and social distancing violations. For that we made a dashboard website with four CCTV panels with dummy videos running on them. We used an object detection model called COCO-SSD to check for social distancing violations and used a mask detection API to check whether the people are wearing masks or not. When the no. of violations crossed a certain threshold then that frame in the video was captured and it was displayed underneath the video for the user's convenience. The people count and the number of violations were stored in a database using MongoDB and a chart for each of the CCTV panels was displayed on the website. JS libraries like p5.js and ml5.js were very useful for making the bounding boxes on the images and videos.

PS-I experience: PS-1 at CRIS was a great experience for all parties involved. The mentors we had at CRIS were wonderful to us at all times and always ready to help. Even the GM of the organization took time out to meet all of us which was a great gesture. The fellow batchmates were very helpful and all of us forged a great friendship by the end of our internship. All in all this was a great experience.

Learning Outcome: Being a phoenix guy , it was the first IT project which I was working on so personally it was great learning experience for me. My role in the project was to work on the mask detector API and the image capture feature when the no. of violations exceeded the threshold. I learned about some basics and advanced features of Web-Development including HTML , CSS , Bootstrap , Javascript, JQuery , NodeJS, expressJS, SQL and MongoDB. I also learned a lot about APIs, JS libraries and version control using git.

Name: ANEESH BALLABH .(2019B2A70937P)

Student Write-up

Short Summary of work done: The project allotted to me was a full stack development project in IT domain. I and my project partner were supposed to design a mobile application for marking attendance of the employees at CRIS along with designing a dashboard to display the punctuality details. I was working mostly on the backend part of the project. My work included creating a PostgreSQL database with Employees Mastertable and attendance slots table in it. For the app, I developed APIs using POST and GET methods in Jersey framework using Maven Built-in tool and Java J2E. The APIs were used to retrieve and display the data stored in the database and add new records in the database. This project was deployed on the herokuapp. Post the completion of API part, I designed a simple dashboard using Bootstrap Admin template and fed some dummy data in the frontend part itself to be displayed on the dashboard. I wasn't able to connect the dashboard with PostgreSQL database due to time constraints. So, this part of the project was not completed on time.

PS-I experience: My PS-I experience was fruitful overall. My PS mentors and faculty were very supportive and anytime available for us. I got to work on a real time project for the first time and explored my interests. Despite work from home situation, we all worked collaboratively to make PS a great learning experience by establishing proper communication channels among mentors, faculty and project mates. However, the work

efficiency and learning outcome would have been much greater than this had it been an offline experience.

Learning Outcome: I learned quite a new technical skills and polished my soft skills as well. I learned PostgreSQL database, working in Jersey framework on a Maven project in Java, developing APIs and testing them using postman, and dashboard designing using bootstrap templates. I also developed good emailing and communication skills on professional front, team work abilities, and time & stress management.

Name: AMAAN ZAFAR(2019B3A70463P)

Student Write-up

Short Summary of work done: To develop an android application using Flutter and use geofencing and geotagging features.

PS-I experience: Good experience with industry like environment

Learning Outcome: App development with Flutter, creating algorithm for geofencing and geotagging

Name: PRANAV TANEJA(2019B3A70487P)

Student Write-up

Short Summary of work done: My project was in the Data Analytics department of the organisation and was titled "Progress Prediction of Civil Engineering Projects in the Indian Railways", and so as the title shows, It was in the mixed domain of Data Analytics, Project Management and Civil Engineering. What I did was reviewed the existing literature on the topic and learnt about a useful and popularly used cost based technique called "Earned

Value Analysis", It is one useful tool for project managers but to use it one needs to have a Work Breakdown Structure, a pre-defined work schedule, and that is what precisely my project aims to do, as I use the data from successfully completed past projects to model a general timeline for projects of a particular kind in railways, and hence providing a model that empowers project managers to save huge chunks of time and money. The data part of the problem is a two step process, as first, one needs to label all the completed projects into successful or less than successful ones, I use the data on target date of completion and actual date of completion and study the series of their difference to come up with this labelling, using various outlier detection algorithms , The second step involves the predictive modelling, using only the successful completed projects data and regressing a physical progress indicator with time from start of project to come up with the final project schedule.

PS-I experience: It was filled with challenges and learning, for the first time I got the opportunity to get the hands dirty on an actual Data Analytics use case right from scratch and this is when I got to realise that it is getting and refining the data that is the harder (or almost as hard) part than training the algorithms. The online nature of it while allowed for a lot of flexibility for me to complete the work at my convenience, also came with a lot of challenges as the interaction with my mentor was at a bare minimum and establishing a rapport with an unknown person over audio calls is far from efficient, so I was left to handle most of the project problems on my own and the expectations were good enough from their side. All in all, it helped me grow my confidence in facing actual industry challenges.

Learning Outcome: 1) Got my perspective changed on the challenges in solving a data analytics problem, as I discovered contrary to my past experience, that getting and preparing the data is very crucial and needs critical thinking and good hold with the programming language, as in indexing desired values, stripping strings, etc.
2) Got to learn how industry works, Industry deadlines, Project Review Meetings, Hierarchy of the organisation, Necessary Communication Skills, etc.

Name: KULKARNI PARTH PRASAD .(2019B3A70706H)

Student Write-up

Short Summary of work done: My first project was to develop a dashboard for train collision avoidance system (TCAS), which reads data from a google sheet, does some calculations and prints a table in the format the user wanted and also prints a few pie

charts. Second project was a supervised learning problem statement for classifying cells in a battery bank as normal or abnormal.

PS-I experience: It was a good learning experience. The industry mentor was very friendly and approachable and helped me wherever I was stuck during the project.

Learning Outcome: Python, Google drive API, statistics, classification algorithms, data analysis

Name: RISHI GARG .(2019B4A70642P)

Student Write-up

Short Summary of work done: The objective of our group project was to create a web application that uses Machine Learning Models to analyse CCTV footage of the Indian Railways to check for possible social distancing and face mask violations. We completed this project and successfully created the website using front-end and back -end tools like HTML, CSS and JavaScript. We also built a dashboard feature on our website using the database system called MongoDB Atlas. The dashboard showed charts and statistics related to the footages. It contained graphs of the number of violations committed versus time and several tables.

PS-I experience: The PS-1 experience overall was a very fruitful one. The projects allotted were interesting and had enough scope for creativity and forced us to learn a lot of skills and techniques that will prove to be very useful in our future. Our mentor was also very supportive and was always involved in our work and helped us out whenever we needed it.

Learning Outcome: Through this project, we acquired the front-end and back-end web development concepts like HTML, CSS, JavaScript, jQuery, Bootstrap, Node.js, Express etc. We even studied about APIs and different JavaScript libraries like p5.js, ML5.js and the database management system called MongoDB Atlas.

PS-I station: Coditation Systems Pvt Ltd - Machine Learning , Pune

Student

Name: PREYANSH AGRAWAL .(2019A7PS0052P)

Student Write-up

Short Summary of work done: I worked on 2 projects on the data science part. The first one was AI for relational data summarization and narration. The aim of the project was to find anomalies in sales data and convert them into natural language. The second was E-Commerce Customer Intelligence where there were various parts of CLTV, Demand Forecasting, Product Recommendation and Dynamic Pricing

PS-I experience: The experience was great. The daily meets with the industry mentors helped a lot and also helped me in clearing my doubts.

Learning Outcome: I learned a lot about data science and how to build models for commercial purposes.

Name: YADNESH PRAVINKUMAR MUNDHADA .(2019B3A70394P)

Student Write-up

Short Summary of work done: My work was related to the Data Science part. I had two project assignments:

- 1)AI for Relational Data Summarization and Narration
- 2)Ecommerce Customer Intelligence.

In the first project my end goal was to generate an executive summary or Natural Language Generation (NLG) from relational data (tables, charts, dataFrames, etc.) Another major task in the project was outlier/anomaly detection from the given dataset.

In the second project I had four major tasks:

- 1)CLTV/LTV (Customer Lifetime Value)Prediction
- 2)Product and category demand forecasting
- 3)Product recommendation for 1)Conversion and 2) Cross Sale

4)Dynamic Pricing Recommendation

The models built in the project were also deployed on a web application using Streamlit.

PS-I experience: The overall experience was great. Two mentors were assigned from the station, and we had daily meets to discuss the work done during each day, and clarify doubts, if any. The mentors were really helpful, and were also easily approachable. The company culture at Coditation Systems was very playful, yet pretty orderly, it being a startup. We also got to interact with top officials of the company(including the Founder). Apart from our PS project, we got to take part in the coding Hackathon organized by the company in which we got to work in group with the company employees, and got a taste of building a real world web application. Would have been nice if PS was held offline.

Learning Outcome: I got to learn Python libraries : Pandas, Numpy for data preprocessing, Matplotlib, SweetViz for visualization, pyOD for outlier detection. I also learned how to handle large datasets, and the complete Machine Learning pipeline right from getting the data, to preprocessing (Exploratory Data Analysis) to building and deploying Models. Also, I learned to work with time series data, and forecasts based on those.

Name: Darshan Kulkarni(2019B5A70317G)

Student Write-up

Short Summary of work done: Our team worked on two data science projects. First one was to detect the anomalies from a given data-set and report them in a natural language. The second project was to make a product recommendation system, forecast the demand, calculate the CLTV values and make a pricing recommendation system for an e-commerce agent.

PS-I experience: PS-1 was a great learning experience. The company mentors allotted to us were very helpful and supportive. PS-1 gave a formal introduction to the world of data science and machine learning

Learning Outcome: Learned about various aspects of data science and machine learning

PS-I station: Coditation Systems Pvt Ltd - Software Development , Pune

Student

Name: SAKET SINGH .(2019A1PS1148H)

Student Write-up

Short Summary of work done: AI for Relational Data Summarization and Narration-The project involved creating a web app and generating and displaying an automated executive summary using natural language processing from relational data, grouping the existing test data by understanding their dimensions and measures and then displaying it to the user in an interactive manner accordingly.

PS-I experience: It was a nice experience working with Coditation. I met some wonderful mentors who helped me learn relevant things for the project. Apart from just providing the resources, they also helped me to understand how the project worked and then assigned tasks to me.

Learning Outcome: I gained knowledge about JavaScript and React. I also learnt about best practices that should be followed while writing the code.

Name: MANAS MAKARAND MHASAKAR .(2019A7PS0130G)

Student Write-up

Short Summary of work done: The aim of the project was to generate and display an automated executive summary using natural language processing and generation from relational data. We grouped the existing test data provided to us by the ML team by

understanding their dimensions and measures and then displayed it to the user in an interactive manner accordingly by creating dashboards and charts. This involved the use of Cube.js and the work was mostly related to web-development.

PS-I experience: It was a nice experience working alongside industry mentors, and learning how to work in a corporate environment. Apart from our PS project, I also took part in a company internal hackathon during the duration of the PS, which was a very good experience personally. The mentors were every helpful and it was a fun experience considering it was WFH.

Learning Outcome: I understood the importance of team-work and learnt about practices that companies use when making production-ready code. Got exposed to new and upcoming technologies like Cube.js and got to learn and work with React.js, Postgresql etc.

Name: Aditya Rao(2019B3A30576P)

Student Write-up

Short Summary of work done: Built an interactive data visualization dashboard using Cube.js which would provide tools to conduct data analysis efficiently.

PS-I experience: Our station mentors were quite knowledgeable and approachable which made the tasks enjoyable.

Learning Outcome: Learnt about different Javascript frameworks and libraries like Cube.js, React.js and how the frontend and backend interact.

PS-I station: Coffee Beans- AI , Bengaluru

Student

Name: KAUSTUBH BHANJ .(2019A7PS0009H)

Student Write-up

Short Summary of work done: We worked on developing an end-to-end product for the company, involving NLP, Deep Learning and Web Development.

PS-I experience: The experience was very good, thanks to the friendly corporate culture of the company. The project was designed in such a manner that I was not over-burdened, and managed to meet all the targets on time. The company mentors were very helpful and guided and supported me throughout the project.

Learning Outcome: Over the course of 8 weeks, I got a chance to deploy multiple machine learning models, including neural networks. I also got a chance to work on the front-end, and learnt a bit of web development. Each step of the project involved Natural Language Processing, which was completely new to me. I thus got a chance to learn a lot about these three domains, along with data scraping and database management, especially the practical application of this knowledge in the real world.

Name: DEVANSH SINGHANIA .(2019A7PS0049G)

Student Write-up

Short Summary of work done: Design a platform which will scrape news article online, analyse the location, tags and sentiment associated with it, and display the relevant information under the correct topic

PS-I experience: It was a pretty good learning experience. The people at CoffeeBeans are very supporting. The mentors are available and solve our problems almost instantaneously. Have learnt a lot.

Learning Outcome: I have learnt a lot about how corporate functions. I have touched on various topics under both machine learning and web development

Name: BIYANI PARAM HEMANT KUMAR(2019A7PS0059G)

Student Write-up

Short Summary of work done: The work revolved around data scraping, using NLP technologies, and its deployment on web.

PS-I experience: Most of the data was sourced through APIs. The data was text based, so a lot of pre-processing, cleaning, NER and tagging was done. My main focus was working on NLP based models and other Statistical Models, and it was mostly fine-tuning on already available models. A lot of exploration went into how to classify the data according to our needs. Finally we made the pipeline and deployed it on web. Overall experience was fantastic, and the CoffeeBeans PS Station definitely gives you enough work. The mentors were very helpful, always in touch, and guided us all along the way. On an average we met around 2 times a day. My co-interns were also awesome, and everyone carried the load. I would say CoffeeBeans Consulting is definitely among the top PS stations for anyone looking for work in ML-AI fields.

Learning Outcome: Firstly I learned a lot about data extraction. The problems that occur in such data, and how to resolve them and make it fit for further processing. I learned the implementation part of NLP, how to select models, how to use them and so on. I learned in depth about a few statistical models, their theory, and how they work best on a give data. I learned about the basics of JavaScript and React, as I was completely new to it. In soft-skills, I learned about the AGILE Development process. They simulated a kind of Start-up incubator like program for us and gave us a product, whose MVP we had to make by the end of our PS. We had a weekly demo, where we had to show our progress. I also got a first hand taste of how a start-up/corporate company works, and how development on real work products looks like.

At some points in the pipeline when I was not getting satisfactory results, the load got heavier, but overcoming that is definitely fulfilling. I would definitely recommend CoffeeBeans as a PS station to anyone interested in giving the time and effort, as the outcome is worth it.

Name: PITALE OMKAR VIJAY .(2019A7PS0083H)

Student Write-up

Short Summary of work done: We were asked to develop a product that will have a paradigm shift in the way users consume news around them. The project involved developing a

news aggregator website showing all perspectives of a news event and statistics of sentiments, thereby reducing media bias. The project involved various Natural Language Processing tasks like Sentiment Analysis, Named Entity Recognition, Topic Modelling, Sentence Vectorization, and much more.

We set up an entire pipeline from scraping news data from the web, cleaning and pre-processing it, and running through the models to get the metadata used for the dashboard of our website. The pipeline automated the backend process of our website. For most of the NLP tasks, we used spaCy, NLTK.

I mainly worked on the backend and pipeline, from writing scripts to scrape news from websites, mostly Google News, after every one hour, extracting locations from news body using NER, extracting topics using LDA Model, and trying different pre-processing techniques to optimize the model as much as possible.

We used ReactJS for the Front-end of our website and FastAPI to retrieve the data as necessary. This website is the first news aggregator website to give users all sides of stories for a particular news event that no news aggregator has ever provided

PS-I experience: The experience was excellent as we got an exceptionally remarkable opportunity to build the first-ever product from start to end. Our mentors for the project were highly supportive and helped us to get on the right track. Frankly, now I have an excellent project to brag about.

Learning Outcome: I had a slight experience in Machine Learning but not that much in NLP, with this project I was able to learn the basics of NLP and certain approaches for preprocessing data. I also learnt some advanced NLP models and MongoDB which is a NoSQL database.

Name: SHLOK MONGIA .(2019B2A71527H)

Student Write-up

Short Summary of work done: Worked on a project that involves ML, AI, Frontend and Backend Development

PS-I experience: Very good experience, the mentors at CoffeeBeans were really helpful and guided me at every stage. We had regular calls with them. They solved all our problems too.

Learning Outcome: Enhanced my knowledge about AI, ML and development. Got to know how a tech company functions. Developed my communications, technical skills

PS-I station: Contenterra Software Private Limited - Software Development , Hyderabad

Student

Name: BARAIYA KRUTI HARSHADKUMAR .(2019A7PS1260H)

Student Write-up

Short Summary of work done: My project was based on software quality and automation testing. We were supposed to build an automation test framework for a Dealer Management web application using Cypress and integrate it in the CI/CD pipelines.

PS-I experience: Mentor was nice and helpful. Overall PS-1 experience was good but being online, faced certain challenges.

Learning Outcome: Improved my communication skills and group discussion participation. I learnt some new things like Mocha and Cypress. I also learnt about writing

code according to company guidelines and writing technical reports. My knowledge of Git was enhanced.

Name: NAKUL KUMAR SINGH .(2019B4A30740P)

Student Write-up

Short Summary of work done: Full stack development. Implementation of automation checking system within the web app and designing ui of web app

PS-I experience: Ps1 experience was overall good , I learnt a lot in web development and mentors were good

Learning Outcome: Full stack development

PS-I station: Convergent Technologies (Sequoia Fitness and Sports Technology Pvt Ltd) -Mobile App Development/Data Analytics , Gurgaon

Student

Name: VAIBHAV MISHRA .(2019A3PS1350H)

Student Write-up

Short Summary of work done: An interactive form using Visual studio and .NET is created in this project for uploading fitness data collected from various schools based on various test parameters and further processing of this raw data is done using grid view and combo box.

PS-I experience: Got introduced to corporate culture, how to communicate and operate in an organization.

Learning Outcome: Learned how to link up SQL sever database and system through C# and .NET using visual studio.

Name: JUHIL HRIDAYBHAI DESAI .(2019A7PS0153H)

Student Write-up

Short Summary of work done: I was assigned to Android app development team at convergent technologies. I was allotted the first few couple of weeks for training, to get a better understanding of the basic and primary fundamentals of the field. I also familiarized myself to the software during this time period. After the training I was assigned a couple of modules to work on for their app. I developed these modules using Java in Android Studio. The first module was to create a proper sign-up and login page for their app with coherent back-end code and visually appealing front-end user interface. The second module I worked on was a news portal module. It was a collection of eighty newspapers of eight different languages that the user could browse through and access within the app. Some other secondary functionalities were also added such as profile page where the user can choose a photo from gallery or take a photo on the native camera, contact us page, app version page, invite friend page and many others. The app can be supported on multiple variations of screen size and android operating system versions.

PS-I experience: It was a new and unique experience. I was exposed to industry life and corporate culture. I was able to relate the concepts that I had learnt in the institute and put them to practical use. I was also able to work under the guidance and support of many industry veterans and experts and acquire a lot of knowledge and experience. I am sure this experience will definitely help in the starting days of my career.

Learning Outcome: I was faced with new set of challenges and working on them greatly improved my adaptability. I also gained a lot of technical knowledge about advanced concepts of Java, Android app development and the overall field. While working on the project I did face a few obstacles and in overcoming them I boosted my analytical and problem solving skills. And working on a tight schedule also helped me better my time

management skills. The most important of all I learnt a lot about industry and corporate life, which this course is all about.

Name: AKKSHUNN VIJROY .(2019B2AA1107H)

Student Write-up

Short Summary of work done: The first few weeks were a basic introduction, and then the five of us were divided into three different groups, and specific projects were allotted to us. I was asked to work on the GoForFit Assessor App and create a News module. News sources that cover fitness are scattered over various sources on the papers. We wanted to provide a unified, cohesive application that allows those interested in going through such articles without much effort. We built a native android application that solves this problem.

PS-I experience: In the sphere of Android app development, I've been collaborating with industry experts. I've gained a lot of knowledge about Android app development and gained a lot of confidence in the fundamentals of the industry. Not only have I gained information, but I've also gained a lot of experience and exposure to the working world.

Learning Outcome: Building an Android app, collaborating with peers on a common project, and communicating with industry professionals.

Name: ANEESHA JAIN .(2019B4A70071G)

Student Write-up

Short Summary of work done: I was assigned to the Android Development team at Convergent Technologies and was assigned to make a video calling app. Initially I learnt Android Studio and Java. I developed basic applications first and later on I developed a video calling app.

PS-I experience: This was a different learning experience from other courses. It involved exposure to corporate culture and practical learning experience. Learned how to make Android applications and improved presentation skills.

Learning Outcome: I learnt a new software Android Studio and new language Java. Worked in team and faced different problems and learnt how to solve them.

**PS-I station: Core Compete pvt ltd- others (data Engineering -ETLL) ,
Hyderabad**

Student

Name: SHREYAS SINGH .(2019A8PS0532G)

Student Write-up

Short Summary of work done: Initially we were trained with basics of programming, SQL and data engineering
Then we were given some use cases to get a feel of the work they do and finally some more use cases which involved applying what we learned

PS-I experience: It was an exquisite learning experience. Everything was taught and regular session were also held to discuss. Really explanatory lectures and practical use cases were given.

Learning Outcome: Learned SQL, learned how to use Google Cloud platform and how to link python code to databases and cloud storage to store and analyse data

Name: VISHAARAD BAVEJA .(2019AAPS0201G)

Student Write-up

Short Summary of work done: Trained in Python, Pandas, SQL and GCP. Developed API in python for Google Cloud Platform and also extracted data from websites like GitHub, Twitter using their APIs to perform data analytics.

PS-I experience: It was one of the very few PS stations to hold live training everyday. Live data sessions were held which helped in shaping us to think like data engineers and analysts. We also received goodies from the PS station

Learning Outcome: Via the learnings from PS, I am now able to perform in the data process - extraction, cleaning, processing and analytics. I also developed thought process or framework to analyze data.

Name: UDIT VARSHNEY .(2019AAPS0295H)

Student Write-up

Short Summary of work done: At the start of PS, we were given training on various skills, started from Python, covered Pandas framework on Jupyter notebook, queried over structured data with the help of SQL. We received training in the form of live sessions on each skill-set, interacted live with instructors and solved doubts on spot. We were also given relevant exercise to practice and improve our skills. We also had sessions on Quality Assurance and Testing, which made us efficient enough to test open-source HR system management software and also wrote several testcases on it in a proper format. After doing all this, we were made familiar with Google Cloud with various live sessions on their services ranging from Cloud Storage, Cloud Functions, Cloud SQL to App Engine, Bigquery and Cloud Datastore. We also explored PostgreSQL and integrated it with both Jupyter notebook and Cloud SQL. We were also delivered data sessions weekly which upgraded our knowledge about data. We also derived data points from raw-data and performed data analytics on it. We performed data analytics several times and implemented it using various tools such as Excel, Jupyter notebook etc. We had also created data visualization with Matplotlib library and Data Studio on the data we analysed. We also went over the format of JSON file, and performed some quite challenging tasks like Parsing of JSON file.

PS-I experience: Our internship has provided us with adequate exposure in Python, Pandas framework, SQL, QA testing, Google Cloud Platform and data in general. We have gathered extensive experience in the workings of a company also on a day-to-day basis. We have acquired the necessary skills as well as have gotten accustomed to the way of working and thinking as a data engineer. Having already had a great foundation provided by BITS, this internship program has helped provide us with industrial exposure for implementing our skills in real time and improving on them furthermore. It helped us to revamp our skills and instill skills rendering us professionally competent.

Learning Outcome: We learned about python programming language, pandas framework, explored numpy library. We got familiar with Jupyter notebook and learned data visualisation techniques using Matplotlib library. We learned SQL and also get used to of PostgreSQL. We got familiar with primary services of Google Cloud Platform. We got a new view about data and gained some skills in Data Analytics domain also.

Name: JADHAV PRADNYA RAJENDRA .(2019B1A31135G)

Student Write-up

Short Summary of work done: The PS-1 project was related to the data engineering domain; it mainly dealt with storing data, cleaning data, visualizing data, and in the end, analyzing data to come up with effective conclusions. Python, SQL, Pandas, and Google cloud are the necessary skills. First, data was analyzed manually with Excel, then with Python and Pandas, and in the end with the google cloud. The datasets were related to bank data, crime-related data, Credit card-related data. The topics covered under the Google cloud platform include- Google cloud spanners, functions, Dataproc, GCP Big Query, GCP Bigtable.

After learning each topic, there was an assignment specific to that topic to practice and improve efficiency. There were assignments based on Python- Python data structures, errors, flow control, functions that had problem statements. SQL exercises were completed using an online compiler, and software testing exercises were performed on OrangeHRM.

The use cases designed were beneficial to understand the link between theoretical knowledge and real-world application. Many people from the organization helped in understanding the process by giving a demo. It was an excellent opportunity to explore new things, apply that knowledge to real-world problems

PS-I experience: It was a great learning experience. The sessions conducted were informative and the project was also useful to understand application of those concepts.

Learning Outcome: I got to learn SQL. Google cloud platform is another major topic which was covered. GCP(Google cloud platform) services are very useful for data analytics. We mainly used it for storing the data. Google BigQuery is one of the most used services which we used in final project. We got an overview of Python, Quality assurance, Software testing, cloud engineering during the PS-1.

Name: TRIVEDI YASH SAMEER.(2019B4AA0834G)

Student Write-up

Short Summary of work done: Training for 6 weeks on Python, Pandas, Numpy, SQL, QA and GCP including data sessions where discussed use cases which helps on how to think while analysis. Next 2 weeks we were given 2 final use cases in which we worked with few services of GCP and got overall knowledge of its functionality.

PS-I experience: The flow of training was nice. Starting with the very basics till getting our hands on GCP. The data sessions in parallel with training sessions helped a lot in how to think while working on use cases.

Learning Outcome: Learnt working with Google Cloud Platform. Creating instances to connect with different services which GCP provides. Learnt how to fetch API responses and parsing the JSON data and doing analysis on top of it using python or Google Data. Learnt how to group data into different tables and how to establish relation between them.

Name: RACHIT MOTWANI.(2019B5AA0408G)

Student Write-up

Short Summary of work done: We worked upon various use cases using Python, Pandas, Jupyter Notebook, Google Cloud Platform and its services. Also Data Analytics, Data Visualization and Data Engineering. All these were new to most of us, but we were given adequate training before actual project.

PS-I experience: My PS-1 experience was good, I learnt concepts about Data Science, improved my Python and other programming skills and worked on the Google Cloud Platform. Overall, it was a really nice experience. Our PS-1 station was very nice, they kept regular meeting (daily), gave training and allotted mentors. Also, at the end of of PS-1 we even received Goodies from the Company.

Learning Outcome: I improved my programming skills, learnt and worked upon Google Cloud. Also, I received an industrial exposure about data science as a career option.

PS-I station: COUTURE AI- Machine Learning/Deep Learning , Bangalore

Student

Name: [MARDA PRANAV JITENDRAKUMAR\(2019A7PS0016G\)](#)

Student Write-up

Short Summary of work done: Worked on Data Lineage using Apache Atlas and integration of same to existing Couture Services. Researched about various extensions that can potentially eliminate the drawbacks of Atlas and worked with Spark Atlas Connector and its integration with Atlas to capture lineage of streaming jobs, machine learning jobs.

PS-I experience: Couture was quite productive for me throughout my 8 weeks at PS-1 station. Mentors, senior staff, and all of my colleagues were really supportive and resourceful. Working at Couture has improved my technical abilities, presentation skills, and DevOps domain knowledge.

Learning Outcome: I was able to observe how real-world industries operate and communicate, as well as the working environment in the business sector. I had a lot of opportunities to connect with my coworkers, mentors, and PS instructor, which allowed me to develop and enhance a lot of soft skills including communication, teamwork, professionalism, time management, resourcefulness, and openness to criticism.

Name: ASHER MANTHAN(2019A7PS0144G)

Student Write-up

Short Summary of work done: I had to make a User Interface with an AppBuilder (Appsmith) where users can put up the input keywords. After fetching the input, the application should be returning the Required Information which is stored in the Database Apache Ignite. To fetch the query, I had to make an API with Flask which would take in the input parameters passed by the user. This information will then be sent to fetch the required information from the database by executing a python file which will retrieve data from the database with the help of python package, Pyignite. The result will then be sent back as a response to the API call and it will be displayed on the User Interface.

PS-I experience: My PS-1 experience was quite decent overall. Everyone in the organisation was always ready to help and guide us as when required. I had daily meetings with my project mentor and weekly meets with the CTO of the organisation too. They ensured that we were making daily progress on our projects and also learning side by side.

Learning Outcome: This project was my first major work where I had to combine and integrate different things together. It was tough but a good learning experience to debug various issues and consult the mentors as when required. I got to learn a lot about Development, AppBuilders and Databases. I also got an opportunity to see how real world industries work and collaborate. Automating Data Query using Appsmith's App builder for fetching the Data from Apache Ignite with the use of an API will be integrated in the WFO(Workflow Orchestrator) of Couture AI organization where it will be used like a recommendation engine and fetch people accurate results based on the query.

Name: VIKRAM ADITYA MUNNALAL .(2019B1A71119G)

Student Write-up

Short Summary of work done: Learned about ReactJs as a powerful tool for building front end websites and web portals. For this project, I was tasked with contributing to the codebase of the front end web portal of a project. I had to add functionality and fix several bugs. I learned how to work in a team for an ongoing project and efficiently check off todos and refactor code for a final build of a project.

PS-I experience: My mentor was very helpful. He gave me learning resources and assigned todos by which I was able to become fairly confident in using ReactJS for any project

Learning Outcome: Learned how to work with a team on an ongoing project. Learned JS ES6 and ReactJS.

Name: B REVANTH REDDY .(2019B3A70587H)

Student Write-up

Short Summary of work done: My work was a combination of dynamic pricing model and machine learning which I had to apply to an e-commerce platform. On the basis of historical information of a product (it's different prices and the number of items sold at those prices), I had to find out the demand function for those products. I then used this demand function to predict an optimum price point at which each product is to be sold to maximise revenue. In technical terms, I had to implement Re-inforcement learning using the Epsilon-Greedy algorithm to choose the price point which would give me the best outcome (in terms of revenue) amongst the list of different prices.

PS-I experience: I had a really welcoming experience at couture.ai, my mentors were really understanding and took into consideration my non-coding background in the first two years of my engineering and mentored me keeping that in mind. The work

environment was very comfortable and weekly meets and catchups helped us interact with our colleagues and removed the barriers of an online work environment.

Learning Outcome: I was able to learn how to model a real-life Multi-Arm Bandit problem and run it to decide the optimum price point for a product. In the process of coding for the model, I could pickup pace in python, scala and other things related to DBMS. I learnt how to manage my time in an actually work like scenario and complete my tasks in time.

PS-I station: CSPL - Product Management , Ahmedabad

Student

Name: KARMALKAR ADVAIT MILIND .(2019A3PS0242P)

Student Write-up

Short Summary of work done: Improving your product's accessibility can enhance the usability for all users, including those with low vision, blindness, hearing impairments, cognitive impairments, motor impairments or situational disabilities (such as a broken arm). Accessibility allows users of all abilities to understand, use and enjoy the website. The first and foremost step to build an accessible product is to build empathy and install an inclusive design mentality.

I developed a UX Strategy to make their website more accessible and made sure it complied with ADA (Americans with Disabilities Act)

PS-I experience: My PS-1 experience was very exciting as I got to explore the field of Product Management. I got to learn a lot of new things from different domains and saw ideas being executed which felt good. Working with the team especially in an online mode was a different experience and taught me a lot of things. Being exposed to a professional environment was very helpful and has given me clarity as to what I want to do in the future

Learning Outcome: Learning outcome: Working with multiple teams in an online mode. Clear communication and Team building skills. Keeping yourself motivated to work for an online internship.

Name: NITISH AGGARWAL .(2019A3PS0483H)

Student Write-up

Short Summary of work done: This project is about the differences between azure devops and Microsoft tfs and how the company should shift to Azure to boost efficiency and to do scrums easily. Azure devops is a user friendly app that makes everything from tracking a project to assigning it easier. We can easily plan sprints view the progress of the task assigned and can also prioritize our tasks easily hence is very helpful for agile and scrums. We mainly use Azure Boards a module in Azure Devops for this. Azure boards is a set of tools that help you plan, track, and discuss work across your teams. Scrum-ready and Kanban-capable, Azure Boards make it easy to bring agile software development

PS-I experience: The PS1 program by BITS Pilani is a very excellent program for giving us all an opportunity for industry experience. Practice School has helped us get acquainted with real life problems and new technologies. Though the offline experience cannot be replaced by an online mode but I still loved the online internrnship. It was like some non conventional type of work which felt fresh

Learning Outcome: I got to know about the process of software development like agile and scrum and how they work .I also had an opportunity to learn about Azure boards

Name: DIVYANSH SHARMA .(2019B2A81436H)

Student Write-up

Short Summary of work done: I was assigned to UX team of CORE 3.0. which was their third version of thier product,and its development is on progress. UX teams task were generally related to design of product, its user interface etc. this starts with deep understanding of what user wants,based on data they design the products and test them with the user if they are comfortable with design(easy to interact,good looking,all required features are added).

we were given different task related to then structural development of product.

As a product manager it is really important to keep data on the progress of our competitor companies.the features their product have which we don't have,is their design better than us,if yes then how ,how their user interface looks etc.

In the retirement industry congruent solutions have many competitors companies like TransAmerica,Vanguard,401kGO,Etc.

CSPL was also working on their mobile application development. Reasons to make their site can be easily operated through and provide their user choice.

Team's task was to review all the mobile applications related to investing and retirement plans which are available in play store.see there userinterface take screenshot of the user interface and make a list of the features that were there.

and we propose some ideas regarding how to make user interface of mobile interface more interactive and supportive.

i also learned p5 framework for frontend to display statiscal data on a web page.

at the end task given was to make a check list ragrding WCAG ,ADA guidelines to make our product more assesible and more easy to operate for differentially abled people.

PS-I experience: it was overall a good experience ,teams which i was assign to was helpfull and cooperative, i also learn some skills regarding presentation making,how to perform a presentation in srum meeting etc.

Learning Outcome: I learn some of the basic web designing and architectural principle, also how to control the work flow of the team. I also learn p5 js framework which was require to make to present a statistical data with full advanced feature include also see my gradual improvement in my social skills at the PS and other skill like making good presentation.

PS-I station: CSPL - Testing , Ahmedabad

Student

Name: SHANTANU TRIPATHI .(2019B2A31482H)

Student Write-up

Short Summary of work done: We learnt a lot of things during the last 8 weeks in this internship. We studied fundamentals of testing from the Foundation Level Syllabus of ISTQB as well as OOPS concepts in the C# language. By working on this project, we gained a conceptual understanding of testing and automation and how to apply those concepts to a real world application.

PS-I experience: We learnt how working together with a team can be more efficient as you have multiple sets of eyes looking at the same problem. This internship provided us with an incredible opportunity to learn, and the knowledge and experience we gained will certainly help us in future projects

Learning Outcome: We learned C#, which was a new programming language to all of us. We also learned the OOPs concept. We learned about the Selenium web driver and method to write a script for automating test cases.

Name: RAJAT GARG .(2019B4A80282G)

Student Write-up

Short Summary of work done: Our project was based on automated testing. We automated test scripts for 1 page of company's website using C# and Selenium WebDriver.

PS-I experience: We had many meetings with our industrial mentor. He helped us to learn all the new things which were required for the project.

Learning Outcome: I got to explore the testing field. How exactly a software is tested and its different types. C# and selenium WebDriver was also new to me. I got to learn a new skill which is very important in software development.

Name: RAGHAV LUTHRA .(2019B4A80639P)

Student Write-up

Short Summary of work done: The objective of the project was to learn to write and execute tests on real world software. It involved performing some validation testing on different form fields on a webpage of an application used at CSPL. The test scripts are in C# and we used Selenium WebDriver to automate the tests.

PS-I experience: This internship provided me with an incredible opportunity to learn, and the knowledge and experience I've gained will certainly help me in future projects.

Learning Outcome: I learnt a lot of things during these 8 weeks in the internship. We studied fundamentals of testing as well as OOPS concepts in the C# language. By working on this project, I gained a conceptual understanding of testing and automation and how to apply those concepts to a real world application. I also learnt how working together with a team can be more efficient as you have multiple sets of eyes looking at the same problem.

PS-I station: Cuemath- Business development , Bangalore

Student

Name: SARANSH ANAND .(2019A7PS0104G)

Student Write-up

Short Summary of work done: I worked on Social media content creation, Online reputation management and Influencer Marketing

PS-I experience: I was good to work with a rapidly growing startup, and I learnt a lot

Learning Outcome: I got to know a lot about corporate culture, Social media content creation, Online reputation management and Influencer Marketing

Name: WALUNJ VIPUL VIVEK .(2019B4A70607P)

Student Write-up

Short Summary of work done:

My role is to help Cuemath build a strong presence on social media. Initially, we were taught how to represent a brand in your writing. I contributed to their Quora account by writing 32 answers to Cuemath's satisfaction. In the ideation phase, I found out multiple Maths shows and documentaries to get creative ideas. I contributed 8 original and creative ideas for their YouTube expansion. I contributed 6 content ideas for Facebook, Instagram and LinkedIn which consisted of puzzles, memes, did you know and math trivia. I am also required to phrase strong content based on the interviews taken by Cuemath of their faculty. I carried on the competitor analysis of multiple sites which posed competition to Cuemath. I also conducted a market research in counties like South Africa, Ireland, Switzerland, and France. This resulted in creating a market idea for Cuemath in these countries.

PS-I experience: It was a fun and enriching experience. I learnt a lot during my internship.

Learning Outcome: I have enhanced the company's social media presence by a significant amount by delivering quality content for the company's various social media platforms and have enhanced their social media customers' engagement on those platforms. Also, I have learnt about designing testimonials in order to attract more teachers and students to the Cuemath company which increases the company's reach and overall image in Ed-Tech Market. I also learnt about various interesting visualizations and demonstrations of many mathematical concepts to make learning Math and coding interesting and fruitful for young kids. From the 5th week, I learnt to carry out market research and analyzed the markets of Cuemath's competitors in countries like Ireland, Switzerland, France and South Africa.

Name: ARNAV BHATARA .(2019B4AA1304H)

Student Write-up

Short Summary of work done: This project works looks at an in depth experience of my learnings and the work process of my life as a business development intern at an ed tech startup. It is a compiled write up of my experiences working with the sales, marketing and the HR teams and how I worked with them fulfilling the specific goals assigned to me in line with the company's aspirations.

PS-I experience: It was a wonderful experience , I got my first taste of the industry experience and was able to work in a challenging but supportive environment with my peers all working towards the same end goal. I got to work with several teams within the company and as a result got to better understand the working of an ed-tech startup.

Learning Outcome: The due diligence we were required to do this internship was exhausting at times which went on to demonstrate the importance of seemingly small tasks in the functioning of the company and I also understood the importance of being a team player and coordinating with the team.

Name: MS. ANUPAMA SHARMA .(2019B5A30853G)

Student Write-up

Short Summary of work done: I am interning with Cuemath .It is set up and strengthened by a team of professionals who are avid, skillful multidisciplinary executives with significant achievements in various projects across the globe.The goal of this project is to assist Cuemath in the aspects of Business Development at the same time learning from my industry mentors. The principal purpose is to learn various Business Development and Social Media marketing skills. I was assigned the task of content creation for social media, researching about the various competitors of Cuemath in various countries, and finding appropriate target audiences on different social media platforms and also to find influencers on these platforms as well as making a list of review websites which reviews Ed-tech sites like Cuemath.My knowledge was tested through a set of quizzes during the internship period.My interpersonal and professional skills were assessed through group discussions.My mentors review our work from time to time,

giving us valuable feedback so that we continue updating our work and hence , to come up with better solutions.

PS-I experience: It was a decent experience.

Learning Outcome:

PS-I station: Dinero - Full stack Mobile app development , Hyderabad

Student

Name: T SIDDHARTHA .(2019A7PS0162H)

Student Write-up

Short Summary of work done: We worked on the front end development of a specific module in a yet to be launched neo-bank application for a startup using Flutter.

PS-I experience: PS I gave me an opportunity to work in a startup and also helped me to get insight into a domain which was new to me. This experience gave a good boost to my presentation , communication and technical skills.

Learning Outcome: Learnt a new framework for front end development - Flutter and the relevant packages that are used to build highly customized and gamified UI.

Name: NISCHAL KHETAN .(2019B3A70543P)

Student Write-up

Short Summary of work done: My team was involved in making the front-end of screens for Dinero AI app. We worked on various types of widgets and components, using various different packages. Later, with the guidance of station mentor, we learnt the state management in flutter using BLoC pattern. Our project revolve around coding UI designs, implementing state management, handling APIs, local authentication and other related works.

PS-I experience: Great experience with very supportive station members.

Learning Outcome: Front end Mobile App development using Flutter. Making network requests and handling APIs using flutter. Integrating third party packages to implement various functionality.

Name: SATVIK OMAR(2019B4A70933H)

Student Write-up

Short Summary of work done: I had to develop the front-end of one of the modules of the Dinero AI Mobile App, namely "Goals" Module. The Module consisted of a total of 30 screens to be developed over the course of my PS-1 internship. The purpose of the module was to create goals for customers and help them achieve it by constantly showing the progress made. Also, it displayed the amount of financial growth through various investments in equities, mutual funds, etc.

PS-I experience: I am quite sure that my PS-1 experience at Dinero was quite unique and informative. The Company had many people from different backgrounds and all of them were quite friendly and welcoming of me and my project partners. The weekly interaction was quite good and we even came to know about the life stories of our mentors as they discussed their various experiences. Our mentor was quite understanding and supportive of us and provided us with learning materials and assignments to help us grow step-by-step. The work was fun and challenging as we tried our best to deliver the screens requested of us. Overall, the PS-1 experience was one that I would remember for a long time and I know that this will help me in the long term.

Learning Outcome: I learnt cross platform app development using Flutter framework from scratch in this internship. The mentors provided us with sufficient learning materials and working assignments to help us build our skills and apply them on the project. It was quite satisfying when we started working on the actual project that may eventually be used by millions of customers. I also got to work on teams and used GitLab to achieve the proper cooperation in our work. Overall, the learning opportunity was quite good for me and my project teammates.

PS-I station: Dybo , Bangalore

Student

Name: ROHINI PRAKASH .(2019A7PS0014P)

Student Write-up

Short Summary of work done: My project was mainly based on customer research and I have to scrape data about the assigned list of colleges using different technologies according to my own convenience.

PS-I experience: It was a wonderful journey and gave a lot of insights about the working environment of start-ups and taught about the collaboration and team work.

Learning Outcome: Collaboration, team work, discipline, communication skills, python libraries usage and implementation according to one's needs

Name: SYED AYAZ HUSSAIN .(2019B5A81108H)

Student Write-up

Short Summary of work done: My work at Dybo was of Customer Research. As the project given to me was in the primary research stage, we just had to collect information for the given set of the data pools i.e. worked toward scraping, looking for forums, and picking information about potential customers.

PS-I experience: The work might be tiring at times, but it's a new experience to interact with foreign universities and know about their culture, way of life in their respective universities.

Learning Outcome: Working under a startup with strict deadlines. Pitching ideas to new people.

PS-I station: Erasmith Technologies Pvt. Ltd. , Delhi

Student

Name: PARTHSARTHI NEEMA .(2019A3PS0214P)

Student Write-up

Short Summary of work done: Designing an ETL application. It is a console application that extracts data from a specific csv/xls file applies filters to it and transforms the data. This data is then passed on to the data base for loading purpose. The whole project used application of python (pandas dataframe), sqlalchemy and sqlite3.

PS-I experience: The station is cooperative and nice. People are supportive and enough time was given to learn and apply.

Learning Outcome: Learnt different and new concepts and how to work in teams.

Name: SHASHANK MISHRA .(2019A4PS0261P)

Student Write-up

Short Summary of work done: We were originally given a format of a database obtained from the Delhi CCTV Mobile Application itself which contained various fields such as Incident_ID, Site_ID, Location, Phone number etc. We hosted the database locally at first by creating a local instance with the above mentioned fields using Pydantic and SQLAlchemy. Finally, we wrote the code for the user of the mobile application to access the database through our API endpoint.

That API block written by us ensures that there is no direct connection between the database and the user/ field engineer. The project involved obtaining the data from the database and passing it to the Delhi CCTV application so that they may parse through the data, now with the API the data would be obtained in the form of a JSON (Javascript object notation) format which is easily readable.

PS-I experience: good

Learning Outcome: Learnt the FastAPI framework as well as SQLAlchemy.

Name: GATTU ROHITH KUMAR .(2019A7PS0049H)

Student Write-up

Short Summary of work done: To design and create interactive web pages for HyphenMon and HyphenView using WordPress. To implement Dynamic App Themes - Light, Dark and System Modes using Xamarin for Delhi City Surveillance CCTV Project. To fetch JSON data from the HyphenDesk website to the Delhi City Surveillance app using RESTful Web Services.

PS-I experience: Throughout the tenure of the PS program, we acquired intermediate to advanced level skills in software tools like Figma, Adobe Photoshop, WordPress with various plugins. We used these skills to develop innovative web pages for HyphenMon

and Hyphenview. Besides that, we also learned Xamarin Forms(C#) to accomplish objectives related to Android Application Development. We were able to implement them in the Delhi City Surveillance CCTV Application.

Learning Outcome: Learnt new technologies to build instant and attractive websites like wordpress and other related pluggins. Also learnt Mobile App development in c# and Xamarin

Name: VINITA BHAT .(2019A7PS1206H)

Student Write-up

Short Summary of work done: In the elapsed duration of our Practice School period, we underwent rigorous training on various designing and development software products like Photoshop and WordPress convened by our mentors at Erasmith Technologies. We were also made aware of the various layers of cybersecurity and why they are required. We designed two websites on WordPress and a mobile application using Xamarin.

PS-I experience: Initially, I was nervous and apprehensive since I did not know what to expect from online mode of Practice School. This changed as soon as I started training along with my fellow colleagues. The training phase of PS was long, rigorous and thorough. Our industry mentor emphasized the need for the thorough understanding of the tool as they can be used in nearly any domain. Our craetive input was tested during the project implementation phase of PS. We had to come up with designs for two webites, both from different domains, and be ready to make changes according to the feedback of our mentors. This approach was used to give us real-time experience and client's dynamic requirements. Overall, this PS experience was a positive one.

Learning Outcome: I learnt how to create a subdomain to host a website. I also learnt how to design and develop a website using WordPress and its plugin- Elementor. We also undertook a course on the importance of Cyber Security and various cyber threats. Finally we also had a seminar on colour psychology and its impact on brand image.

Name: SHOURYA PATHAK .(2019A8PS0098G)

Student Write-up

Short Summary of work done: We developed an ETL application for erasmith technologies which had extraction transformation and loading as some of its module. We used python programming and its various libraries and functionalities to achive our goal. My task was to develop transformation module. I used pandas library in python to accomplish my task. I developed various user defined functions using pandas. These functions were used to increase the readability of the data extracted by the extraction module. A detailed analysis of functions that we have developed has been included in code documentation and the same has been attached with the project report in PSMS. Name of some of the functions are: CheckNull checkProperCase checkUpper checkLower stripSpaces and so on.

PS-I experience: Erasmith technologies and PS has given me the opportunity to learn more about databases and python language. It not only helped me gain more knowledge but also apply the newly gained knowledge to real life projects and applications. All in all it was a great learning experience and i would like to thank practice school 1 to give me this glorious opportunity.

Learning Outcome: I personally gained vast multitude of knowledge about python language and its usage and libraries and real life applications on projects.

Name: TANISH BANSAL .(2019A8PS0356P)

Student Write-up

Short Summary of work done: Designed and developed 2 websites for the company's products in the service management and monitoring domain, HyphenMON and Hyphenview. Also worked on the Delhi City Surveillance CCTV Application by implementing dynamic app themes in the application and implemented RestAPI endpoints with python fetch in the C# Xamarin based application.

PS-I experience: Although I got to learn a lot, it was really hectic. The meets were daily and also not at the same time.

Learning Outcome: Photoshop, Figma, Xamarin, JavaScript

Name: Sarthak Sharma(2019AAPS0200H)

Student Write-up

Short Summary of work done: Developed two websites, one for HyphenMon and one for HyphenView- both parallels of Erasmith Technologies.

PS-I experience: In the beginning we had some apprehensions but the kindness and spontaneity of our industry mentors helped us a lot. We were trained well and they stood with us at every step of our execution. Whenever there were any changes required from their side, they communicated to us effectively and we made sure that we delivered what they wanted.

Learning Outcome: I honestly learnt a lot. Essentially, how we deal with each other in the corporate world was my biggest takeaway. Of course, I learnt a lot of other things too- like photoshop, Wordpress, Figma etc.

Name: DARSHAN WALCHALE .(2019B3A30569P)

Student Write-up

Short Summary of work done: We developed an ETL Application in Python. It utilized Pandas, SQLAlchemy, JSON, OS, DATETIME python libraries, among others. A folder is being listened to and when a file is added, its data is automatically extracted. The application is meant to take in raw data in form of csv/xls files automatically and processes

various filters on them based on the automatically generated, user-editable config file. The processed data is stored in an sqlite3 database. The Program keeps logs of it's operation and stores it.

PS-I experience: Explanation of tools could've been slightly more clear, but we were given a good amount of freedom, for the most part, to implement the task in our way, and then we would iterate with the feedback they gave. I think some aspects of our project went above what they expected and I hope they will appreciate this tool we have created.

Learning Outcome: I learned quite a bit about Python and pandas, JSON, OS, and logging libraries in python. I also learned about using different environments when coding, such as sublime text, and also using git in a real project. I got to practice my communication and presentation skills. I also learned how important debugging and code consistency is.

Name: PRANJAL JASANI.(2019B4A70831H)

Student Write-up

Short Summary of work done: I was part of UI/UX team, which included three projects. Two of which included making websites using Wordpress and plugins like Elementor and WP Bakery. The other one was creating themes for an app using Xamarin. I worked on creating the websites. We created multiple wireframes for the same using Figma. And then applied the design elements which we required using the different plugins and themes.

PS-I experience: First one month was more like the training period where we were taught about the different softwares we might need during our project. Even though it wasn't exhaustive they tried to point to different resources whenever they could. Second month was more about working on the project itself. It was a really amazing experience to actually work in a corporate environment, something which is very valuable as a student.

Learning Outcome: Learnt a lot about the software used in UI/UX industry. Some of them are photoshop, Figma and Wordpress. We now have detailed knowledge of Wordpress and the different plugins and themes which can be used to implement your required design.

PS-I station: EUPHEUS LEARNING , New Delhi

Student

Name: ALLA AVINASH REDDY .(2019A3PS0458G)

Student Write-up

Short Summary of work done: Did a market research on the current educational tools used by schools in current times and submitting a report on the findings

PS-I experience: The project domain which I had chosen and the one I got are quite different but it has been a great learning experience for me and had improved myself in all the aspects that I had worked on.

Learning Outcome: I have improved my listening skills, communication skills, analysing skills, managing skills.

Name: SATCHIT HARI .(2019A7PS0022G)

Student Write-up

Short Summary of work done: The first two weeks we were assigned only very basic tasks like manipulation of an excel sheet or saving and sorting some pdf files. Later we were given a task based on web development which was the design of a webpage. The project which was given was to make a website which uses an authentication system based on Microsoft Outlook.

PS-I experience

Learning Outcome: The learning outcomes were the experience of working in a team and some practise of web development.

Name: AGNEYA BHARDWAJ .(2019A8PS0297P)

Student Write-up

Short Summary of work done: My work was related to data analytics and model prediction using python and its libraries. I had to derive useful insights from the data which would help the organization in tweaking its business strategies.

PS-I experience: My PS 1 experience was full of learning and proved to be of great value to me.

Learning Outcome: Learned how to carry out data analytics and data prediction using ML Algorithms.

Name: PRADEEP ALAPATI .(2019AAPS0283H)

Student Write-up

Short Summary of work done: I was allotted into business intelligence team where we used ms excel, python and SQL for data visualization and answered questions of sales team by showing the graphs and pie charts made using the above mentioned tools and languages.

PS-I experience:

Learning Outcome: Learnt leadership and teamwork skills along with technical skills.

Name: PRATYUSH MAYUR GUPTA .(2019AAPS0465G)

Student Write-up

Short Summary of work done: Did some excel related work and then did frontend development of a webpage.

PS-I experience: Our BITS mentor was very good which made our experience very smooth.

Learning Outcome: Front-end

Name: PENUGONDA HITESH REDDY .(2019B1A30428G)

Student Write-up

Short Summary of work done: To Understand the learning solutions offered by the Eupheus learning through the live sessions conducted by mentors and further exploring the sites with the help of login credentials provided to get the practical knowledge of the product. Then organizing the information in a correct sequence in a presentation after getting complete knowledge of product and presenting it multiple times to the mentors and taking feedback after every presentation to keep on improving. After meeting the expectations of mentors, need to train the internal sales team of Eupheus Learning to help them in pitching the learning solutions offered by the company.

PS-I experience: It has been a great learning experience throughout 8 weeks for me pursuing my intern at Eupheus Learning. I have improved my presentation skills and communication skills to a larger extent after being involved in this project. I got to know how important it is to have confidence and complete knowledge of the solution or product

in order to become a good evangelist. I was able to overcome challenges like presenting the vast information in a limited time in an effective way to the concerned stakeholders while pitching the product. I also learnt how to keep the audience engaged while presenting the solution by making it a Two-way communication rather than one-sided centric. Especially mentors played a big part in guiding me how to go about the project with their valuable feedback after each presentation. I am very thankful for Eupheus team to put in lot of time and effort to make sure I am well versed with the project. This Industry experience has taught me how a company works internally and gave me a glimpse of industrial exposure. I was obliged to have my PS Faculty for helping me in solving the issues I faced.

Learning Outcome: I have understood how to Evangelize eupheus learning products by going through them thoroughly. I also developed the intricacies of pitching digital products online. Understood the competitors in the market for getting a better insight of pitching their products. I got the Exposure to the internal workings of the company. Improved Communication skills, interpersonal skills, Presentation skills etc.,Learnt how new employees are trained from the perspectives of both, a trainee and a trainer.

Name: HARSHIT SINGH ASPAL .(2019B3A30398P)

Student Write-up

Short Summary of work done: During my Ps1 I was assigned work of video development. In the beginning I learnt about the products of the company and after that I was assigned work to make 3 videos on different products for the company which I successfully completed within the time limit.

PS-I experience: It was a good industry experience for me and I got good enough exposure during my PS1.

Learning Outcome: I learnt video editing. I also improved my communication skills, creativity and decision making ability.

Name: ANAMAYA KARORIA .(2019B3AA0445G)

Student Write-up

Short Summary of work done: Market research on top schools to gather information about the new techniques and procedures adopted by the schools during the pandemic

PS-I experience: Great experience, improved communication skills, mentors provided help in every way possible

Learning Outcome: Improved communication skills, coordination skills with teammates, punctuality all developed

Name: YALAVARTHI SAI KUMAR .(2019B5A41110H)

Student Write-up

Short Summary of work done: We came in here as interns to be trained as product evangelists. After a week of interactions with the Internal team, we have been divided into 4 other groups and I've been placed in the team of Product Evangelists. Our task is to go through few their solutions thoroughly and attend the pitches by the Internal team, then make PPTs highlighting the salient features of their solutions to be used as a tool for our own individual pitches. In the end we assumed the roles of trainers and trained the Sales team (Curriculum) of Eupheus and got them ready for their pitches.

Now we had to assume various roles in this period of 8 weeks. Initially as Product Evangelists, to get an understanding of their roles, then as trainers, to train their Sales team (Curriculum) in the best possible ways of convincing the third party on why they have to procure the solution Eupheus is offering. In the meantime, as trainees, we ourselves have received such training as part of being Product Evangelists.

The solutions we have been assigned to are,

- World Book Online
- Live | The Reading Club
- RoboGarden

- WOW! Math & MathBuddy

PS-I experience: It was good.

Learning Outcome:

1. Evangelize their products by first going through them thoroughly.
2. To understand the intricacies of pitching digital products online.
3. Understood the competitors in the market for getting a better insight.
4. Exposure to the internal workings of the company.
5. Improved Communication skills, interpersonal skills, Presentation skills etc.,
Learnt how new employees are trained from the perspectives of both, a trainee and a trainer.

**PS-I station: Expound Technivo Pvt Ltd Tech-Software Development ,
Mumbai**

Student

Name: RAJATH BALASUBRAMANYAM .(2019A1PS1432H)

Student Write-up

Short Summary of work done: Worked with the backend team and worked with Django.We were taught to create our website and also worked on an e-commerce website,added features to it and made it user comfortable. We learnt about different storages and ways to store them.

We found out bugs and also found out ways to solve them

PS-I experience: It was up to expectations.I learnt alot and was satisfied

Learning Outcome: Got a gist of Django,local storage,cookies,Json and a bit of html as well

Name: MOHITH S.(2019A7PS0045G)

Student Write-up

Short Summary of work done: Updating and recreating the official Expound Technivo website (Front End)

PS-I experience: Good

Learning Outcome: HTML, CSS, Bootstrap, Bootstrap Studio, Git, GitHub

PS-I station: Expound Technivo- Strategy and BD , Mumbai

Student

Name: SATVIK SHARMA .(2019A7PS0180H)

Student Write-up

Short Summary of work done: We started by doing data digging on google sheets, where we maintained the list of potential clients, their contact number, designation, company's website, linkedin url and any extra information that can be used by our company. We made 9 new hiring posts for 9 different SAP modules : Sales and Distribution, Material Management, Business Application Software Integrated Solution(BASIS), Finance and SAP Controlling(FICO), Plant Maintenance, Human Capital Management, Quality Management, Availability Control, Production Planning. We shared these posts and helped in publicity of them. We searched for new topics for our posts through company's linkedin page, we also made content for these posts and few of them were later posted from the linkedin page and soon all of them will be posted. We

learnt how to use Canva and did Graphic Designing without any prior training for the posts. In last week we converted raw data into data sheets and added companies' information with them so that Sales team pitch them with our company's SAP solutions. And most importantly we learned about SAP.

PS-I experience: We had a mixed experience, we started by filling google sheets for 2 weeks it was repetitive with non regular comments on our work. We were later told to do content writing, publicity work and graphic designing work for the linkedin page of the company. We made 9 hiring posts too. We were promised Strategy and Business Development Role but were mainly given work of content writing, publicity, graphic designing, and sales. In our first interaction with the company we were told to be parts of client meeting and to teach how market works and understanding of the business model.

Learning Outcome: Teamwork, Understanding the potential clients of the company, Understanding the working of LinkedIn profiles of companies and content they create for their page, How to organically increase followers of company's LinkedIn page, What should be the level of post that can be posted on the company's LinkedIn account, Analyzing how other companies are maintaining their LinkedIn profile, We also learned basics of Canva on which we did Graphic Designing for our posts.

Name: ANVESHA DUBEY .(2019B5A80831P)

Student Write-up

Short Summary of work done: I had a business development role and we started with data mining. Later, I was shifted to the software development team where I alongwith my team members revamped the existing website of the company.

PS-I experience: The software development work was satisfactory and I got to learn throughout.

Learning Outcome: I learnt front-end development and UI/UX designing for the website.

PS-I station: Goavega-Data Analytics (ML) , Bangalore

Student

Name: AARANYA PRASAD .(2019A7PS0107G)

Student Write-up

Short Summary of work done: The goal was to provide predictive analytics based solutions for the cannabis retail industry. I worked on developing and deploying an Azure Synapse based data warehouse. The provided dataset was analysed and converted to dataflows in Synapse and integrated into pipelines to automate the process.

PS-I experience: The first few weeks were focused on learning about machine learning techniques and the tech stack after which several problems in the predictive analytics space were evaluated. I worked with the Data Analytics team which primarily made use of Azure Synapse Analytics. After setting up the cloud environment, we proceeded to develop and implement models for predictions. Due to the regulatory restrictions, only a limited amount of information was available and we had to work around that. First, a number of aggregated features were generated which are to be used with python scripts to get product recommendations with cosine similarity matrices. Our mentor guided us throughout this process. Though the learning curve was a bit steep and a major bug on the platform was encountered during the process, it was a highly educational experience.

Learning Outcome: I gained a detailed overview of the data analytics pipeline and toolchain; I was introduced to a cloud based development platform with all its details such as pricing models, documentation and support. MySQL was used heavily throughout the project which gave me a chance to practice dbms concepts. I also learn about several python libraries such as scikit, numpy, pandas, and matplotlib used to analyze data.

Name: NEHAL GUPTA .(2019B1A80990P)

Student Write-up

Short Summary of work done: The project focuses on building a product recommendation system for the retail cannabis business by using data analytics techniques and coming up with strategies to recommend the best suited product according to the customer's need. The major problem in the industry is the limited amount of data available due to the newness of the industry. The consumers in the cannabis industry use it for different purposes and due to a large variety of products available it becomes even more crucial to suggest right products to the customer in order to gain their trust in the brand and to increase the value of the business. To respect the privacy of the customers the customer records are deleted after they have placed an order so it further adds to the challenge as there is no past record of the customer and in order to maintain the relation with the customer we need to provide them the best experience possible. The project aims to use data analytics solutions to build a product recommendation system which could provide the best recommendations to both a new user and a repeated customer.

PS-I experience: My experience was quite enriching and I learnt a lot. The PS mentors were extremely helpful and we had regular meets with them. They helped us at every step and were quite supportive.

Learning Outcome: In order to make a new customer into a potential loyal customer it is necessary that their first experience prompts them to come back again and it is also necessary to maintain relationships with the existing customers as well. Since there is no information available about the customers that are new to the business they can be recommended products on the basis of the trending products on the basis of data collected from last 7 days, or on the basis of products that are commonly purchased in their locality. They can also be recommended products on the basis of the items in the basket and recommending them products that are often bought with that. All these can be used to recommend products to an existing customer as well but since he has past order history of the customer we can also use that to suggest products on the basis of the products bought by the customer or other lookalike customers in the past. Though, there are multiple ways to provide a recommendation system, the system which takes care of the needs of all types of customer is a hybrid recommendation system which builds upon the benefits of other systems thereby taking care of the disadvantages faced in each recommendation system.

Name: VISHNUPRIYA VIJAYAN .(2019B3AA0310H)

Student Write-up

Short Summary of work done: We worked in the predictive analytics section and we modelled a product recommendation system using the customer data they provided us with in an SQL dump and we used Azure Synapse Analytics for carrying out the data transformations using data flow diagrams and for the cloud deployment of the project. We also derived concepts from customer segmentation and used algorithms for finding frequent item-sets.

PS-I experience: It was a wonderful learning experience and I received a lot of support from my PS Instructor and industry mentors, who were there through each step and constantly guided us.

Learning Outcome: It introduced me to unfamiliar concepts and taught me to work on a team, working towards a common goal. It definitely gave me a more experience from an industry perspective.

Name: TUSHAR SHRIMALI .(2019B4A70266G)

Student Write-up

Short Summary of work done: I worked on developing Machine Learning algorithms using Python and its various in-built libraries for Demand Forecasting. My work included extracting data from MySQL file into an excel sheet or csv file and then finalising the entities/features for our ML model and then Feature Engineering that data so as to make it more suitable for our use case and then developing various different ML algorithms and comparing them based on their accuracy and error scores.

PS-I experience: I had a great learning experience during PS - 1 as I got to work on a real world project and apply my theoretical knowledge from the classrooms to an industry project and gain many new insights into Machine Learning. I also improved my management, leadership and soft skills by working with and leading a team of like minded individuals.

Learning Outcome: I gained insights into the working of Machine Learning models along with knowledge about Feature Engineering and data pre-processing techniques. I also

got to know about the working of databases, improved my programming skills and developed interest in the statistical working of many different Machine Learning algorithms.

PS-I station: Greendeck Cliff.ai-Data Integration , Indore

Student

Name: ANJEL PATEL .(2019A7PS0126H)

Student Write-up

Short Summary of work done: Cliff is a service that provides ML based analytics for businesses. Businesses provide their database sources to Cliff and Cliff handles them. Our job was to expand the list of compatible databases (called sources) for Cliff to tap into. Over the period of our PS1, we added 12 new sources to Cliff using and configuring a python script.

PS-I experience: The overall experience was pretty good for what the project title was. Data Integration means Extracting, Transforming and Loading data. And that is exactly what we learnt. The project length was manageable as well. Our mentors were helpful, and supportive. The entire team at Greendeck is very friendly. A good experience for anyone interested in Data Integration.

Learning Outcome: We started with learning about technologies like MongoDB, Airbyte, Docker, Gitlab and communicating with RESTful APIs. We also got to see what enterprise level code looks like and how to properly document our code. We also learned about how to collaborate in a team.

Name: JANGALA NARASIMHA GUPTA .(2019A7PS0138P)

Student Write-up

Short Summary of work done: Added data sources and destinations via airbyte to cliff.ai

PS-I experience: Great

Learning Outcome: Learnt docker,airbyte ,mongodb,flask,pymongo.

Name: AVNI GARG .(2019B3A70474G)

Student Write-up

Short Summary of work done: We used Airbyte to create an ETL infrastructure that makes it easier for Cliff Engineers to collect data from various 3rd party data sources and databases. We made use of DBMS, and integrated new sources to the Cliff website.

PS-I experience: It was a good experience, our company mentor used to hold regular meetings (thrice a week) to check on our progress, he was always available on Slack server to attend to our doubts. Collaborated well with my group mates, all three of them were equally helpful to discuss any doubts.

Learning Outcome: We learnt a series of different technologies to finally head to our capstone project. Our mentor ensured we started learning from scratch, hence we learnt about SQL and NoSQL, rest APIs, Postman, Flask python module, Docker, Airbyte, PyMongo, Gitlab and used all of them to come up with a script that could integrate new sources in the Cliff website.

PS-I station: Greendeck Cliff.ai-Data Quality Insurance , Indore

Student

Name: AYUSH GOYAL(2019A7PS0084P)

Student Write-up

Short Summary of work done : Our job was to perform ETL on data. That is, we had to take data from a host of different sources and transform the schema so that the data could easily be stored in the company's official database.

PS-I experience: It was okay, I expected a bit more from the role per say. The project of data integration was quite appealing and I thought it might be related to ML or data mining but that was not the case. Though we learnt some technologies along the way, our main goal of the project was more of transformation of data.

Learning Outcome: Learnt about DevOps. Learnt tools like docker and APIs. Also learnt the importance of data and data refining. Refining and collecting data is almost as important as the ML side of things. Learnt more about schemas and databases. Refined my knowledge of Git, and also learnt how to write good documentation. Another learning was how to collaborate with the team on a common project, and take everyone along. In all it was a fruitful experience but not really related to ML, something which I had expected.

PS-I station: Greendeck Cliff.ai-Deep Learning , Indore

Student

Name: BOKKASAM VENKATA SAI RUTHVIK .(2019A7PS0017H)

Student Write-up

Short Summary of work done: My PS work mainly focused on outlier detection in non-time series tabular data. After going through the theory required, I worked primarily on the Melbourne Housing data set, applied the isolation forest algorithm for outlier detection and used the SHAP library for explainability. In the end, a python package was created so that given any generic dataset, data cleaning and encoding, model training and the explanation of the results obtained can be done easily with a few lines of code.

PS-I experience: My PS experience was very enjoyable. I learned some key concepts of data science. Though I would have preferred a non-remote working scenario, the mentors were really supportive. The project I was assigned too was closely related to what the company does. I learned some new things/ideas that I was actually able to apply in another project I was working on.

Learning Outcome: I learned about the ideas and need for data preprocessing and the domain of anomaly detection. I also learned about explainable AI (XAI)

PS-I station: Greendeck Cliff.ai-Full Stack Development , Indore

Student

Name: Dhruv Agarwal(2019B2A30892P)

Student Write-up

Short Summary of work done: Cliff.ai allows its users to monitor several metrics. These metrics can range from several hundred to several million in number. Monitoring these metrics can quickly become a painstaking task, and getting any information on what might be causing any anomalies is another challenge. With the Root Cause Analysis feature, users will be able to monitor their metrics more closely, even if the volume of these metrics is high. Also providing users additional functionality to compare the charts with different time frames and make the analysis better.

PS-I experience: The experience was great and learned a lot from the instructor, who helped me in every possible way.

Learning Outcome: Learned a lot more about front-end development and many new tools.

Name: AVIRAL OMAR .(2019B3A70411P)

Student Write-up

Short Summary of work done: We created a proof of concept for a feature to be implemented in the SaaS website. We spent the first few weeks learning the ins and outs of web development and created a sample project as an outcome. Then we created a mock website much like the company's website which included a sign-up and sign-in authentication flow. Then we created a main website view which included a home page, a metrics view and a streams view. My project included filtering the metrics by dimensions. This included displaying raw time-series data using charts for visualization. We used React in the front-end along with Ant Design components and Express in the back-end and both MongoDB and PostgreSQL to store and fetch data.

PS-I experience: Overall, my experience with Greendeck was positive. My mentor was helpful and supportive and provided me with access to learning resources and a guideline for the project. Daily meets were held for the review of the work. I learned a great deal about the tools used to create large scalable websites, about collaboration and team work and had a great practice school experience.

Learning Outcome: Git, Javascript, React.js, Redux, Ant Design, Apache Echarts, Node.js, Express.js, MongoDB, PostgreSQL, JSON Web Tokens

PS-I station: Greendeck Cliff.ai-Machine Learning , Indore

Student

Name: PRANEET SAI MADHU SURABHI .(2019A7PS0060H)

Student Write-up

Short Summary of work done: The project allotted was 'Trend, Seasonality and change point detection' in time series. The product performs ML algorithms on various types of data metrics collected from many resources and detects anomalies and other features such as trend and seasonality changes.

PS-I experience: There was a high learning curve and problem solving experience. It would have been better if it was offline

Learning Outcome: Machine Learning, Python, work experience

PS-I station: Greendeck- content writing , Indore

Student

Name: YASH KHANDELWAL .(2019B1A81006P)

Student Write-up

Short Summary of work done: My work mainly consisted of content writing for this SaaS platform. I made their user manual. This work was done to make it easier for the less tech savvy users to use this product, which would incidentally be making a large portion of the user base. I went through the various knitty gritty details of the software and explored its features. Then I drafted a basic outline. This was followed by giving detailed explanations of some deeper concepts.

PS-I experience: The experience was interesting and quite different and is for anyone who wishes to improve their writing skills and also wants to gain the ability to explain technical concepts in an easy manner.

Learning Outcome: The task compelled me to understand the world of machine learning and data analytics to great depth while also making me expressive in my writing. The most important task was to make the manual highly readable.

Name: ISHA RASTOGI .(2019B2A80524G)

Student Write-up

Short Summary of work done: My work at Cliff.Ai included sketching and designing wireframes, building user flow and interaction, high-fidelity design prototypes on Figma after researching design inspirations from Dribbble, Behance, Awwwards and many more. Reading various design growth case studies of giant companies and various other resources provided by my Mentor. Learning about cognitive biases, heuristics and design principles. In addition, I collaborated with the design team on product iterations to enhance the overall product experience. It also involved researching functionalities and features needed for any particular web page and developing ideas to improve the product.

PS-I experience: Faculty Instructor as well as PS mentor were cooperating and understanding. PS Mentor provided a lot useful learning resources and guided well in every step of the project. Other members of PS station were also very supportive. Overall it was a great learning experience .

Learning Outcome: After working on multiple projects, I came to understand how companies work and about their business model. I was able to sharpen my product designing skills (UI/UX designing) so that it can be used professionally for a Company or Organization. I learnt about different design principles and their practical implementation to make smooth user experience.

Name: SAIJAL BANSAL .(2019B3A80567P)

Student Write-up

Short Summary of work done: My work was writing general content for "Cliff.ai." The blog I have written contain domain-specific content pieces which will attract relevant traffic to its web pages and provide clear information about the product and its features and attributes. First of all I read a lot of articles to gather the knowledge so that I can write a blog myself and then selected a topic an wrote a 800 words blog.

PS-I experience:

Learning Outcome: I learned so much about AI/ML working and API. Also, I develop a good understanding of how to develop high-quality content step-by-step. Learned the process right from selecting a topic, doing the research to finalizing the draft.

PS-I station: Habbit - Data Analytics , Bangalore

Student

Name: [DEVANSH DIXIT .\(2019A7PS0069G\)](#)

Student Write-up

Short Summary of work done: I was a part of the data analysis team @ Habbit. My work involved understanding the user flow and analyzing user behaviors on their application and website. We created a lot of marketing metrics (Click Through Rate, Cost Per Click, Cost of Acquisition etc) along with some other metrics (number of views, reach, user traffic analysis, etc) and analyzed them using various business intelligence tools like Mixpanel, Paytm Insider , and presented our results to the team and developers to improve the product. Since habbit is a ed-tech startup and a cohort based learning platform, we also had to manage a community, jewelry design in my case.

PS-I experience: The Habbit team is one of the best teams I have ever worked with. They are so understanding and helpful. I really like the work culture at Habbit which is the right proportion of friendly and professional. We were also encouraged to get involved in other activities apart from our core domain, like business development, product management, creative design etc. Our instructor in-charge Dr. Manjanna B. was really understanding and managed everything really well.

Learning Outcome: I got to know about the SOTA methods and softwares used in Business Intelligence and Data Analysis. I had never worked with MixPanel before now I am pretty confident with it. I also understood the work and efforts that go behind running an early stage startup. Lastly , managing a community improved my communication and management skills. Overall it was a steep learning curve for the summers!

PS-I station: Habbit - Product Management , Bangalore

Student

Name: SATVIK SAXENA .(2019A1PS0971G)

Student Write-up

Short Summary of work done: Analyzed data to gather insights about target personas, buyer needs and purchasing decision process for Habbit. We did this by sending push notifications to users accordingly by gauging user interest, checking effectiveness of advertisements, and tracking events and metrics on the new website.

PS-I experience: Good experience, Company was good and instructors were very approachable.

Learning Outcome: Startup environment experience

PS-I station: Habbit - Web Development , Bangalore

Student

Name: HARSH AGARWAL .(2019A7PS0049P)

Student Write-up

Short Summary of work done: A Habbit, we did Automation tasks using some popular Apis like Notion Api, Telegram Api, Slack Api and celery.

PS-I experience: Working at habbit was a good learning experience, As habbit is an early stage startup, we got insights of how a startup works. Seniors at habbit are very friendly and supportive. we were given regular tasks with easy deadlines.

Learning Outcome: Major learning outcomes includes Notion Api, Python, django and Git and other learning outcomes includes Api integrations, Docker, Celery etc.

Name: MAKADIYA JENIL ASHOKBHAI .(2019A7PS0102G)

Student Write-up

Short Summary of work done: We joined Habbit team with a role of backend developer on our shoulders and joined the main team to directly work on the existing live codebase. First thing first, the tech stack for backend used at habbit includes django framework, docker and basic understandings of APIs and webhooks. When we joined in, the task delegated to us comprised of automating updation of notion CRM database of Habbit, everytime a new customer registers. And lateron, we picked up more tasks pertaining to improved event management and ease of maintaining of events and tasks with increasing traction day by day. Overall, the task undertaken by us was highly impactful in the way that we were able to channel down the time of managing team in some other productive tasks rather than manual updation tasks which are boring and error-prone at the same time.

PS-I experience: If I had to describe it in a sentence then I would say that it was well above expectations. The most important thing at any corporate is a work culture and I can definitely say that it was one of the best to get our balls rolling in the world of corporates. Secondly, the delegated tasks were good enough to picked up at a faster pace and match the frequency of deployment of the main team as well. Furthermore, the best thing at Habbit was the environment and team we had. It was one of the most vibrant and lively environment that anyone can get at a station. It always felt like working with a bunch of friends on releasing a product or rolling in a new feature. Last but not the least, since Habbit was a start-up in its early days with a comparatively smaller team, I also contributed in some tasks outside the domain and helped me to get insights on working of other departments and startups as a whole too.

Learning Outcome: The learning outcomes from this 7 week stay at Habbit was something very significant. From being a newbie in the field of development, not even knowing python, to rolling out some features directly into production on my own was the summary of my learnings. I picked up a bunch of skills that will stay with me throughout the initial days of my career which includes formal communication, collaborative coding and writing up corporate level code. Won't exxagerate but from shifting a complete OS to raising first PR to finally fixing some bugs gave some real thrill that I never imagined of. Overall it was a sea of learnings for me. More you explore, more you learn!

Name: SARANSH DWIVEDI .(2019A7PS0173H)

Student Write-up

Short Summary of work done: We were assigned a number of small tasks instead of one big project. We worked on creating a telegram bot to send auto-generated messages on our telegram channel. Similarly we also worked on a Slack bot for generating alerts. We automated the process of mentor onboarding. One of our major tasks was to automate our Notion page.

This included adding details for every new payment, managing and updating all events, creating a calendar for each event and developing a two-way communication between backend database and notion calendar so that the updates on either side are reflected on the other side as well and any conflicts are resolved.

PS-I experience: Being an early stage startup made it possible to have a rich interaction with all our team members at Habbit. The mentors were very helpful and and insightful and could approach them without any hesitation. Really enjoyed the work environment and is a great place to work and learn.

Learning Outcome: Firstly we learnt Django and python as our backend is based on it. Also, we learnt how to with with APIs and webhooks and how to integrate it in our project. We worked with Telegram API, Slack API, Noiton API and Razorpay Webhook. One of the major outcomes was to learn how to write a production level and test it at the highest level.

Name: AKHIL MACHERLA .(2019A7PS1211H)

Student Write-up

Short Summary of work done: As a front-end developer, as an intern I was tasked with designing and developing the website that was currently in production. There was no fixed project - as the team developed, more features were required to be added/edited to the website, and so we did. We developed new pages, new components, adjusted CSS styles, tested existing components and contributed to the daily necessities of the startup

PS-I experience: Since the team was very small, each intern had immense responsibility. We had daily Discord calls when the work was intensive but otherwise regular updates on Notion as to what tasks needed to be completed. The work was very educating and productive, as we could directly see the consumers respond to our contributions. We were very open and direct with our tech lead and developers, who helped us immensely, and appreciated our contributions

Learning Outcome: I've got the best learning outcome I could have hoped for from PS - an actual experience working at a fresh startup. Had a feel for start-ups' work ethics and organization practices. Had an active participation in the code development and felt more like an actual employee rather than an intern

Name: ARYAN SINGH .(2019AAPS0325G)

Student Write-up

Short Summary of work done: My profile was web development. The major focus was on the frontEnd part. I worked on the habbit website directly. Me and the other frontend team members were responsible for creating new components, modifying the already present components etc. After sometime a new website was being made by the tech team and we got a chance to work on it, We created new pages from scratch too. Work at Habbit honestly exceeded my expectations. We learned a lot everyday and we almost everyday had a new task to do.

PS-I experience: Since I'm deeply interested in web development and was in the learning phase, The role of web developer at Habbit really helped me gain a lot of experience because i got to work on a live website. This PS station was honestly way too good if you want to learn something. We worked on something or the other everyday and since this is a BITSian startup and the employees are all very young, The working culture was just amazing. We didnt have meets, We just used discord all day and the experience was just really good

Learning Outcome: I learned JavaScript, React.js, Next.js, Tailwind CSS, Writing tests for react components using jest and enzyme. The PS1 experience will surely help me in my career as a web developer

PS-I station: Habbit- Business development , Bangalore

Student

Name: ANUJ MILIND GORE .(2019A8PS0339P)

Student Write-up

Short Summary of work done: As part of data analytics team, we were responsible for analysing data to gather insights about target personas, buyer needs and the purchasing decision process for Habbit. This involved monitoring data over website and mobile application of Habbit, and ad campaign reports.

PS-I experience: It was a good experience. It was great to work on some real world data. I was able to learn a lot about the working of startups. The mentor was supportive and we were always encouraged to provide inputs from our end.

Learning Outcome: An understanding of the working of a startup. Learnt various data analysis techniques. Also, the evaluative components helped me improve my soft skills.

PS-I station: Habbit- company valuation , Bangalore

Student

Name: ANIRUDH JAIN .(2019A3PS0422G)

Student Write-up

Short Summary of work done: Contacting colleges for partnerships. Financial modelling.

PS-I experience: It was a great experience. The co founders are really nice and helpful and are always reachable

Learning Outcome: Communication skills, financial modelling, product management

PS-I station: Habbit- Market Research , Bangalore

Student

Name: BISWAJIT BENGANI .(2019B2A30975G)

Student Write-up

Short Summary of work done: I worked on the company valuation domain. The key job was to modify the financial model as the requirement so it can be presented to various investors and also to make a pitch deck for investors. I altered the model as per the requirements and made it more realistic. Then after a month I added some new features to the model and it was done in various stages. Finally, I successfully developed the financial model and it was used to present many key metrics to the investors.

PS-I experience: My experience at Habbit was amazing. I learned new thing working with the co-founders and developed many skills. My journey at Habbit was astonishing , as daily I was learning something new about how a start up works and it really helped me to complete my job.

Learning Outcome: I learned many thing while working at Habbit. I developed many skills from tech to soft skills. I learned how actually I startup works in its early stage and how it plans on expansion. I developed many soft skills like management skills, presentation skills, team player etc.

PS-I station: Habbit- video production , Bangalore

Student

Name: GARVIT SATIJA .(2019B3A40473P)

Student Write-up

Short Summary of work done: I managed the Facebook Ad manager for the company and helped with digital marketing on Facebook and Instagram.

PS-I experience: It was a nice experience, got to know many new people and a new type of work with marketing.

Learning Outcome: I learned how to work in a professional environment. Learned about marketing and digital marketing .

PS-I station: Happiest Minds Technologies , Bangalore

Student

Name: MRUDUL M NAIR .(2019A7PS0026G)

Student Write-up

Short Summary of work done: The title of Project was 'Deep Reinforcement Learning in Stock Trading'. The objective was to implement an ensemble strategy combining different actor-critic algorithms to maximize returns in a trading environment where multiple stocks are involved.

PS-I experience: It was a great learning experience. The people at Happiest Minds are friendly and supportive. Mentor was very helpful and willing to guide us and got exposure to Reinforcement Learning.

Learning Outcome: Various concepts in Reinforcement Learning, utilizing libraries like stable baselines and open AI gym , programming in python, improved soft skills.

Name: SANKHA DAS .(2019A7PS0029P)

Student Write-up

Short Summary of work done: Scheduling meetings in the corporate world, especially in the work-from-home mode, has become quite a challenge nowadays. Picking the best slot that suits the calendars of all the attendees for the desired meeting is a tedious and rather difficult task for the organizer. The process can however be expedited by taking aid of Robotic Desktop Automation to develop a workflow that automates this job for the end users. Automated Meet Scheduler is a workflow developed using Microsoft PowerAutomate that will help in automatic meeting scheduling at Happiest Minds Technologies. The workflow requires the organizer to enter a few details about the meeting timings and the list of attendees, in response to which suitable time slots would be found for scheduling the meeting. As a result, valuable time and effort on part of humans is saved and scheduling meetings becomes a more fast, streamlined and accurate process.

PS-I experience: The PS-1 programme was a very fruitful learning experience for me and I have been able to contribute significantly to Happiest Minds Technologies and have taken many valuable lessons from this opportunity. My industry mentors were most supportive and understanding throughout the project. Thanks to my extremely supportive mentors, I was able to discuss my progress very effectively with them. In spite of the challenges faced during the project, my mentors constantly guided and supported me to overcome them with ingenious solutions. My faculty mentor streamlined the entire programme for each one of us and made the programme a comprehensive and holistic experience, with the project work interspersed with group discussions, quizzes and seminars. I am confident that the valuable learnings derived from the PS-1 programme will be highly fruitful in my future endeavours.

Learning Outcome: Over the duration of 8 weeks in the PS-1 project, I learnt many new things related to Robotic Desktop Automation and its related applications. The learning curve was very smooth and streamlined and focussed on understanding the basics of Robotic Desktop Automation first before moving on to the implementation. The time and effort invested in researching the different use-cases of RDA and to come up with new use-cases laid a strong foundation for building the project. As a part of this project I developed many new skills and work ethics by the new work environment in a corporate setting.

Name: [VEMPATI SHARVANI REDDY .\(2019A7PS0050H\)](#)

Student Write-up

Short Summary of work done: Our work was related to the Data analytics domain and our project was to develop a marketing platform for tracking and analyzing the interaction between advertisements and other promotional events on different social media platforms like Instagram, Facebook, etc., and customers.

PS-I experience: The company contacted us two weeks after PS1 began but was encouraging and lenient and let us work freely. I learned various aspects of the corporate world. Our mentors were friendly and helped us a lot throughout the internship. Overall it was a good learning experience.

Learning Outcome: The technologies used in the project were completely new to me. I was able to learn the basics of data analytics and how data analytics can be used to

analyze marketing data. We were introduced to new platforms like Databricks and AWS S3 storage, Apache Spark in Python. It also helped in learning presentation skills and being able to finish work within deadlines. I understood the importance of coordination and teamwork.

Name: ANKITA BEHERA .(2019A7PS0075H)

Student Write-up

Short Summary of work done: Our project was to develop a data analytics platform to analyse person data and marketing activities from different sources. We collected data pertaining to persons and marketing activities like email open, ad click, customer calls etc. from various sources and enriched it to identify which channel was preferred by a person.

PS-I experience: My overall experience was really good. I enjoyed working on the project along with my teammate. I wasn't familiar with data analytics prior to the internship but I think I learnt quite a lot from my mentors. The group discussions and seminars were also enjoyable

Learning Outcome: I am much more comfortable with Python programming. I was exposed to new platforms like Databricks, Spark and AWS. I got to learn the basics of data analytics and how marketing platforms can be used for targeted marketing.

Name: AADIT DESHPANDE .(2019A7PS0077P)

Student Write-up

Short Summary of work done: Project Title: SOW Analysis using NLP Techniques
Happiest Minds Technologies, is a software companies that frequently uses SOWs on their projects with various clients. SOWs (Statement of Work) contain the details of a

Service Agreement between two or more companies. They contain valuable information such as the Start, End Dates, Value, Scope of Work and so on. However, these are in an unstructured form which may lead to data loss and provides no means for visualization. SOW Analysis is extremely useful as it provides valuable business insight. The purpose of my project was to automate the extraction of key data points from SOWs using NLP and ML techniques and distribute them to the users using Dynamic Dashboards for users to analyse them.

Technologies Used : Python packages, Spacy (NLP) and OpenCV (OCR), Microsoft Azure SQL Database, Microsoft Power BI

PS-I experience: The overall experience was positive and filled with many learning opportunities. It was a great opportunity to work with my project manager on this project.

Learning Outcome: Learning Outcomes:

1. Technical Skills - ML concepts, NLP, Using python libraries like spacy, opencv, Working with Power BI, Working collaboratively on Github
2. Soft Skills - Understanding work culture of the organisation, teamwork, effective communication, working under deadlines, maintaining work-life balance

Name: [USNEEK SINGH .\(2019A7PS0127P\)](#)

Student Write-up

Short Summary of work done: I worked on three approaches to generate sequence embeddings from clickstream data of a website that provides MOOCs. The techniques used were SGT (Sequence Graph Transform), Autoencoder embeddings and Attributed sequences embeddings. For attributed sequence embeddings a 30 layered LSTM sequential model was used. We evaluated the embeddings on one of its use case i.e. to determine if the sequence would lead to pass or fail in the course. We achieved accuracy up to 77% on the classifier.

PS-I experience:

Learning Outcome: Although I had prior knowledge of working with tensorflow and keras in python, I applied the concepts to a real life project for the first time. I also got to look at intricacies of sequential models.

Name: ADITYA CHOPRA .(2019A7PS0178H)

Student Write-up

Short Summary of work done: We worked on optimizing a Supply Chain Management System by the use of Reinforcement Learning. It involved work with standard python Data Science and ML Libraries, and then RLLib and Stable Baselines 3.

PS-I experience: I had prior experience with Machine Learning, and so our first project was over pretty soon. Consequently, we were supposed to work on the second project. However, instead our team was split and I was allotted R&D for the same project, and my partner allotted Automated Stock Trading. We made further strides in the project, and were able to improve our results. The mentor for the company was good and helped out as much as he can.

Learning Outcome: I learned about Deep Reinforcement Learning, and debugging a Python Package :)

Name: R ADARSH .(2019A7PS0230H)

Student Write-up

Short Summary of work done: I was allotted to the COE Analytics business domain of the company. We primarily worked on the project to create sentence-based image descriptions for images. Image description generation or image captioning is the process of generating sentences related to a given image. Our task was to develop an end-to-end deep learning model to generate captions that best describes the image provided by the user. We used an encoder-decoder model architecture to generate the captions. For the encoder part, we used convolutional neural network (CNN) to extract features of the image and then the extracted features were fed as input into the decoder Transformer to generate the captions for the image.

PS-I experience: It was a great learning experience. Got some insights on the functioning of an IT company. The weekly meetings , regular project updates, meeting deadlines and the final project demo to the company employees, every step was a unique learning experience. The mentors in the company are very supportive and value our contribution. Overall it was a fulfilling experience and would greatly help professional life.

Learning Outcome: The project - Image captioning falls under the flourishing domains of deep learning namely Computer Vision (CV) and Natural Language Processing(NLP). During the course of the project, I got deep insights on several concepts of CV and NLP like image data augmentation, generating image and word embeddings, sequence generation etc. Since the model involved an encoder-decoder network, I read in detail and tried to get a thorough understanding of various models like ResNet18, ResNet50 (for encoder) and Transformers (for decoder). During the implementation phase, I learnt about how to develop and train an end-to-end model using PyTorch, visualize the model performance and later save the model and finally deploy it.

Name: DURBA SATPATHI .(2019A7PS0972H)

Student Write-up

Short Summary of work done: We build an image captioning model using computer vision, NLP and deep learning techniques. Image captioning is the process of generating sentences related to a given image. We employed various data augmentation techniques like blurring the images, increasing brightness, centre cropping etc .We made an encoder-decoder model. In the encoder part, we used pre-trained convolutional neural networks (CNNs) like ResNets to extract the features from the images and in the decoder part, we have used transformers to generate the captions

PS-I experience: It was a great learning experience. Our project mentor was very helpful and conducted weekly meets to review progress and gave us constructive suggestions. The project given was also very exciting and enhanced our knowledge of machine learning and computer vision.

Learning Outcome: Leant about seq2seq models, CNNs and transformers' architecture and various data augmentation techniques. Also got familiarised with the python libraries

- pytorch, openCV, pillow etc and used tensorboard to visualise the model and train/test losses. Also learnt about the use of streamlit to deploy the model.

Name: ABHINAV TALESRA(2019AAPS0223H)

Student Write-up

Short Summary of work done: In this project we did a business application assessment for the client, we performed an independent assessment to review the current state, to-be state, and the actions need to be taken to achieve the to-be state. Then, shared the best practices and approaches to be followed to achieve the to-be state.

PS-I experience: The assigned PS role was a first step towards the corporate world. It gave me an insight into the working of an organization and an opportunity to work on a real-world project. The project also gave me an opportunity to explore the career path of business consultancy. Thus overall, it was a nice learning experience.

Learning Outcome:

- Understanding of business environment.
- Improving interpersonal and communication skills.
- Developing quantitative and analytical skills.
- Know about workflow and work culture of the company.
- Improved the ability to diagnose business requirements.

Name: SHUBHAM PRIYANK.(2019AAPS0467H)

Student Write-up

Short Summary of work done: We created an image description generator that generates 5 captions for any image uploaded to it—this project combined two major domains of deep learning, image recognition and natural language processing. We used

pre-trained ResNet models for image recognition and getting the image embedding and transformers for the NLP task of generating the image captions from the image embedding.

PS-I experience: Overall the PS-1 experience was great. Our project mentor guided us throughout the development process and helped us whenever we got stuck by providing us with online resources or explaining the theory behind the model. My team was also great and very cooperative. Overall it was a net positive experience.

Learning Outcome: Firstly I increased my knowledge in Deep learning vastly as it was one of a kind project and required knowledge in two distinct domains of deep learning. I also learned how to communicate with my colleagues, team members, my seniors in the organization. PS-1 also improved my presentation skills.

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Learning Outcome: Firstly I increased my knowledge in Deep learning vastly as it was one of a kind project and required knowledge in two distinct domains of deep learning. I also learned how to communicate with my colleagues, team members, my seniors in the organization. PS-1 also improved my presentation skills.

Name: KARIZMA KHURANA .(2019B4A70708P)

Student Write-up

Short Summary of work done: I worked on a patch management use case. I mainly worked on PowerShell scripts and cmdlets. I also used MS Power Automate to create an automated workflow.

PS-I experience: It was a great learning experience for me. I was able to learn new things and apply them. My faculty mentor and industry mentors were helpful and always within reach.

Learning Outcome: I was able to implement what I learnt. I understood the importance of teamwork and coordination. I gained various technical and soft skills.

Name: AKSHAT KUMAR .(2019B4A71368H)

Student Write-up

Short Summary of work done: I was assigned to work on Microsoft Power Automate Desktop to develop a use case that automatically cleans an users system. I worked under the COE DPA Unit of Happiest Minds and this work is classified as Robotic Process Automation. While writing any command prompts or making a for loop in the software , i had to be careful since it can easily destroy your system. A through investigation of whatever files can be deleted was required. I worked on cleaning browser history , cache, cookies etc.(For Firefox, Chrome and edge) and running Disk Cleanup functions (deleting temporary files, prefetch, software distribution dump files etc). I also made a flow that arranged files according to its extension/date created and a flow that automatically uploaded these files on a drive. (one drive or google Drive)

PS-I experience: It was a pleasant experience with an opportunity to learn and grow.

Learning Outcome: I learnt how to deal with deadlines, how to work in a group setting and how to adapt to a work environment. I worked on problems which don't have premade solutions and this helped me grow exponentially.

PS-I station: Helix Techin Info Systems Pvt.Ltd - Data Analytics , Goa

Student

Name: DONI AKHIL LOHITH .(2019A7PS0026H)

Student Write-up

Short Summary of work done: Our project was to prepare software to recognise advertisements during live streams of events like sports matches. Our team was working by helping the team at Streamn in creating that software. In the first two weeks, we were given a dataset of 150 videos having a duration of 15-20 min. Our task was to extract frames from those videos using mmcv, recognise text from those frames, get positions of those recognised text from generated JSON files, and consider the best suitable word from a list of recognised words for each channel. In the next 2 weeks, we got a cropped text image from the frames using the information of the previous weeks' work and updated the coordinates in the JSON files created earlier. Using this work, we create collections of ad reports of the streams for a particular date and time interval. In the later weeks we started verifying the work done in previous weeks by using shin internal and external linux servers of the company. After verifying the channels and filtering out, we used template matching through OpenCV and cv2.matchTemplate function for the remaining channels, i.e., detecting objects in an input image using a "template" containing the object we want to detect.

PS-I experience: I am a student with no prior experience in industry and even I don't have few required skills for the internship at this company. our Reporting manager gave some references to study and some time to practise and then work. Overall I learned new things , acquired new skills in this PS-1. I am thinking of improving myself so that I can perform better at next internship/PS-2.

Learning Outcome: An exposure

Name: CHAUDHARI MAHAVIR RAMESH .(2019A7PS0088H)

Student Write-up

Short Summary of work done: I was a Software Systems Engineer Intern at Helix Techn, Goa

My part was about advertise detection in a live video stream, the project was made with a Python Backend, a Rocketset Database to save reports and Machine Learning for text recognition and Logo detection in the Live Video Streams, We also used FastAPI (python) with Gunicorn for making and hosting of the API service (respectively).

PS-I experience: I worked for a US based client of helix techn, Streamn.ai, communication problem due to time difference was a major issue at first but then we got used to it. I worked under a technical manager for python backend of the text recognition and on cloud linux servers for database management.

Learning Outcome: I learned a lot in terms of technical and industrial skills. Main topics were, Python, Tensorflow, Machine learning, Cloud Computing.

Name: A SOHAN REDDY .(2019A7PS0168G)

Student Write-up

Short Summary of work done: Our project is to prepare software to recognize advertisements during live streams of events like sports matches and generating advertising reports. It deals with correctly identifying the position of the logos in video streams and generating appropriate reports. The workflow of the project deals with

concepts like ML, Computer Vision along with python scripts supported by various python libraries.

PS-I experience: It was an interesting and wonderful learning experience for me at Helix Techno Info Systems Pvt. Ltd.

Learning Outcome: Technical: Python (Data analytics related libraries and modules along with the basics of openCV) on Google Colab, Computer Vision, FastApi, etc.
Non-Technical: Teamwork, Technical Report-Writing, Professional ethics, Time Management and Discipline, etc.

**PS-I station: Helix Techno Info Systems Pvt.Ltd - Machine Learning/NLP ,
Goa**

Student

Name: ABHAV MEHROTRA .(2019A7PS0145G)

Student Write-up

Short Summary of work done: Used OpenCV and ORB SLAM software to work on a computer vision project to extract keyframes from a live video stream which can then be used to detect ad logos and gain an insight into the marketing status during sports streams.

PS-I experience: Very good. Understood how projects work in real-life settings and companies and how people collaborate to work on a single project.

Learning Outcome: Learnt several advanced concepts in computer vision such as homography, affine transformations, computation of camera matrices and camera calibration. Went through existing papers and used those ideas and code to create our own projects.

Name: KOLLI AKASH .(2019B3A70426G)

Student Write-up

Short Summary of work done: Our project is to prepare software to detection of advertisements during live streams of events like sports matches and generate advertising reports. It deals with correctly identifying the logo position in video streams and generating advertising reports. Project's workflow deals with concepts like ML, Computer Vision along with Python scripts supported by various python libraries.

PS-I experience: It was a very good learning experience. I enjoyed my time with Helix Techno Info Systems Pvt.Ltd.

Learning Outcome: Technical side: Python (core python and its modules required for data analytics) in Google Colab, Computer Vision etc.
Non-technical side: Teamwork, report-writing, professional ethics, time discipline.
I learnt about how organizations work, how the various modules of the product interact , what is expected from employees/interns and how actual projects in the IT industry will come about.

Name: VIBHA NARENDRA .(2019B3A71302H)

Student Write-up

Short Summary of work done: Computer Vision: Identifying logos in live sports streams

PS-I experience: Was interesting to learn about the scope and applications of different technology fields.

Learning Outcome: Learnt about computer vision and machine learning concepts, and was able to apply the same to the project.

PS-I station: Hexacorp - Cloud Services , Chennai

Student

Name: HARSHIT RAJ LOHANI .(2019A7PS0061P)

Student Write-up

Short Summary of work done: I was assigned to create a Java Application to send emails using JavaMail API and Java Activation Framework and the GUI was created using Swing Library. I further created a Spring MVC web application for the mailing service and established database connectivity with mySQL for user validation and email logs and user roles. I also implemented encryption classes to encrypt and decrypt emails and password. I also learnt on how to creat a good looking web UI using Bootstrap CSS.

PS-I experience: My PS-1 at Hexacorp LLC Cloud Services gave me a lot of insights into the industry level working of organisation. I learnt many frameworks and services during the practice school and also how to write and document cleaner code. I got to know about the work life balance and deeply enjoyed working with my fellow batchmates and company employees.

Learning Outcome: My key learnings were:

1. Learning to use Spring WebMVC Framework.
2. Understanding the mySQL integration with Spring using JdbcTemplate.
3. Implementing upload of files to the server from system.
4. Sending attachments with email using MultipartFile class
5. Encrypting and decrypting emails and passwords using various encryption techniques.
6. I leant to impenet JavaMail API and Java Activation Framework
7. Writing neater and modularised code in Java and applying the concepts of Object Oriented Programming.
8. Business communication and brainstorming.

Name: KSHITIJ SUNIL BANKA .(2019A7PS0124P)

Student Write-up

Short Summary of work done: At first I was told to make a loan calculator using Swing API which helps to run the program in GUI enabled mode which further extended to the next task that was. The task given was to make a fully responsive web loan portal with the help of Spring MVC web framework in Java linking it to the database and completing the backend integration using spring JDBC concepts and Sql. Once the backend integration was done I was to complete the project by integrating basic CSS to all the pages to increase the aesthetics and user interaction.

PS-I experience: We were able to learn new frameworks in short period of time which displayed how the IT industry works because there are so many technology going around so have to be at pace with it. Learning specific industry level code and trying to replicate that was really great.

Learning Outcome: Through my PS I learnt about managing things, the daily calls really enhanced that work feeling. I came across various new technologies in a very short period of time which help add me new technologies in my turf.

Name: SAMARTH ASHISH PATEL .(2019A8PS0526H)

Student Write-up

Short Summary of work done: I worked on web scraping a website with huge data, then adding this data to an excel file. Finally, formatting this data into a database using the Python language

PS-I experience: The experience I had was great, we had daily meetings with the technical lead at hexacorp where we presented our progress, and he gave new tasks/tips on how we could do it in a better way. This was very helpful as it kept us punctual.

Learning Outcome: Thanks to this project, I got introduced to the application of Python programming language and learned about the nuances of how the language, external files and database interact with each other. I discovered the strengths of the Python programming language and the plethora of libraries and software it has to offer.

Name: NISHANT KUMAR RAI .(2019A8PS0583H)

Student Write-up

Short Summary of work done: I was asked to first create a simple calculator using python. By the use of PySimpleGUI library I first made the basic calculator. I was then asked to make a scientific calculator and make my calculator convertible from basic to scientific and vice-versa. Then throughout my tenure I was asked to make some modifications and resolve all the possible errors in my calculator.

PS-I experience: PS-1 was quite a good time period in which I got to experience how work life functions. I had daily meets with my project lead and there was consistent progress everyday. It was a rather new experience.

Learning Outcome: This project helped me get introduced to the application of Python language and I also learned how to create a live running interface using it. I also got introduced to the PySimpleGUI library which is a rather new and recent library introduced in python. And with time I also got comfortable with its usage and understood how rather compact codes can be written using it. I also learnt how to make corrections to the code based on different requirements and how by making basic modulations one can create an interface according to the requirement.

PS-I station: Hexacorp - Full Stack Development , Chennai

Student

Name: PRIYAM LOGANATHAN .(2019A7PS0108G)

Student Write-up

Short Summary of work done: Made a configuration page for the company's client. It involved inline editing and storing the given information in the database. Developed 2 sample applications for practice before implementing the concepts in the live project.

PS-I experience: We delivered the expected webpages and the company was able to integrate the pages with the product on time. During this journey we gained significant knowledge about the Full Stack Development field and what it entails.

Learning Outcome: We interacted with industry professionals and had a chance to learn from their tremendous experience in the field. We also learned about the various technologies such as SQL, ASP.NET, HTML, CSS, JS and MVC Architecture.

Name: ARJITA NEMA .(2019B4AA0814H)

Student Write-up

Short Summary of work done: My work entailed the development of three set-up web pages for the company along with my teammates. The technologies used in developing the web pages were ASP .NET MVC for the frontend and SQL for the backend. We had to implement inline editing in the web pages, which required significant application of jQuery and AJAX.

PS-I experience: I got to learn many new technologies, like ASP .NET MVC. I had to learn many new technologies in just a few weeks, and therefore we had very little time for our live client project. Overall, it was a good learning experience, and I contributed to a live client project for the company.

Learning Outcome: Working at HexaCorp has been interesting and instructive. Throughout this project, I learnt SQL and ASP .NET MVC and it's implementation for developing web pages. I also learnt applying jQuery, Ajax in inline editing of web grid for developing web pages. I learnt implementing various inline methods Add, Edit and Delete along with features like Dropdown, Datepicker and Checkbox.

PS-I station: Hexacorp - Product Engineering , Chennai

Student

Name: KAVYA SHREE .(2019A2PS0978P)

Student Write-up

Short Summary of work done: Hexacorp LLC wanted to have an application that would be used by the members of the organization so that they can easily plan out their tasks, have a seamless workflow, efficient task management and precise project tracking. In order to build a real time application, a prototype has to be created so that users can test it before the developers spend valuable development time on creating the actual product.

PS-I experience: It was a really enriching and learning work. I enjoyed working here.

Learning Outcome: I learned communication, collaboration and prototyping.

Name: SHAH SHIVANSH CHETAN .(2019B3A30566P)

Student Write-up

Short Summary of work done: We had to research different available prototyping software and choose the best one to create a prototype for the official HexaCorp application. We went ahead with Figma to design HexaCorp's application prototype. We also researched features required in a company application and designed the prototype with those features present. By the end of the project we had created a working application prototype for HexaCorp.

PS-I experience: PS-1 all in all was a great experience for me to get industry exposure. Working remotely was a little difficult but still it was a good learning experience.

Learning Outcome: I learned how to use Figma, and some other similar applications as well. PS-1 helped me sharpen my soft skills as well. Understood the importance of numerous functions in the development of a new product (e.g. marketing, finance, industrial design, engineering, production).

Name: [PURU NARAYAN .\(2019B3A70613G\)](#)

Student Write-up

Short Summary of work done: Decided features list for the official hexacorp application. After the list was approved, Made a prototype of the application using figma prototyping software. We created all the screens and wireframed them to show how the screens interacted.

PS-I experience: It was a great experience. PS1 helped me to develop necessary soft skills like teamwork and communication. I also learned prototyping and its importance while developing an application.

Learning Outcome: The project I worked on introduced me to prototyping and I learnt prototyping using figma.

Name: MODI SUMITHRA .(2019B4A80825H)

Student Write-up

Short Summary of work done: I have learnt prototyping and using this I have made screens for development of an organization app and wireframed these screens.

PS-I experience: This was a great opportunity to acquire new skills like prototyping and have a real time work experience.

Learning Outcome: Technically I have learnt prototyping and I have learnt how to collaborate with a team and work together on a single project.

PS-I station: Homi Bhabha Centre For Science Education - IoT - Web Development , Mumbai

Student

Name: RITESH SINGH .(2019A3PS0414P)

Student Write-up

Short Summary of work done: We worked on Nayana Script and made a website to teach Nayana in an interactive manner. The Nayana script has various features which normal scripts don't have. naYana was made by following the embodied nature of how the sounds are produced by us using the dynamic configurations facilitated by the dexterous movement of the lips, tongue, palate, teeth along with the modulated flow of breath through the vocal cords.

Apart from the embodied nature of the alphabet, the vital feature of the alphabet is: no shape is reused by symmetric transformations (rotation or mirror forms) unless they are required semantically, as in the case of brackets. This is specifically imposed as a design principle to ensure that no child is punished for their intuitive grasp of the shape while learning.

PS-I experience: I worked with my professor in order to make our website. Professor also helped me along the way. It was a wonderful experience to work with my teammates through Gitlab and to work with other teams working on other features of naYana script.

Learning Outcome: My work amplified my knowledge on HTML,CSS and Javascript. I also learnt about Vue.js and a little about SVG animation. I also worked with Wordpress and H5P and learnt how to use control panel to start a local host for my website.

Name: VATSAL NAGELIA .(2019A7PS0013H)

Student Write-up

Short Summary of work done: 'I CARE' is an easy to use platform to bridge the gap between the resource probing organizations/individuals and the donation enthusiasts keen to bring a change in society. Individuals can donate/share any type of resources and meet linked minded people. We used discourse api for the backend and react js for frontend.

PS-I experience: It was a good experience overall. Got to experience the professional paradigm and learn new stuff.

Learning Outcome: I learnt a lot reagrding full stack development. Also learnt how to test api's using postman. Got to also learn how to collaborate with my teammates in an online environment.

Name: VIKAS BALANI .(2019A7PS0054P)

Student Write-up

Short Summary of work done: The project aimed to lay a foundation for a universal phonetic script - naYana that can be exploited to inscribe any language. With IPA serving as a mediator, we built a mapping for different phonemes to unique glyphs. A keyboard through keyman as an input mechanism had been developed that can empower the users worldwide to type in naYana through their standard Latin keyboards and an interactive playground where people can get their hands dirty and get familiar with the mapping in a fun way. The project has also successfully delivered a browser plugin that can render complete web pages and selected text into naYana and an API for transliterating text, thus making the script more accessible to large audiences.

PS-I experience: PS-1 was overall a good experience. My mentor was very supportive throughout the journey and gave valuable feedback on our work. Although the PS was work from home, it didn't seem like a barrier in this learning experience.

Learning Outcome: I gained many technical and soft skills throughout the PS. For my project, I had to learn and apply HTML, CSS & Javascript for making the 'naYana playground' and the browser extension, Web2py for making the transliteration APIs. I also had to learn font and keyboard designing using FontForge and Keyman Developer respectively.

Name: RUCHIR JAIN(2019A7PS0067P)

Student Write-up

Short Summary of work done: The project aimed to lay a foundation for a universal phonetic script- naYana that can be exploited to inscribe any language. With IPA serving as a mediator, we will build mapping for different phonemes to unique glyphs. The script not only has easy-to-draw and straightforward glyphs but is also unique in the sense that no glyphs and their transformations (mirror images and rotations) are ever repeated in it. We identified the missing gaps in the naYana script and made new glyphs and ligatures to fill those gaps. Once the entire English and Hindi sounds were covered within naYana, a keyboard through Keyman as an input mechanism was developed that can empower the users worldwide to enter naYana glyphs through their standard Latin keyboards. An interactive webpage where people can get their hands dirty and get familiar with the mapping in a fun way was also published. The project has also successfully delivered a browser plugin that can render complete web pages and selected text into naYana, thus making the script more accessible to large audiences. This required the creation of an

API that makes use of Epitran library to give the IPA equivalent of the requested English or Hindi string as a response. The browser plugin was made for Chrome and Firefox browsers and was tested in several test-cases in both the browsers. The interactive webpage and the Keyman keyboard was also tested to check for correct functioning.

PS-I experience: The PS-1 served as a great learning tool for me as I was able to understand the work environment better. The people working at HBCSE were extremely helpful and were very resourceful as well. They were able to help my group whenever we got stuck at a problem. Our mentor allowed us to choose our projects and was very flexible even after a concrete problem statement was chosen by us. This allowed us to go further beyond the scope of the first problem statement that we had chosen and I am happy that I was able to make something that will be useful for the station within the time limit.

Learning Outcome: Learnt a lot about the creation of a new script and the challenges behind it. Understood how to do web development efficiently in a group. Now I have good confidence in my HTML, CSS and JS skills. Learnt how an API is built using web2py and python-anywhere server and how to make use of an API using JS and Postman.

Name: TUSHAR GARG .(2019A7PS0104P)

Student Write-up

Short Summary of work done: We took the naYana project forward, which was already running at the station since 2012, which aims to build a universal script that can inscribe any language. We extended the mapping that already existed to be inclusive of many more IPA symbols and languages that was possible earlier.

We even developed a naYana playground webpage with a JS dictionary for solving the challenge of an input mechanism so that users could input naYana using their standard Latin keyboards. A keyman keyboard was also developed as an alternative solution for the same challenge.

However the major deliverable of the project was a browser plugin - naYana Scribe for Google Chrome and Mozilla Firefox that can transliterate complete webpages into the naYana script. We even developed and integrated our own backend server for this extension using web2py framework and hosted it on pythonanywhere.

PS-I experience: I had an amazing experience in my PS-1. The mentors were very good and very supportive at every step. We had regular meetings every week and we could always schedule more with our station mentors if we are stuck at an issue which might serve as a bottleneck for all the rest of the work. Our primary mentor was extremely knowledgeable and provided various valuable inputs to our work.

Also, the station is quite open to all the domains and didn't limit itself to the domains that were present while filling our PS preferences. They gave complete flexibility to choose our own projects and guided on how to refine the problem statement.

So overall, it was a great experience and I will wholeheartedly recommend this station to all the next batches.

Learning Outcome: We learnt about various frameworks and libraries. We even got a touch of how the fonts are actually designed and used the fontforge software to design our own glyphs as well. We also learnt how to develop an extension for browsers and how to setup and host your own servers for some simple applications.

Apart from the technical stuff, it is needless to say that the PS1 enhances our communicational skills and presentation skills to much greater heights. Developing and presenting are two different fortes and we learnt to master them both in this journey.

Name: ARNAV JAIN .(2019A7PS0158G)

Student Write-up

Short Summary of work done: Our team created a website for teaching naYana script in an interactive way. The main aim of our project was to make people literate about naYana script. We made this process simpler and interactive by creating SVG animations and fun questions which teaches naYana to its users. naYana is a phonetic script created by the professors and interns at HBCSE. Apart from the embodied nature of the script, the vital feature of the script is: no shape is reused by symmetric transformations (rotation or mirror forms) unless they are required semantically, as in the case of brackets. This is specifically imposed as a design principle to ensure that no child is punished for their intuitive grasp of the shape while learning.

PS-I experience: My PS-1 experience was very enriching. Our mentors at HBCSE were very helpful. They were very easily reachable. If we had any doubt, we could contact them via the telegram channel or via mail and they would respond back within an hour. Every week we would have a meet with the mentor who would clarify all our doubts and point us in the right direction.

Learning Outcome: I learnt about front-end development as we had to design the website from scratch. I learnt how to use Figma. I learnt how to animate SVGs and incorporate them into a website. I learnt about H5P and Wordpress. In front-end development we used - HTML, CSS, Javascript and Vue.js(Javascript framework).

Name: YASHANK GARG .(2019A7PS0347H)

Student Write-up

Short Summary of work done: HBCSE is a National Centre for the Tata Institute of Fundamental Research (TIFR). The broad goals of the institute are to promote equity and excellence in Science and Mathematics Education and to encourage scientific literacy in the country We were given flexibility in choosing our project domain. I worked on developing a responsive web application to connect the people in need with the people who can help to fulfill those needs. Not only donate, but the user can also lend their vacant resources to those who need them. In the initial days, I worked on the frontend development of the Web App along with my team. After that I got myself familiarized with discourse, which was used for backend purposes.

PS-I experience:

The experience was very enriching. Weekly meetings were held to discuss the work and plan ahead with the industry mentor. He was also very open to any questions I had, which made the learning experience even better.

Learning Outcome: Learned about frontend web development using React. I also got to learn various technologies that were new to me. Through the PS station, I enhanced my soft skills and also by collaborating on the project from remote locations, picked up the skill to work as a team

Name: AAKANKSHA ATUL BAIJAL .(2019AAPS0304G)

Student Write-up

Short Summary of work done: Created a website for teaching naYana script in an interactive way. naYana is an alternate phonetic alphabet. Apart from the embodied nature of the alphabet, the vital feature of the alphabet is: no shape is reused by symmetric transformations (rotation or mirror forms) unless they are required semantically, as in the case of brackets. This is specifically imposed as a design principle to ensure that no child is punished for their intuitive grasp of the shape while learning.

PS-I experience: My PS-1 experience helped to enrich my knowledge of web development. Our mentors gave us valuable insights and feedback on our work regularly. I also collaborated with the other teams working in HBCSE and learnt a lot along the way.

Learning Outcome: I learnt about web development as we created the website from scratch. I also learnt about SVG animations, which are helpful for making a website interactive. The technologies used in our project were : HTML, CSS, JavaScript, Vue.JS, H5P and WordPress.

Name: SUHAAS MAHAJAN .(2019AAPS0315G)

Student Write-up

Short Summary of work done: Nayana is a phonetic language .Apart from the embodied nature of the alphabet, the vital feature of the alphabet is: no shape is reused by symmetric transformations (rotation or mirror forms) unless they are required semantically, as in the case of brackets. This is specifically imposed as a design principle to ensure that no child is punished for their intuitive grasp of the shape while learning.

PS-I experience: My PS-1 experience helped to increase my skill set of web-D. The mentors gave us valuable insights and feedback on our work regularly, also collaborated with the other teams which further enhanced my soft skills

Learning Outcome: learnt about html,css,javascript,svg animation,vue.js

Name: Ishan Rai(2019B3A70504P)

Student Write-up

Short Summary of work done: Our group made a project centered on Machine Learning Pedagogy. The project was centered around the concept of a dependency Graph and used Graphviz to render the same.

PS-I experience: Fairly decent

Learning Outcome: I learned about Graphviz, Jupyter Notebooks, Google Colab, various Python libraries like Numpy , Pandas and Sklearn and a bit of web development.

Name: PATEL VEDANT ALKESH .(2019B3A70561G)

Student Write-up

Short Summary of work done: I worked on making a website for teaching naYana script. It is a script with features like: no shape is repeated by symmetric transformations unless they are required semantically, the script can be written from left to right, or from right to left, or top down. Svg (Scalable Vector Graphics) animation was used to indicate how a particular shape is written in naYana.H5P and WordPress were used to make questionnaire related to the script. It helped me to explore the field of Web Development.

PS-I experience: My PS1 experience at HBCSE was enriching and it helped me to explore the field of web development. Mentors helped us by giving their valuable insights. Also, it was great to work with my team members who made this journey very interactive by helping each other whenever struck.

Learning Outcome: I learned and explored the field of web development. I learnt HTML, CSS and Javascript. I even get to know about Vue.js framework. Also, I got to know about softwares like Inkspase, Wordopress and Gitlab

Name: Shrey Bansal(2019B3A70592P)

Student Write-up

Short Summary of work done: During PS1 we worked on a STEM Education project to create an interactive Learning Environment for Machine Learning. Rather than focussing just on the theory and the traditional way of teaching, It focuses more on learning through examples. This problem solving approach of studying leads to a better understanding of real world applications.

Key Aspects of the Project- 1. The Dependency Graph 2. The various Nodes and 3. The website. With the help of the Dependency Graph you can ensure that you get rid of the necessary prerequisites.

We worked with : Graphviz, Jupyter notebooks, Python, Numpy, Pandas, HTML, CSS and Javascript

PS-I experience: My experience was quite enriching. I learnt a lot of new concepts. The supervisors were very supportive and helped us out throughout the project. They were easily approachable.

Learning Outcome: Learnt more about Machine Learning as a field, How to render SVG format graphs from dot directly onto the website. Learnt about Front end web development and the importance of Github and documenting our code.

Name: VINAY JAIN .(2019B5A70728P)

Student Write-up

Short Summary of work done: The project was aimed to develop the naYana script. naYana is a phonetic script that aims at achieving universal literacy. The script was developed by HBCSE professor Nagarjuna G. The script has many features and one was that it can help dyslexic people. We completed the mapping between English and Hindi to the naYana glyphs.

The later part of the project included an interactive webpage that allows users to familiarize themselves with the mapping in a fun way. The webpage takes input from the keyboard as a string and converts it into IPA and naYana. It has an additional log feature that helps users to log their entries and also users can copy the logged entries for further use. It also contains dropdown menus where keyboard mappings of naYana alphabets.

The main part was to develop a browser plugin that can convert any webpage in English or Hindi to naYana. Also, the same browser plugin also converts any specifically selected text on the webpage to naYana. The plugin has an easy toggle feature where users can switch between the original webpage and the naYana page. The extension was developed for both Google Chrome and Mozilla Firefox keeping in mind the popularity and safety measures.

We used the web2py and pythonAnywhere to make an API that transliterates IPA to naYana.

To allow the users to type in naYana we built a custom keyboard layout/mapping using Keyman Developer Tools.

PS-I experience: The experience was really wonderful. There was a great learning atmosphere. We used to have weekly meets with HBCSE professors. The professors are really knowledgeable and working with them was surely a great opportunity. The PS-1 program gave me industry exposure which increased my understanding more on the working environment. Working in a group was also so amazing, so much to learn from the group members themselves.

Learning Outcome: The domain for the project was web development. I learnt HTML, CSS, Javascript, Web2py, PythonAnywhere, Browser Plugin, Postman, Keyman, etc. I also learnt about fonts and how to use FontForge. I also learnt group discussion skills, soft skills and many more things.

PS-I station: Hyphen Supply Chain Solutions Pvt Ltd - Application Development , Noida

Student

Name: SAI KAUSTHUBH TARANIKANTI.(2019AAPS0221H)

Student Write-up

Short Summary of work done: Made a wireframe for a warehouse management application.

PS-I experience: In the process of developing the required product, I was exposed to the ins and outs of supply chain management. I also jumped into analyzing apps to develop valuable features for a warehouse. Analyzing various apps and websites helped me combine all the best features into a final product and also helped me understand various aspects of product management. Finally, I also understood the challenges that startups face in general and was part of it for a short while.

Learning Outcome: Product Management, App Designing, Logistics and Warehousing Concepts

Name: HARSHAL VERMA(2019AAPS0237H)

Student Write-up

Short Summary of work done: Developed a wireframe for an Application for Hyphen's Warehouse Management.

PS-I experience: We were expecting to develop an application, and learn from the company mentor. But instead we were asked to develop an app on our own, mentor only wanted to see results and in the very last 2 weeks, we made the wireframe.

Learning Outcome: Learned Figma, Teamwork.

Name: POORVI GARG .(2019B2A31049G)

Student Write-up

Short Summary of work done: DESIGNING THE WIREFRAME OF THE COMPANY'S WEBSITE

PS-I experience: In the first week of this internship, I got to understand the underlying principles upon which the warehousing and logistic companies work. The orientation session was quite informative and I got the opportunity to view and analyse the warehousing sector so closely. I was acquainted with various industrial terms like docks, pallet size, carpet area, inventories etc. The company organised a series of lectures and webinars for us through which I got an insight into different principles of Product Management and practical warehouse management. I was also exposed to concepts like RFID of packed goods, its superiority to Bar Code and QR Code Scanning methods, POD, GRN, VAS offered by warehouses like shrink wrapping, FEFO, SKU, transport optimization engines, transport allocation to different warehousing businesses etc. Mentors from Hyphen were quite helpful and supportive throughout the internship. Besides the project related discussions, they also shared their experiences of industrial work along with various warehousing projects they had taken so far. I got an idea of the massive work, labour, and technology involved in addition to the highly organised functioning of the transport and the warehousing sector, receiving inputs from various industry experts for delivering diverse commodities at our doorsteps.

Learning Outcome: I did not have any prior experience in web development. I have got an opportunity to learn Web Development through this internship. I targeted basics of HTML, CSS and JS to kickstart as a beginner. I watched relevant YouTube tutorials sincerely and made notes out of them although they seemed daunting in the beginning. Regular discussions with my team members and meetings with the company mentor helped me improve my communication and presentation skills, team work and mutual cooperation. I created a few HTML pages, a website and a blog in order to polish the concepts I learnt. I also learnt basics of React, Git and GitHub for the front-end development of our website. I also learnt designing on FIGMA in order to prepare the wireframe of our website. This internship also made me realise the importance of maintaining a decent LinkedIn profile for my future prospects..

PS-I station: Hyphen Supply Chain Solutions Pvt Ltd - Coding , Noida

Student

Name: TANMAIY SETHIA JAIN .(2019A7PS0117G)

Student Write-up

Short Summary of work done: We analyzed various competitors in the supply chain industry and their portals for registration and came up with all the possible features for the website. We built up a wireframe for the same , a portal version and an android version.

PS-I experience: It was an enriching experience and to work as a team was very enjoyable. We learnt a some good technologies. Working in a start-up also brought new challenges and was something very new for me.

Learning Outcome: Mainly learnt about google API's and wireframing using Figma.

Name: HRITIK GOEL .(2019A7PS0154G)

Student Write-up

Short Summary of work done: Firstly we thoroughly analysed various competitor portals and apps to look out for features and functionalities for Hyphen's portal and app. Analysis was done from both sides(client side and lister side) separately in order to have a more clear view of things.Taking the analysis as raw material and keeping in mind the UI of various competitors we designed the wireframe for Hyphen's portal and app.

PS-I experience: It was a great experience.We got exposure to something completely new for us.We also learned a lot of things throughout the process.Working together in a team environment towards achieving a common goal was the bet part of it.

Learning Outcome : We learned a lot during this journey. We got to know about Supply chain management and logistics in details and that too from field experts. We learned the about the process that is to be done before starting making an app or a website. We got to know "How to look out for things required?", "what all to look out for?", arranging things in the correct flow order while designing a website. Also we got to know the importance of wireframes in development of an app/website and how they bridge the gap between raw materials and final product. Technically we got familiar with HTML, CSS, Javascript, Bootstrap, Figma and Git and Github.

Name: SARTHAK GUPTA .(2019AAPS0219H)

Student Write-up

Short Summary of work done: We worked towards developing a web portal for the startup Hyphen SCS. It was a really good experience as it helped us gain insights towards many fields including product management, web development, app development etc. We did all the work from knowing logistics industry deeply, doing analysis and research on various competition in the market and wireframing of the product.

PS-I experience: The journey at Hyphen as a coding intern provided me with good insights into the IT and logistics industry. The work here helped me understand the process for building a new product and the various factors considered in optimizing it. I got opportunities to explore and learn new softwares, ways to improve my work etc. The seminars and sessions with the people already in the industry were very helpful as they gave us points and learnings from an experienced industrial point of view. Overall, it was a really amazing experience which provided me a lot of opportunities to experience the aspects of behind the scenes of product management and IT industry.

Learning Outcome: I learned many skills and the experienced gained here would be really helpful for my future endeavors. I gained many technical skills including HTML, CSS and ReactJS. Some other tools important for web development were also familiarized with. The good experience at this startup led me to greater understanding of product development and management. Other skills of proper analysis, documentation and other corporate procedures were also gained and they would definitely prove to come in handy in the future.

PS-I station: IDS Infotech Ltd - Data Science , Mohali

Student

Name: APURV AMAR BOTLE .(2019A7PS0143G)

Student Write-up

Short Summary of work done: Took up a project on handwritten digit recognition using CNN to developed a machine learning model to recognize the handwritten digits (0-9) using the MNIST dataset and Convolutional Neural Network (CNN) with 99.85% accuracy. Developed a GUI for processing user-drawn digits into images compatible with the CNN model using OpenCV.

PS-I experience: The period allowed for spending more time with ML and NLP tools. It gave me an opportunity to enhance my presentation and interpersonal skills.

Learning Outcome: Got more familiar with using Tensorflow, Keras, Pandas, Matplotlib, Numpy, Seaborn, and Sklearn packages.

Name: ABHINAV SRIVASTAVA .(2019A7PS0167G)

Student Write-up

Short Summary of work done: Initially, we were just given assignments per week for the first 3 weeks. We had to submit our code in HTML format of our Jupyter Notebooks for Data Cleaning, Data Visualization and Linear Regression, Then, after requesting, we were given a project(not related to the company) of Uber Demand Supply Case Study. It was an Exploratory Data Analysis Project.

The objective was to identify and analyze the problems in Supply-Demand of Uber trips from City to Airport and vice-versa across various hours of the day and find out possible solutions to address the problem.

PS-I experience:

Learning Outcome: Collaborating with your peers and exploratory data analysis.

Name: VARTIKA GUPTA .(2019B3A70729H)

Student Write-up

Short Summary of work done: We were allotted work in DS and ML. Initially, we learnt basics about ML like exploring python libraries Seaborn , matplotlib, then we explored some more concepts like linear regression later on we were allotted our project - " uber - supply- demand gap" . It was based on exploratory data analysis.

PS-I experience: My experience , I would say was good in terms of mentor, faculty support, however we didn't work on a live project.

Learning Outcome: I got to know various python libraries like pandas ,matplotlib, Seaborn , our project was based on exploratory data analysis , also I learnt some basic concepts of ML.

Name: ADITYA AGARWAL .(2019B5A71110G)

Student Write-up

Short Summary of work done: A number of training sessions were conducted by the mentors to make us learn the basics of data science and machine learning and after every session we were asked to share our practice HTML file with the mentors. The project allotted to us was Handwritten Digit Recognition using Convolutional Neural Network

which required building a deep learning CNN model, testing its accuracy and developing a GUI to take input from user to predict the digits.

PS-I experience: The overall experience was good.

Learning Outcome: I learned about data cleaning and plotting. I also learned about various ML and DL algorithms and their practical applications.

PS-I station: i-exceed technology solutions private limited , Bangalore

Student

Name: VISHAL SHARMA .(2019A7PS0036G)

Student Write-up

Short Summary of work done: Image augmentation application using Pytorch library in python.

PS-I experience: The station was good, mentors were very helpful and got to learn a lot.

Learning Outcome: I got to learn more about data augmentation techniques and various libraries related to it in python.

Name: HITARTH KOTHARI .(2019A7PS0178G)

Student Write-up

Short Summary of work done: I created a REST API for the company. API stands for Application Programming Interface. REST API are APIs designed for web services. They enable communication between a website and a server. One of my company's field of work was Optical Character Recognition on images. The REST API helped facilitate the aforementioned task. It took image information from web client and called the OCR service from server. After OCR was performed, it stored the extracted information. I created this month long project using Java and Spring boot. I had to do a course on spring framework from the internet for the same and then start coding, throughout the project too I had to surf the net for information. The project was created simply using object oriented java and spring boot. The entire process consisted of weekly targets for each component of the code, weekly code reviews by the supervisor and daily 10 min meetings with the project manager. I also had to enter my daily progress details in an online forum.

PS-I experience: My PS1 experience was great The project manager and supervisor were very accommodating and friendly. They understood that this was our first time in such an environment and we had limited knowledge. The supervisor, an experienced software engineer, I got to learn a lot about coding in Java spring boot, new concepts such as APIs and industry related skills from him. The project assigned proved to be very useful too.

Learning Outcome:

1. Coding in JAVA(Object Oriented Programming)
2. Spring boot(spring framework)
3. Knowledge about REST API development(which is in demand these days)
4. Soft skills such as punctuality, communication, presentation etc.

PS-I station: Indian Institute of Remote Sensing - Machine Learning/DSP/AI , Dehradun

Student

Name: JAGRIT LODHA .(2019A3PS0165P)

Student Write-up

Short Summary of work done: The objective of our allotted project was to calculate the backscattering coefficient for forest canopies. The model referred to for the same was the Michigan Microwave Canopy Scattering (MIMICS) Model. We were provided with two sets of code, one in Python and the other in Fortran, using which the coefficients were calculated for different polarization configurations.

We also worked on implementing basic Deep Learning architectures like U-Net and ResNet. We performed image segmentation tasks on the datasets and compared the accuracies for both architectures.

PS-I experience: I had mixed reviews on my experience with IIRS. Our project was highly related to the research work done at IIRS. However, our faculty mentor was really supportive and did his best to provide us with timely tasks in order to keep us occupied and even helped us with the implementation of the IIRS project.

Learning Outcome: The biggest plus which I felt was the development of my interpersonal skills. The evaluative components like GDs, Report Writing and Presentations have definitely helped me improve my soft skills as well. Apart from this, I learnt about basics of Deep Learning and Remote Sensing applications, which were entirely new to me.

Name: [ATEEQUE AHMED .\(2019A3PS0430H\)](#)

Student Write-up

Short Summary of work done: My project was to create an algorithm to detect the occurrence of heatwave events in a region. Since most of physical, chemical and biological changes on earth are dependent on Land surface temperature, this project can be used to analyse it and be better prepared to handle the problems arising out of it. I used the Python API of Google Earth Engine to implement the same. Google Colab was used to write and execute the algorithm.

PS-I experience: As PS-1 was work from home in nature, it took some time to get on board the IIRS due to lockdown in Dehradun, but once that was done, the rest of experience was smooth. The mentors were very helpful, competent and were accessible when needed.

Learning Outcome: Enhanced coding skills in Python, JavaScript and improvement of soft skills. Handling of satellite data for calculating parameters like land surface temperature, altitude, vegetation cover etc.

Name: GANDHI SAURABH SANTOSH .(2019A3PS0479G)

Student Write-up

Short Summary of work done: My project aimed to develop an architecture that performs change detection in a region at different times. Our model takes two images of the same area at different times as input and needs to output a result that shows if and where buildings were built.

PS-I experience:

Learning Outcome: Basics of Deep Learning and Image Processing

Name: KUMARADITYA GUPTA .(2019A3PS0776P)

Student Write-up

Short Summary of work done: We used the U-Net architecture for classification of land into cropland, based on the satellite images taken from the Gaofen Image Dataset. We learnt about image segmentation and classification models and implemented a U-Net. We also used pre-processing techniques like one-hot encoding to suit our model.

PS-I experience: The PS1 work experience was good

Learning Outcome: CNNs and U-Net architecture

Name: VAIBHAV AGARWAL .(2019A3PS0870P)

Student Write-up

Short Summary of work done: Read various research articles related to Deep Learning, Satellite Communication and Global Navigation Satellite Systems. My project was related to GNSS-R. I used a github repository to fetch the dataset for our model and then used a WebApp for executing the data to achieve results. I also worked on a machine learning model called Hurricane Net which tracks hurricanes based on the previous data it has been trained on. The codes were written in Python.

PS-I experience:

Learning Outcome: Learned to give presentations and involve effectively in Group discussions. Learned professional report writing and email writing skills. Got to know about various Deep Learning techniques also.

Name: VAIBHAV GANATRA .(2019A7PS0010G)

Student Write-up

Short Summary of work done: My group worked on fusion of images sensed in different regions of the electromagnetic spectrum. In remote sensing, information about the earth surface is collected in different regions of the spectrum, such as visible light, microwaves, etc. Our project was to fuse these images into a single image incorporating their information so that this fused image could be used for further applications such as Land Cover Classification, etc

PS-I experience: PS-1 was a good exposure to the functioning of a government organization. It exposed us to the system at place in order to get work done at a government organization such as IIRS, Dehradun

Learning Outcome: For our project, we had to read existing literature in the fusion of images. So, one very important learning outcome was the ability to read research papers, and understand them effectively. Other than that, we also learnt about deep learning and convolutional neural networks.

Name: SHIVASHANKAR S MENON(2019A7PS0034G)

Student Write-up

Short Summary of work done: Conducted research into the Michigan Microwave Canopy Scattering model families (MIMICS, Multi-MIMICS, RAPID2) and their inner workings (theoretical and practical implementations). Investigated the efficacy of U-Net and ResNet models in image segmentation tasks involving satellite imagery, and performed a head-to-head comparison between the two model systems to gain further insight about the differences in strengths and weaknesses of the two deep learning models.

PS-I experience:

PS1 faculty organised weekly presentations, a fun, informative experience wherein each student presented on any topic they like, as a means of sharing knowledge with the student group. We also participated in two interesting, enjoyable rounds of group discussions where we openly discuss and express our ideas about a pre-assigned topic in groups of four students. One topic was technical, one was more general in nature. At the end of the course, we held a presentation on the project we chose to pursue during the entirety of our PS1.

Learning Outcome:

These abovementioned events offered us great opportunities to work on our interpersonal skills, presentation skills, as well as coordinating effectively with faculty in the face of less-than-ideal conditions. Overall, it was a decent experience that taught us important lessons relevant both in the technical domain as well as in everyday life.

Name: VINEET VENKATESH(2019A7PS0043H)

Student Write-up

Short Summary of work done: The project topic allotted to me by my PS station was on 'Global Navigation Satellite Systems- Reflectometry'. This involves using the reflected part of GNSS/GPS signals to extract information about the reflecting surface. We read and summarized Research papers and sent a report to the Industry Mentor. Apart from that, we learnt and did small projects and presentations on topics related to Deep Learning.

PS-I experience:

Learning Outcome: As mentioned, my BITS faculty in-charge was excellent and encouraged us to learn a lot. Having been new to Deep Learning, I learnt about different types of Neural Networks and their implementation. I also learnt about GPS/GNSS and the concept of GNSS-R and its applications. I learnt how to read and cite Research Papers. I also improved my communication skills, both oral and via e-mail.

Name: KUNJAN NIRAVKUMAR SHAH .(2019A7PS0072P)

Student Write-up

Short Summary of work done:

1. Implemented Super Resolution CNN model for satellite images
2. Implemented a U-Net image segmentation to Identify Agricultural Land from Satellite Images

PS-I experience: Learnt basics of image processing and deep learning models used for image processing

Learning Outcome: Learnt basics of image processing and deep learning models used for image processing

Name: SHRIVASTAV NAVAM PRAVIN .(2019A7PS0092H)

Student Write-up

Short Summary of work done: Made a web application for a Flood Dashboard. This dashboard will show the current flood locations and its corresponding cloud cover along with news articles and related flood videos. HTML, CSS, JavaScript were used in the frontend and for showing locations on the map Google Maps API was used.

PS-I experience: The work was challenging and engaging enough to keep my interest throughout the project. Overall it was a great experience.

Learning Outcome: I was able to implement what I had learned and planned initially. Also I developed my soft skills because of regular presentations, group discussions and by writing reports.

Name: PARTH AGGARWAL(2019AAPS0218H)

Student Write-up

Short Summary of work done: we were allotted a project on canopy scattering model by the IIRS, except that I presented a presentation on Global positioning system and U-Net neural network and also compared image segmentation comparison done by U-Net and ResNet

PS-I experience:

Learning Outcome: We learnt how do remote sensing works and how to we get satellite images and how are the images segmented to differentiate between the different terrains, learned about what neural networks are and different-different neural networks, how they are trained and how do what basic structure they are based on.

Name: TAMMAREDDY YASOVAR .(2019AAPS0226H)

Student Write-up

Short Summary of work done: The project is related to GNSSR(Global navigation satellite system-Reflectometry) in which we use the reflected signals which come from the GPS then bounce off from the surface underneath(soil, snow ,water, etc.) and reach the antenna. This allows us to measure certain properties of the surface namely the soil moisture , the height of snow cover, the heights of tidal waves , etc...

The work involved writing a code where we extract the reflected signal from the mixed signal received by the receiver. Isolating the signal takes some math and code to be written after which the isolated signal can be seen. If constant peaks are observed in the isolated signal at certain distances then the signal can be used to further estimate the features about the surface.

PS-I experience: My PS-I experience was quite good mostly from the bits faculty side.

Learning Outcome: I learned to code about DL networks, research , have interactive sessions with my teammates.

Name: ANUSHKA CHAUDHARY .(2019AAPS0393H)

Student Write-up

Short Summary of work done: Our project was to develop an ML model for detecting changes in satellite images of a region over time. We used dataset from Google Earth Engine and were able to successfully implement the project using deep learning architecture.

PS-I experience: PS-I was a nice learning experience and I was able to get a better understanding of the field and project area.

Learning Outcome: Considering the project domain, I learned about the field of remote sensing and particularly change detection while analyzing satellite imagery. It also helped me familiarize myself with several tools including Google Earth Engine and the research papers provided an in-depth understanding of many topics as well .

Name: [AYUSH SHARMA .\(2019AAPS0484G\)](#)

Student Write-up

Short Summary of work done: Work done during PS was related to Machine Learning and Deep Learning. We read lot of articles about various techniques used for this. For IIRS, we trained an improvised Deep Learning model, the Unet, on Satellite images in order to classify crops. This can be used to see changing agricultural patterns with time.

PS-I experience:

Learning Outcome: Learned about ML/DL techniques, Formal report writing, communication with professors and industry experts. Learned how to collect data from Earth Engine, also learnt how to work efficiently in groups online.

Name: [LAKSHYA SINGH .\(2019B3A70449G\)](#)

Student Write-up

Short Summary of work done: The main project that we were assigned aimed at detecting changes in satellite imagery using neural networks. It was primarily based on deep learning. We implemented a UNet architecture for the same. Apart from the main

project, we were given other small assignments by our PS Faculty that were related to the field of deep learning and were crucial in building our intuition for the main project. Apart from this various other activities including quizzes, weekly presentations, GD, healthy discussions, expert talks were organized which helped in enhancing technical as well as general communication skills.

PS-I experience:

Learning Outcome: Being a complete novice with implementation based deep learning algorithms, the PS1 helped me in gaining technical understanding of deep learning as a field and to be able to implement deep learning frameworks like UNet, ResNet. I was able to gain sound knowledge about various other applications of deep learning like Image Segmentation, Hyperspectral Imaging etc. I also became comfortable with using Keras library for implementation of neural networks and using Google Colab for implementation of code. Apart from this various other activities including quizzes, weekly presentations, GD, healthy discussions, expert talks were organized which helped in enhancing technical as well as general communication skills.

Name: [HITESH GARG .\(2019B3A70466H\)](#)

Student Write-up

Short Summary of work done: I worked on a deep learning model which takes an image of a land and then filters/segments out specific areas such as crop field/factories/water body etc.

PS-I experience:

Learning Outcome: Tensorflow, Keras, Deep learning, openCv and image manipulation

Name: VIDHANI HITEN JITENDRA .(2019B4A70812H)

Student Write-up

Short Summary of work done: My project was based on fusion of SAR and optical images. SAR images are rich in spatial content and optical images have more of spectral content. To obtain an image which is Rich in both spectral as well as spatial content was our task.

PS-I experience: My PS-1 experience was good. I got some exposure for research activities as my project was based on research. There were some difficulties faced because of remote mode of PS, as we weren't able to communicate much with the station, but our faculty incharge was really helpful and overall it was a good experience.

Learning Outcome: I gained experience of programming in python. Also, got an idea of how ML/DL algorithms can be applied to Remote sensing problems. The evaluations like seminar, group discussion helped me improve my soft skills which are really essential.

PS-I station: Neuron Intelligence - Artificial Intelligence , Bangalore

Student

Name: SHAURYA PURI .(2019A7PS0035G)

Student Write-up

Short Summary of work done: We focused on building a model to detect abnormal events in real time, which is a critical research task in Computer Vision. Abnormal event detection is a task to detect anomalous human behaviour such as fighting, robbery and vandalism. We built an automated abnormal event detection model which will generate alerts when an abnormal event occurs. In the initial stages of the project, I did the literature review for existing models in practice. I read various research papers, was responsible for deciding the model architecture. We used Deep SORT tracking, along with YOLO (an object detection model) to achieve great results. Finally, I also implemented the object detection part of our model in TensorFlow.

PS-I experience: I was reasonably pleased after PS-1, as I was able to contribute to my project in a significant way. I helped in deciding the model architecture, and was able to influence the outcome of our project. I connected with prominent members of the industry during my time at iNeuron, and gained valuable insights from their experience. Overall, PS-1 was a great learning experience for me.

Learning Outcome: I learned how to develop machine learning models from scratch. I understood how machine learning pipelines work, and how important data is to the performance of the model. On the technical side, I gained proficiency in Python, TensorFlow and OpenCV. I learned a few image processing techniques, and understood how video files were used as input in machine learning models.

Name: [PARJANAY SHARMA .\(2019A8PS0366P\)](#)

Student Write-up

Short Summary of work done: My project dealt with making a model and eventually a web app for COVID-19 detections using Deep Learning. The company provided a huge dataset and work took off with Data Labelling and Annotation. There were regular meets to have clarity of the work and a detailed documentation was provided for understanding the project clearly. With some team mates having 10+ years of experience in Deep Learning, eventually models like Detectron, Mask RCNN and Unet were proposed. The development of wireframe couldn't be completed in the tenure of PS but there was a lot of work done in model making.

PS-I experience: Overall, I was able to understand a lot of things and could understand various ways ML and DL can be used to help humanity. Being COVID as the most challenging thing humanity is currently facing, working to get solutions for the people was very motivating and helpful. There was a sudden change of leadership of the team in between which slightly threw off the team productivity but eventually, it got back in track.

Learning Outcome: I was able to understand how Data Annotation is done with Label Me and understood a lot of stuff that is required to even start a project. The documentation, youtube videos and research papers recommended by the team lead were very helpful for understanding. Even after being a beginner, I was able to develop a

simple model for the team achieving an accuracy of 94%. Due to scarcity of time, I wasn't able to develop the wireframe yet overall it was a good experience.

Name: ANIRUDH JOSHI .(2019A8PS1353H)

Student Write-up

Short Summary of work done: Vision2Code project will be implemented using a web application that will detect and localize UI elements in a hand-drawn sketch or a wireframe. After successfully detecting UI objects, it will automatically generate a front-end user interface using a hardcoded HTML rule-based approach. Thus, it will provide users with a fast and automatic prototyping tool. One of the very first contributions would be to use Convolution and Recurrent Neural Networks to generate the code from a single screenshot. Then, gradually moving on to some faster and better approaches like Faster-RCNN and Long Short-Term Memory.

PS-I experience: It was a great learning experience and faculty mentor was supportive and helpful.

Learning Outcome: Learned about implementation of deep learning.

Name: RAKSHAY GOYAL .(2019B3A30490P)

Student Write-up

Short Summary of work done: I worked in a team of 10 on a project for detecting Abnormal Activity. We used Machine Learning and Deep learning to create the model. Further, Flask framework was used to create the web application and deploy the model so it could be used in real time web cams. The model sends out alert signals upon detecting anomalous behavior.

PS-I experience: It was a great learning experience as I had no prior knowledge of machine learning and it opened me to completely new and now relevant field. I got responsibilities and got an opportunity to employ my skillset on real world projects.

Learning Outcome: I learned how to use OpenCV library to process video input. I also learned about various deep learning techniques and used convolutional layers to classify activity visually. Further i learned how to create a web application. This enabled me to perform in a corporate environment and collaborate with my peers.

Name: MOHTA ANSH KRISHNAKANT .(2019B3A70674G)

Student Write-up

Short Summary of work done: Worked on fast speech to text model

PS-I experience: Good

Learning Outcome: Learned about various things related to machine learning ,python.

Name: KHASNIS HARSHIT HANMANTRAO(2019B4A70031G)

Student Write-up

Short Summary of work done: This project aims to create a web application with a speech to text functionality and text to text translation from one language to another. Speech-to-text (S2T) modelling tasks are to be carried out such as end-to-end speech recognition and speech-to-text translation. We need to focus on careful design for scalability and maintenance.

PS-I experience: Decent.

Learning Outcome: Flask, Django, MLOps, UI Development.

PS-I station: Integra Design-Online - Application Migration , New Delhi

Student

Name: Chaudhari Nisarg Sanjaykumar(2019A7PS0176H)

Student Write-up

Short Summary of work done: Integra Design provides technology products and custom design solutions for applications like Road safety and Traffic enforcement technologies and systems. LaserTrac is Laser Speed Cameras developed by Integra Design. LaserTrac cameras are used for tracing cars and other vehicles for traffic enforcement purposes. LaserTrac cameras can detect the speed and type of the vehicle etc. They have an Automatic Number Plate Recognition (ANPR) system in them, which enables them to automatically detect the number plate of a vehicle in the video. With this feature, we can automatically capture the number plate of any vehicle, which breaks traffic rules like a red light violation, speed limit exceeds, etc. LaserTrac cameras capture a snapshot every time a vehicle violates any traffic rule. The traffic police or the camera operator can then go through the snapshots and generate chalan for the violation. Chalan has the number plate of the vehicle, the snapshot of the violation, and some other useful information about the violation and the vehicle.

Currently, these LaserTrac cameras have their application built using C#, and it is implemented in a Windows based system. Integra Design wants to migrate this to a Linux based system in order to reduce its resource consumption. For this purpose, a new application was required, and my project was to help in developing that application.

PS-I experience: It was a good experience. My project mentor was very supportive throughout the PS-I experience. He helped me rectify the challenges that I faced during the development.

Learning Outcome: We used JavaFX to create the UI of the application. JavaCV is used to capture live video feed from the camera. Maven is used as a build system and for dependency management.

PS-I station: Integra Design-Online - Real Time Analytics , New Delhi

Student

Name: VIBHA RAO(2019A7PS0132P)

Student Write-up

Short Summary of work done: I had to build an Automatic Number Plate Recognition system which would operate on images, videos and in real-time. I worked with various object detection and optical character recognition models to obtain satisfactory results.

PS-I experience: I had a good learning experience. The mentor assigned to me was very helpful and provided constant feedback.

Learning Outcome: I learned about various Deep Learning techniques, computer vision libraries, TensorFlow, PyTorch, TensorRT, object detection models and algorithms, text detection and recognition, and also got to improve my soft skills.

Name: HARI SANKAR .(2019B3A70564P)

Student Write-up

Short Summary of work done: Used Convolutional Neural Network Deep Learning Algorithm to perform ANPR (Automatic Number Plate Recognition) in real time.

PS-I experience: It was really enriching to see the culture and structure of such a fast growing IT company. I learned multiple soft skills along with the exposure to Data Science and Machine Learning.

Learning Outcome: Learnt various Domains of Data Science like Data exploration, visualization, analysis and management. Worked on various Machine Learning libraries like TensorFlow, PyTorch, NumPy, Pandas and Scikit-learn.

PS-I station: Kerala Infrastructure and Technology for Education , Trivandrum

Student

Name: ADHVAITH KULDEEP .(2019A4PS0870H)

Student Write-up

Short Summary of work done: We worked on Integrating RASA library for conversation by developing a chatbot based on RASA framework. We had to make it suitable for learners to interact with the Chabot by text or by voice. We also had to integrate the chatbot with an user interface. Therefore, create a module in the E Cube Language Lab where the students can improve their reading, writing, listening and speaking skills.

PS-I experience: We had daily stand up meetings where we were given tasks for the day and also discussed the plan of action for that day. We spent 2 months creating a chatbot to be introduced in the company as a module to help students in improving their English communication. The chatbot also had voice recognition and speech to text to enable verbal communication. The chatbot was integrated to an webpage UI to make it user friendly.

Learning Outcome: We learnt about the RASA framework for making interactive dynamic chatbots to suit a variety of purpose. We also explored various libraries in python to integrate voice recognition and speech to text into the chatbot and also other libraries

to be used as a part of the chatbot. We were also involved in creating a webpage UI for the chatbot.

Name: YUG CHAWLA .(2019A7PS0091P)

Student Write-up

Short Summary of work done: My Project was to build a model based on concepts of Machine learning / Deep learning that would create a complete language profile of the student on the E-cube language lab platform made by my Company with help of Kerala govt to aid learning of English language in students of Kerala. The model must predict the performance scores in all 4 domains of English (reading, listening, speaking and writing) based on various exercise scores and then categorize students into his proficiency level, learning pace and other evaluation metric. using that categorization the model must come up with various recommendations/guidance for the student to do some specific tasks/exercise to improve his level and learn English smoothly. for this purpose I used various Regression models to predict and performance score and using those predictions and other data features I build an Ensemble voting classifier using XGBoost , LDAC and Artificial Neural Network to do the categorization task . the outcome values by the latter was then used for recommendation task. since we didn't have any data as the platform haven't launched yet I created my own custom data using various statistical and random functions to make sure the data resembles what might the actual data look like as closely as possible.

PS-I experience: It was a Learning experience where I saw a growth in almost every aspect of my professional personality. I learnt to manage time properly and be within deadlines, have my first industry experience, learnt some new skills and their practical implementation, how to present your work in an articulate and effective manner and hence it was an overall character building experience for me.

Learning Outcome: I learnt in total of 4 different regression based ML models and 14 different Classification models in theory as well as practical implementation, learnt some data analysis and data creation techniques , fine tuning of ML algorithms, improved my presentation skills and how to deal with someone professionally. inculcated team spirit and initiative/responsibility taking mentality. Hence PS-1 was a great learning experience for me.

Name: ADITHYA MANJUNATHA .(2019A7PS0118G)

Student Write-up

Short Summary of work done: Developed a grammar and spell checking tool and its User Interface.

PS-I experience: It was a great experience to work with KITE. The team was very helpful and supportive throughout the 2 month period.

Learning Outcome: Natural Language processing basics, Web Development, Communication skills.

Name: ARJUN PRASAD .(2019A7PS0183H)

Student Write-up

Short Summary of work done: Created a language profile generator for students of E cube language lab platform. The profile generates 4 scores for the student representing speaking, writing, reading, listening. (Regression task). The profile also assigns a level (1-10) to students in 2 domains - language proficiency and learning pace, and based on these levels we recommend tasks to help improve the performance of the student in the English language. (Multiple class classification).

PS-I experience: Decent. Faced issues such as lack of data being provided etc. However learnt a lot of ML models and their workings.

Learning Outcome: Learnt and implemented close to 13 ML models, Ensemble techniques, Data preprocessing techniques, Generating data synthetically.

PS-I station: Knowcross Solutions Pvt Ltd- Tech , New Delhi

Student

Name: SANIDHYA TAHILIANI .(2019A4PS0499G)

Student Write-up

Short Summary of work done: Worked on training and integrating a chatbot using Dialogflow for their iwatch APP.

PS-I experience: It started off good, I was getting some decent work but more importantly I was getting to learn about new things and the actual kind of work that takes place in the IT industry.

Learning Outcome: I learned about SAAS companies in general and somewhat about the kind of work that goes on in the IT industry. I also learned how to use Dialogflow for making chatbots and how APIs are called.

Name: TEJASH SINGH .(2019ABPS0775P)

Student Write-up

Short Summary of work done : I was assigned a project of developing a fully working and an advanced version of a chatbot for the hospitality management company, using an online google based application - Dialogflow, I studied about what common question a company normally faces in order to train my agent and concerned with the industry mentors to guide me with some specific question for the company, then learning about the dialogflow and its different keywords I finally developed a basic agent which just answers the basic questions, then enhancing my knowledge further I developed a fully fledged version of chatot by creating a new agent.

PS-I experience: It was a nice experience in regards with the learning outcomes and it also helped me gain some industry knowledge, it showed me how the company works

and what questions it might face during the day to day dealings, the seminars and group discussions conducted throughout the internship helped me gain on my soft-skills. overall I enjoyed talking to company mentors for my work updates and also my campus mentor with the project progress.

Learning Outcome: I learned basics of chatbot, Dialogflow, FAQ's of the company, How to group them, How to use Dialogflow to add buttons and cards in an agent, knowledge about intents and entities, custom payload, researched some best chatbot online, enhanced my soft-skills, knowledge of how a company works and what general questions it faces.

PS-I station: Kotak Education Foundation Tech - Web Development , Mumbai

Student

Name: PRATHAM ARORA .(2019A3PS0207P)

Student Write-up

Short Summary of work done: My project was to create dashboard for the lead intervention of KEF using google data studio. The intervention has enormous amount of data, both qualitative and quantitative, so they gave me the task of analyzing the data and come up with a dashboard in which the data can be presented in a meaningful manner with proper graphs and charts.

They also asked me to make google forms in which they will enter the data and to create a separate dashboard for the same which will automatically reflect changes in the graphs as the data gets modified. This will help them to keep track of the progress of the schools in much efficient way.

During the PS, I started my work with creating the google forms and then learning about how it can be linked with the data studio. After gathering the required knowledge, I started linking the forms with the studio and created visuals after analyzing the nature of data entered.

PS-I experience: Overall experience is wonderful as it is my first interaction with the industrial members. Though my project got change in between, I still got a chance to improve both hard skills as well as soft skills during the PS.

Learning Outcome: I created reports, presentations, attended meetings which gave me the industrial taste. Interaction with the organization mentors helped me to improve my soft skills. In hard skills, I learned and successfully worked on google data studio and created 3 dashboards.

Name: AKSHAT GUPTA .(2019A3PS0220P)

Student Write-up

Short Summary of work done: In the first phase of the internship the project was based on App development and I had to use ReactJS to develop the app. Then in the second phase the Database Management Project was given where I had to use MsAccess, MySQL and Excel to write and visualise queries and organize data.

PS-I experience:

The Mentors and team were regular and professional .
The work was never too much it was well balanced and could be done with moderate effort.

Learning Outcome:

Learnt Database Management using MsAccess, MySQL and Excel.
Learnt Application Development using React Native .
Learnt professional etiquettes and company processes.

Name: TEJAS TRIPATHI .(2019A7PS0059H)

Student Write-up

Short Summary of work done: The organization's operations have been greatly hampered during periods like Covid-19, when individuals are confined to their homes. Schools have been closed, making it impossible for the organization to carry out its regular operations. Because there are no actual classrooms, the learning experience is less engaging and difficult. To help the organization overcome this barrier of online teaching we have developed a platform where students can upload the projects they do and also share their experience and what all they learnt in the process of doing this project. This app will help students to share their knowledge with other peers, also it can act as a platform where teachers can keep a track of how students are implementing their classroom knowledge in the practical world. Students will be inspired to complete their own projects after seeing other students work on other projects, which will aid in the learning process.

PS-I experience: I learned about the Kotak Education Foundation and the working atmosphere at the firm. I also gained real-world experience by learning how to operate efficiently in a firm and how to coordinate my efforts. I was able to practice and brush up on my abilities in a variety of technologies.

Learning Outcome: The project will assist us in a variety of ways. It not only taught us the technical abilities we will need in our professional life, but it will also help us develop a sense of responsibility and dedication. After the completion of the project, we are able to:

1. Apply information technology principles and practices to real-world solutions
2. Demonstrate effective use of written, verbal, and non-verbal communication, employing relevant knowledge, skills, and judgment in a business setting
3. Manage a simple project and be able to contribute to a more complex project as a team member
4. Explain key concepts in software development such as risk and quality
5. Explain the basics of an object-oriented approach to software development
6. Describe a simple workflow for interacting with the published literature on software development.

Name: **PURAB BAKHAREDA .(2019A7PS0126G)**

Student Write-up

Short Summary of work done : For my PS1, I worked on developing two android applications for Kotak Edu Foundation - a Mumbai-based NGO. My teammate and I were assigned the task of building platforms where students who are associated with the organization could upload their projects, and teachers and their peers could rate and review them.

PS-I experience: Work-from-home experience was challenging but it was a great learning and practical experience.

Learning Outcome: Learned how to work in a professional environment, gained knowledge about Android development using Firebase as BaaS. Apart from technical skills, PS1 helped me to enhance my teamwork and presentation skills.

Name: SHWETABH PANDEY .(2019AAPS0300G)

Student Write-up

Short Summary of work done : I made the backend of the app using Node.js and also implemented local native notification. I tested API endpoints using Postman

PS-I experience:

Learning Outcome: I learnt how to be a team player and also learnt few tech stacks

Name: SHIMOLY SHRIVASTAVA .(2019B1A31558H)

Student Write-up

Short Summary of work done : Made an android app from scratch to help the volunteering department at kef increase the efficiency of their interventions. This app bridges the communication gap between the beneficiaries and the volunteers.

PS-I experience: The job looked overwhelming at first because i and my team were new to the world of development. We worked together as a team and ideated our project and learnt all the necessary frameworks and languages.

Learning Outcome: Learnt a professional UI development software called figma. Learnt server side languages like node.js and the react-native framework which is written in JavaScript to code the UI/UX. Learnt team work, creative problem solving, handling presentations in a professional environment and had experience of a professional setting.

Name: SHAMEEK KUMAR BARANWAL .(2019B1A71099G)

Student Write-up

Short Summary of work done: The Volunteering Department at the organization made use of individual Google Forms and manual phone calls to manage their workflow and keep track of volunteers, beneficiaries, and the activities. So I was tasked with creating an application for them to fix these problems. I wrote the app itself in React Native, and wrote the server in Node. The organization managed and oversaw all of its data using Google Sheets, and given the simplicity of database needs, I used Google Sheets for the app's database using the Sheets API. The app has interactive, user-friendly forms for giving feedback and filling log sheets, live activity schedule with an option to schedule your own activities, and a user validation system.

PS-I experience: It was my first big-scale project, I had joined the station for Web Development but I was given an App Development project, so it was a little hectic in the beginning to learn the skills while simultaneously developing it. But my group was able to finish the app a week earlier than scheduled, and I learned a lot of important skills over the course of this PS.

Learning Outcome: Learned basic and advanced concepts of application development, server development, object oriented programming, and how to write clean and reusable code. Also learned how to collaborate on a project with a team.

Name: ADARSH RANJAN YADAV .(2019B3A70443P)

Student Write-up

Short Summary of work done : I was assigned to a 5 member team of BITS students only to make a Mobile Application from Scratch. I was responsible for initial UI coding and making several reusable components of the application. Then I integrated the Calendar interface into the App which was primary requirement. After UI design, I used useContext and Asynchronous Storage to improve the performance of the Application. I was responsible for testing the app on various devices to check it's responsiveness. I also helped in making the logo of the app and various bug fixing in the application.

PS-I experience: The experience was moderate. Though the project was good but we didn't had a technical mentor since KEF is an NGO. So we had to do and plan all the work by ourselves. Also, the KEF team was suggesting new features into the application mid-way which we denied since we already built the foundation of the application. Though, the PS mentors were good and understanding. Also we applied for a Web development project but were given App development. It is difficult to make an App from scratch such that it is deployable on the play store in 1.5 months.

Learning Outcome: With sheer hardwork, I learnt JavaScript language, React Native framework, Figma for UI design, NodeJS for backend, deploying an app on Heroku.

Name: RISHABH RAVINDRA AGARWAL .(2019B3A70785G)

Student Write-up

Short Summary of work done: Secondary Market Research and UI/UX Designing of a Spoken English Application. The project's objective is to outline an application that

enables students and youth to communicate effectively in their day-to-day lives and in a professional environment.

Keeping in mind the organization's primary focus, i.e., for the underprivileged audience, the app would help them speak English confidently. The app has to be simple enough to be comprehended by vernacular speakers.

The first stage of the app development was to conduct market research of the popular language learning apps and extract their USPs and features. The features included UI/UX and Design, Gamification aspects, presence of any AI/ML.

The second stage of the app development required creating a blueprint using market research as a base, including selecting the best out of all available options like gamification aspects, UI/UX design, and AI/ML features.

The third stage of the app development required wireframing, which was to be done keeping in mind the target audience. It was done using Balsamiq, which provided the app with a logical flow and gave it a concrete structure. The wireframe or mockup had two interfaces, which included creating an interface for learners while the other interface was for the teachers.

PS-I experience: I had a good experience working with my PS station. I got the opportunity to learn a lot about how a non-government organisation works, and gained knowledge through the guidance of helpful mentors and the project provided me to explore a completely new domain based on designing which I could not have done otherwise.

Learning Outcome: Learnt about the wide range of features of the various Spoken English Applications present for the users to learn English from. Learnt about effective principles of UI/UX and designing in general. Also learnt how apps flow logically while adhering to user convenience. Learnt to use Balsamiq and simultaneously work with teams using Balsamiq in real-time.

Name: PRITHVIRAJ CHIRIPAL .(2019B3AA0705H)

Student Write-up

Short Summary of work done: At first I was assigned some tasks related to making of presentations (PPTs), then after complaining about the same, I was given a project related to the Application development. In Kotak education tech, they needed an application which can be used to interact with the beneficiaries and volunteers, using google sheets, so we made an application using node, react native , express and heroku

which allowed the organization to interact with their beneficiaries, take frequent feedbacks, assign and notify about the scheduled activities conducted by the organization, as well as collect the joining information of the volunteers as well as beneficiaries. Not only this, but the app also had a feature of reminder notifications, which after regular intervals reminded the volunteers to attend the activity sessions as well fill the log sheet (daily feedback form).

PS-I experience: Overall experience of the PS-I was very good. It was a one time experience to work with my fellow batchmates from across all the 3 campuses in a single project and complete the project with proper coordination within the given time. Also, not only I did learn technical stuff related to my project, but apart from that we also developed many other skills like teamwork, proper communication with the organization side for proper coordination, interaction skills etc. I also learnt how to work overtime and complete the task within the given time.

Learning Outcome: Not only I did learn technical stuff related to my project, but apart from that we also developed many other skills like teamwork, proper communication with the organization side for proper coordination, interaction skills etc. I also learnt how to work overtime and complete the task within the given time. Also I did about the working of a corporate life and what are the ups and down in a particular field.

Name: UTKARSH OMER .(2019B4A70719G)

Student Write-up

Short Summary of work done: Developed a cross Platform mobile application using flutter, with firebase as its backend. Used Figma for UI/UX design and also developed an admin google sheet using Google App Scripts.

PS-I experience: My PS-I experience was great, learned and used a lot of things. The PS faculty was very helpful and the same is true about the Person of Contact from the organization.

Learning Outcome: Learned cross platform mobile application development using Flutter, UI/UX design using Figma, minor asset creation using Adobe Illustrator, Google App Scripts and back-end implementation using Firebase. Apart from this, learned a lot

about professional communication skills and other soft skills related to presentation of work etc.

Name: GAURAV BANSAL .(2019B4AA0748H)

Student Write-up

Short Summary of work done: We are assigned to develop an App for KEF's TSEP program under Umang intervention,

We designed the App from scratch, from blueprinting the layout to the final App. To create our codebase, we used Android Studio and Flutter to design the App. We also used Figma and adobe illustrator for layouts and designing the App components. To work and contribute as a team, we used GitHub. With these, we are successfully able to manage the Front-End part of the App. To handle the back End, we used Firebase for data handling and processing requests. It is beneficial as we did not use SQL and managed all our work using Firebase and its features. We added quite a lot of features to the App to make it interactable and easy to use. We added firebase auth to provide authentication and encryption to user data. We managed user data and transferred that into a much simpler format of google sheets. These google sheets are accessible to the KEF staff and easy to organize, simple to use. We also added an admin panel in the App for the KEF staff to perform administrative functions from within the App. They can now keep track of each mentee and his/her progress directly from the App.

PS-I experience: It was a great learning experience. I explored new domains, learned new skills and develop an App for the first time. Got an insight of cooperate world.

Learning Outcome: a) learned how to develop an app for Android and iOS.

b) Learned about the software involved in app development like Android Studio, Flutter, Firestore.

c) learned about the online resources required to support and help while developing an app.

d) learned how to work in a team, develop core skills like Time Management, leadership, and public speaking.

Name: ISHVITÂ BHASIN . (2019B5A70226P)

Student Write-up

Short Summary of work done: The project by the organisation was for web development but I was given an App Development project for one of their program/initiatives, along with my team members. We prepared a platform for mentors and mentee who are registering to the program which would manage all the data of their progress, lecture schedules, lectures study material, all the guideline and FAQs related to the program and also the post and pre-test of the program and finally generating an automated certificate for both mentor and mentee. We designed the application using Figma and build the UI using Flutter with Firebase for back-end handling and data storage. We also prepared the customised Google sheets using Google app Script with JavaScript. The application will help the organisation to make the process more efficient and easy to handle

PS-I experience: The overall experience of the PS-1 was good. It was motivating due to the high expectation from the organisation and the good cause we were working for in this pandemic. All the members of the organisation were really helpful and supportive. Thought the lack of any technical team was a hinderance during the project who could guide us for our very first app. We use to have at least one meet every week for the update of the work which is been done on the app. Even our mentor guided us well on every step.

The consistence in the work and support from organisation helped us do our best. We got to add great skillset to our skills in this PS.

Learning Outcome: Figma UI/UX designing, Flutter and Dart , GitHub, final development methods in Google Play Store

PS-I station: L & T Infotech - Business Intelligence , Mumbai

Student

Name: MANIK CHOPRA .(2019A7PS0144P)

Student Write-up

Short Summary of work done: Market Research and Digital video ad sales industry

PS-I experience: It was a great learning experience. Got to understand how large multinational companies function and got the opportunity to work with some amazing mentors

Learning Outcome: Learnt how to present your ideas and thoughts professionally

Name: MEHADIA NIKUNJ ASHISH.(2019B3A70343P)

Student Write-up

Short Summary of work done: Analysis on the e-commerce industry and particularly the direct to consumer business model, the aspects taken in consideration while selecting a content management system for an e-commerce company's website.

PS-I experience:

Learning Outcome: I learned to proficiently present reports and the etiquettes of communicating in a professional scenario.

PS-I station: L & T Infotech - Data Analytics , Mumbai

Student

Name: YASH MUNJAL .(2019A7PS0090P)

Student Write-up

Short Summary of work done: I built a proactive solution for C drive cleanup which was based on a time-series prediction model built upon the Prophet Model by Facebook.

PS-I experience: It was a great learning experience which not only taught me the technicalities of training a model but even gave me a valuable exposure of professional industry standards by the means of regular meetings and presentations.

Learning Outcome: I could Learn a lot about ideating and later developing a solution to a given problem statement from scratch and to further deploy it over company's existing software.

Name: MADHAV BAJAJ .(2019B3A70256G)

Student Write-up

Short Summary of work done: Installed and set up the elastic stack model on VMs as a PoC.

PS-I experience:

Learning Outcome: Learnt about the Elastic stack and how to use VMs to test experimental softwares.

PS-I station: L & T Infotech - Machine Learning , Mumbai

Student

Name: TAVISHI SETH .(2019B5A71106H)

Student Write-up

Short Summary of work done: The work assigned by L&T InfoTech was to enable a voice search feature that filters data based on the user's voice input, using Angular framework and Node.js. This specific implementation adds functionality to LTI's ACE Portal & MarketPlace and allows users multiple search avenues. It is a valuable quality of life addition to the platform.

This project has helped us explore HTML, CSS, JavaScript, TypeScript, and various other libraries and interfaces first hand. It enabled us to learn the structure and functioning of an Angular Application and how the different elements of front-end Web Development merge to form a unified application. It also helped us understand the steps of API integration and the specific components belonging to the "Web Speech" API.

We were also asked to create a ChatBot that efficiently answers Frequently Asked Questions and makes the user experience smoother. This task helped us learn what Microsoft Azure, Bot Framework Composer and Language understanding are, how an Artificial Intelligence service can be applied to customize Machine Learning, and how they can be implemented effectively to create solutions.

PS-I experience: Working as a part of LTI was beneficial in learning how to navigate a corporate structure and interact with various organization members. I now understand interpersonal dynamics and how an organization works. The open learning environment that existed between the team members and within the organization was very encouraging. I adjusted well in the team I was assigned to and strike the right balance between work and life. I believe that my PS1 assignment was a relevant and valuable contribution to the organization.

Learning Outcome: PS1 has enabled me to relate the fundamental theory learned in the classroom with the practical aspects in the IT field. The project assigned was consistent with my interests in Web Development and Machine Learning. The assessments conducted by BITS allowed me to enhance my interpersonal, communication and presentation skills.

PS-I station: L & T Infotech - Others , Mumbai

Student

Name: SIDDARTH TODI.(2019B2A70991P)

Student Write-up

Short Summary of work done: Initially, I had done basic research on Data Privacy, such as what it is, why is it important, the key differences between Data Privacy and Data Security, and the different rules and regulations throughout the world. I have done research on various data privacy solutions, which consist of different features, varying according to the industry for which the solution has been developed. I had also prepared a detailed analysis of one of the solution, that is Data Discovery Solution, which will be used for comparative analysis. We have also conducted a feedback/survey process with the LTI Clients who use LTI's Data Privacy Solutions. We were also allotted to develop a Personal Identifiable Information(PII) Detection model using a 3rd Party ML/AI open-source Microsoft Presidio package. It was partially completed by us in the time span of the PS-1.

PS-I experience:

Learning Outcome: -History and working of Data Privacy.

-Basics of Data Science, which includes Python Programming along with its few libraries such as Pandas and Matplotlib.

-How surveys and feedbacks are taken from clients on quarterly basis to improve user experience.

-How to train a model using ML and use it as a reference for PII Discovery.

Name: KARAN MOZA.(2019B4A71372H)

Student Write-up

Short Summary of work done: Research on Data Privacy guidelines across the world including GDPR, CCPA and PDPB and their necessities.

Worked on solutions to make companies from different industries compliant with the said guidelines, similar to companies like OneTrust and BigID.

Working with colleagues on developing a Personal Identifiable Information (PII) detection model using Microsoft Presidio Analyzer. This is a NLP based project which uses the spaCy package to generate user data, train the model to identify PII and consequently test the model.

Conducted a Data Privacy Offerings survey directed at LTI clients through Survey Monkey tool in order to present relevant findings for their upcoming Quarterly Business review.

PS-I experience: Invaluable experience gained working under two different domains.

Learning Outcome: History, guidelines and workings of the Data Privacy Industry.

Understanding the rights of the consumer and the obligations of the firms that seek data. Evaluating the needs of LTI clients with respect to Data Privacy services and market survey/analysis.

Machine learning and NLP libraries and tools for Python- Pandas, spaCy, tqdm,presidio to name a few.

PS-I station: L & T Infotech - Research , Mumbai

Student

Name: ABHIRAJ E.(2019A7PS0050P)

Student Write-up

Short Summary of work done: I was given research work by my mentor on the topic of ERP systems and using RPA platforms like UiPath to develop it. I had to cover the various layers of the architecture and write a report on it.

PS-I experience: There was a lot of interaction between the mentors and students and we were periodically made to work on a wide variety of topics that are required in the

modern world. I formed a good relation with my mentor and we discussed for hours on ERP over calls which was a new experience.

Learning Outcome: There was weekly work from the side of the university mentor in the form of GD and seminars on topics of my project and research which I learnt a lot from. I learnt how the industries work on a large scale of projects and their long term and short term goals.

Name: ABHIRAJ E.(2019A7PS0050P)

Student Write-up

Short Summary of work done: In the initial phases my work was to research about the Enterprise Resource Planning in companies and how automation and AI helps in its development. In the middle phase I was made to work on UiPath, an RPA platform to perform automations on my desktop and on files. Finally I took case studies of actual ERP processes like invoices and ID card entity extraction to learn how they can be automated using neural nets and RPA.

PS-I experience: Initially it was very difficult to contact the mentor and get work under him. But later once contact was established there was a lot of discussion about my project and research. The assignments, quizzes, group discussions and seminars with my fellow students from both Hyderabad and pilani were a good learning curve.

Learning Outcome: One of the biggest learning outcome was the integration of the different processes in a company using ERP. It made me understand how a company can function only with the cohesion of all its units (employees). My project was a field of my interest and I am grateful to have learnt so much.

Name: SHARMA SIDDHARTH SHREEKUMAR.(2019A7PS0064P)

Student Write-up

Short Summary of work done: We built a hybrid order tracking application using Ionic 5 and Angular JS for a pharmaceutical company, Catalent. My work included making pages, routing between different pages in the application, taking user input and updating JSON. I also made custom components for common UI to bring uniformity to the application and reduce the amount of code. The application was built using apache cordova. Plugins such as camera, file, and pincheck were mainly used.

PS-I experience: In the first three weeks, we built the initial version of the application. The initial version was built using Ionic 1 and Angular JS. During this time, the main focus was on data collection, storage and updating. The application was run on different emulators to ensure uniformity.

Different UI components such as modals, alert, popovers, actionsheets and other custom components were used. In the next 4 weeks many improvements were made to improve user experience. To swiftly switch between pages I switched the dashboard with three tabs present throughout the application. I then routed these tabs with all the other components accordingly. To avoid unnecessary API calls and for security reasons I added an idle session logout feature. To store the images of work orders, I used the Camera plugin to take images and store images in base64 format. I have also overridden the functionality of back button when the user is on any of the three tabs so that they can easily exit the app. Overall my PS1 experience was great. I learned a lot about app development and the differences of Ionic in android and iOS platforms. We had daily status calls, so we were given tasks which were to be completed within a day or two. The application was run at the end of every week for review and suggestions.

Learning Outcome: Through this project I learned about hybrid app development using Ionic framework. I learned about some standout features of Ionic such as lazy loading, custom components and worked with majority of UI components in Ionic. The project also taught me how to work with different libraries in Angular. I learned how to create shared modules in Angular. I gained insight about the differences in routing using NavController and Router. This project helped me learn about new software as well as some features which I have never used before. I learned how to use Android Studio, Figma and became more familiar with Git and Visual Studio Code. Working in a team helped me realize the importance of modular code and also made me take a conscious effort in making my code more readable.

Name: RAHUL VEGESNA .(2019A7PS1205H)

Student Write-up

Short Summary of work done: Learnt about various unsupervised learning algorithms in details, as well as implemented them.

PS-I experience: It was a good experience. I got to learn new concept which I didn't know anything about.

Learning Outcome: I learnt various unsupervised learning algorithms, the differences between them and where and how to use them.

Name: GAURVIT KUMAR .(2019A7PS1278H)

Student Write-up

Short Summary of work done: My work was to research Supervised Machine Learning. It involved learning about SML techniques for regression and classification, learning about various algorithms used in them, studying accuracy metrics used to evaluate the prediction models, and also learnt about preprocessing data. Created a simple ML classification model to predict entrepreneurial success of college students, using scikit-learn library. In the last week, gave a presentation on Supervised Machine Learning.

PS-I experience: It was very fruitful as I got to work in an exciting field. Also learnt a lot about teamwork and time management.

Learning Outcome: Learnt about fundamentals of supervised machine learning, various algorithms used, as well as preprocessing data to prepare a ML model. Also presentation skills and report writing.

Name: SUSHMA REDDY KOLLI .(2019B5A70671H)

Student Write-up

Short Summary of work done: I worked with a team from Cloud services department of LTI, Mumbai. My work involved building a Hybrid Web application along with a team of 2 angular developers and 1 App design expert. We, as a team, developed a Hybrid Mobile and Web Application for an LTI Client, using Ionic Framework and Angular. Ionic is an open source SDK which provides a UI toolkit and can be used in different frameworks like Angular, React and Vue. We worked with Angular and Typescript. I worked on creating 4 screens in the Mobile Application and used many Ionic CSS utilities. I used typescript and angular bootstrap models to use and update various JSON data files for various functionalities in the application. I worked on CSS animations for creating a more user-friendly application and also assisted the design team in building various features.

PS-I experience: It was a great learning experience in App development and working on an actual project and working with an industry team along with Clients was very enriching.

Learning Outcome: I learned to work with Angular, Typescript and Ionic Framework. I worked with CSS animation and Ionic utilities. I learned to work on GitHub with a team of developers. I learnt a lot about Hybrid Application Development and Full Stack Development.

PS-I station: L & T Infotech - Web Development , Mumbai

Student

Name: ABHINAV BHATTACHARJEE .(2019A7PS0109H)

Student Write-up

Short Summary of work done: Created an Web Tests Automation App for testing in which various software tools are used to evaluate the performance of a website.

Instead of doing all the clicking and typing manually every time some updates or bugfixes are added to the code , all the testing tasks can be automated with web automation.

PS-I experience: I gained a lot of practical skills from my internship. PS-1 gave me a unique opportunity to look at how work is done in the industry and I had a very valuable hands-on experience.

Learning Outcome: Learnt about basis of front and backend web development along with automation testing.

Name: [K VENKAT KEDARNATH .\(2019A7PS0155H\)](#)

Student Write-up

Short Summary of work done: Made the website responsive, learned about Test-Driven Development (TDD), and wrote the tests for few codes at the backend. Explained to the team about TDD, testing with Mocha and Chai. Generation of the report as a PDF using jsPDF, html2canvas, reportLab.

PS-I experience: It was very good. I was put into a team working on the development of the product called "Infinity." As it was a live project, I came to know about many things and understood the methodology used in the company in the development of a product. Frequently talked with my team members and received a good knowledge of many aspects and software. The tasks were good, and I have learned many things during the internship. By involving in the working team, I came to many things which companies actually use to do their tasks and also gained knowledge about the software used to deploy the website, about the AWS, Docker, Jenkins, SonarQube, and many other technical services that are used in a complete live project.

Learning Outcome: Learned new things in the field of web development. I got an insight into software testing. Involving in a team and contributing to the project, and sharing knowledge. I have asked one of the team members to explain the software and DevOps involved in the project, so he has explained about it and also explained about the Agile process, about Docker and Jenkins. In the same way, the team has requested me to explain about the TDD, testing with Mocha and Chai, so I have explained them about it as they were thinking of implementing this strategy from the next agile cycle, but they

were not aware of this methodology and technology. I have explained how we can implement this in our development process and also the negative side of it. I have experienced in giving a presentation to the team and how to explain things, keeping our project in mind. I learned how to talk with the team members. Learned the importance of being close to the team and help each other. Learned about the conditions/restrictions that the employees have in being in a company. Learned many new technologies and the importance of writing clean and robust code. I learned how to thank people for helping and when they explain something. Learned to help the team when they are in a situation where they have to complete the task by the deadline and sit along with them and complete the task and handover to them. I came to know about the people in the team, and their experiences as we can very much correlate with our lives as they have completed their under graduation and were placed in this company so many experiences come common, and we can get many tips too. Overall it was a very good experience both technically and knowing of the corporate culture.

Name: RITIK THAKUR .(2019B2A70878P)

Student Write-up

Short Summary of work done: I was connected with a team of LTI employees working on an actual project of the organization. Mostly frontend related tasks were given to me. Developed two webpages from scratch which are going to be used in the project. Worked on some wireframes as well. Added some functionality into them and done changes in the styling for enhancement of UI/UX. A small task related to backend was given in the end.

PS-I experience: The overall experience of PS-1 has been great. I got to learn some new skills (communication skills, teamwork, Angular, MEAN Stack, etc.) and was also able to put the known skills (technical report writing, HTML, CSS, Node.js, etc.) into practice. Initially, I was given the resources to learn Angular. After completing them, I learned more about Angular and MEAN Stack. I was assigned a task to implement a few things in the UI using Angular Material. Later on, I was given two webpages to develop from scratch using Bootstrap. I also worked on some of the wireframes which required enhancement of UI/UX. And finally, a backend related task was given in which MySQL queries were to be removed by using Sequelize ORM.

Learning Outcome: Experience of working in a big tech organization, soft skills, Angular framework, Angular Material, Bootstrap, MEAN Stack, HTML, CSS, MySQL & Sequelize ORM.

Name: S VINEETH KUMAR .(2019B3A70220H)

Student Write-up

Short Summary of work done: Engineered A Full Stack web-application using Angular, NodeJS, ExpressJS and MySQL DB. Facilitates on-boarding of LTI Associates for internal initiatives such as internal hackathons. The app involves usage of Confluence API's which is hosted on Atlassian Cloud. The app will be deployed on Microsoft Azure Cloud Platform for intra-org purposes only.

PS-I experience: It was a great experience with a steep but fulfilling learning curve, I gained invaluable technical and soft skills throughout my time at the PS Station

Learning Outcome: Learnt a lot of technology to build modern websites, Gained knowledge on Business ethics and Communication related soft skills

Name: SAWANT AYUSH VINOD .(2019B3A70615G)

Student Write-up

Short Summary of work done: The project started with initial interactions for getting familiar with the station and the UI team followed by self-learning of Angular framework and bootstrap as these are the basic building blocks required to work on Canvas Engineering. Time bound tasks and a pilot project based on web development was completed for acquaintance with the actual project and testing the skills acquired. As a part of the project team working on Canvas, specific tasks were undertaken for development of an integrated platform that enables hybrid way of working. However, due

to company privacy policy, the design and other details of actual project cannot be shared. The PS-I program has been a good exposure for Angular and Bootstrap related development work, efficient coding practices, error identification and bug fixation. Also, many fruitful lessons have been learnt related to good work ethics in an MNC.

PS-I experience: Being an intern at LTI in User Interface team working on LTI Canvas Engineering project I learnt a lot of new things and got a great experience that will help me in the future. In PS-1. I have worked with tools as skills such as Angular, Bootstrap, Typescript, CSS, HTML and Javascript. Getting to know all these technical skills will sure help me in future. So overall internship in LTI under PS-1 program was a great opportunity which has surely benefited me.

Learning Outcome: Learning outcomes for me in PS-1 were:

- Gained knowledge on frontend web development with Angular and Bootstrap
- Writing code using angular to build web applications
- Understanding the way in which team members at LTI collaborate to work on a project.
- Got to know about LTI Canvas engineering project, its working and its uses.
- Got great guidance and learnings from team members whom I was working with in my PS-1.
- Time Management
- Communication skills
- Business ethics

Name: SAKSHAM MAHAJAN(2019B4A70627P)

Student Write-up

Short Summary of work done: Worked on a pilot project using Angular, Bootstrap and Material elements after getting adept in them through self learning and guidance of Industry mentors. After this, daily tasks related to actual project based on the same skills were allocated for the rest of the internship period.

PS-I experience: The internship experience at LTI has been enriching, fruitful and helped in upgradation of many skills in field of web development.

Learning Outcome: Getting adept in Angular and Bootstrap, exposure to web designing and developing responsive web pages and working coherently in a team to achieve goals within stipulated time.

PS-I station: L&T Infotech- Academy and training , Mumbai

Student

Name: SHUBHAM KESHARI .(2019A8PS0373P)

Student Write-up

Short Summary of work done:

- 1-Learned skills of MS Excel and how to use it analysing data.
- 2-Learned how to use the filter and sorting technique and use it in convenient way to make pivot charts based on different parameters.
- 3-Prepared PPT for different purposes and thus practiced MS Power Point, creating different designs that suits my requirement.
- 4-Learned how we can use Microsoft Outlook and Teams when working in an organization, how we can obtain data for employee working in that organisation.

PS-I experience: It was an excellent experience for me. I came to know how an organisation functions internally. I learned a lot from PS-1 by performing many tasks. The tasks that I did during Practice School required the knowledge of Ms Excel, MS Power Point, MS Outlook, and MS Teams. Earlier I knew these applications at a very elementary level that I cannot even use that knowledge in performing my tasks. So first of all, I started learning advanced topics for analysing the database, preparing well designed PPT and many more things. This includes learning techniques of filtering and sorting data. Also, my tasks demanded me to learn how to implement and use Pivot Charts and Tables. So, I went through a series of YouTube videos to learn that new concept. Finally, after watching many such videos, I learned these new skills and then practiced them on some random data.

I learned how to use MS Excel effectively and using its tools such as filtering, sorting, and making pivot tables and charts. The tasks helped me a lot in grasping these wonderful tools of MS Excel as I was practicing them for projects and as new task were assigned, I can see that I was able to do that in more efficient way than before.

Also, by practising PPT making for different tasks I get used to MS Power Point, I came to know how Microsoft Outlook and Teams works in an organisation and how details of employee working in an organisation can be obtained using these applications Overall, it was a wonderful experience, I learned more skills which is definitely going to help me in future.

Learning Outcome: 1-MS EXCEL- Analysing Databases (Used Filtering, Pivot Table and Pivot Graph Tools)

2-MS Power Point- Used for preparing Certificates, Leader's Profile, Soft Skills Feedback Task etc.

3-Microsoft Outlook and Microsoft Teams- Used for finding Email ID of associates working in L&T.

PS-I station: L&T Infotech- Business Development , Mumbai

Student

Name: BETHANABHOTLA SAMEER .(2019A4PS0797H)

Student Write-up

Short Summary of work done: The work in my station mostly involved using Microsoft solutions such as MS Excel, MS PowerPoint, MS Word, and MS Teams was primarily for communication. Formulas in MS Excel, such as VLOOKUP, XLOOKUP, and some other basic formulas were used for some of the tasks. I have also learned some of the advanced features of MS Excel, such as Macros and Pivot Tables, which are essential for handling huge data sets and performing data analysis and this analysis was later used to derive some of the insights for the team members. Data cleansing was also done on some of the worksheets in MS Excel with the help of the correct data from the company database. I have also documented some of the information. I had to research some of the competitor products for my company, gather information, and prepare a report. I also used some of the data and prepared some PowerPoint presentations. I also prepared reports on various things on a daily basis. I have also conducted a survey in the organization, which was aimed at reducing liability for the company, and MS Forms was used for this. I have also managed some of the daily activities of my team.

PS-I experience: Working online is altogether a different experience when compared to working physically, but it has some flexibilities, and the experience was fascinating. It was gratifying to work with the mentor, PS-1 faculty, and the team. I got used to the corporate working culture, and my team was so good and helpful all the time. I got a chance to interact with senior employees of the organization. I got to work on my soft skills with the help of components like Seminars and Group discussions.

Learning Outcome: There were many exciting learning outcomes. I learned MS Excel formulas like VLOOKUP, XLOOKUP, and some features like Macros and Pivot Tables. I have acquired some good presentation skills. I got to know more about the Business Ethics of a corporate company. I Learnt the nuances of interacting with Senior members across various teams. To sum up, the learning outcomes were valuable.

Name: [KHATOD SHRISHTI KAMLESH\(2019A5PS1180H\)](#)

Student Write-up

Short Summary of work done: My work at L & T INFOTECH was ad hoc in nature, here is the following list of tasks done by me at LTI:

- Research on LTI CANVAS and NWOW
- Curated content for daily stand-up meets MoM
- Data defect report of bugs and client recommendations for the product team
- Making and formatting of Daily Status excel sheet for product team
- Data analysis of training sessions at LTI
- Research on Nerdio a competitor of LTI Canvas Provisioning
- Coordinated and organised several activities, seminars, sessions and webinars for the team for the fort nightly full team meetings
- Worked with Pre sales team to shorten the PPT with same amount of details since client wanted only a 10 slide presentation
- Worked with specialist of consulting, NWOW to prepare Agile execution plan
- Worked with Pre sales team to form a segregated excel sheet of FAQ's
- Worked on reviewing collaterals progress with the Pre sales team
- Worked on excel for documentation of projects present in LTI
- Did follow ups for a survey to be filled for understanding current status of projects
- Worked for weekly Friday team meet for fun activities (found ideas, made poster, conducted the sessions)

- Made weekly bugs and enhancements slide for final report for the product team
- Made final report PPT of Canvas team to show the VP the progress of the team's work

PS-I experience: This wonderful PS 1 programme has helped me to get a glance of the corporate world and helped me understand how people work so efficiently from work from home. I have learnt something from each task I got at LTI, I understood the importance of communication skills, presenting skills and got to know how big companies are divided into different teams yet stay so united so that the entire company can function smoothly. The major learnings from my experience at LTI till now is the importance of MS Excel (majorly the use of VLOOKUP's, Pivot tables, Pivot Charts, Macros) and the importance of documenting for the development and better functioning of the team. It also taught me the different ways in which Excel is used for data analysis, how Power BI works, importance of meetings for proper communication, how small details of work help in constructing a great work place and lastly cooperating with peers is the key to successful working of a company.

Learning Outcome: Got to have a glance at the corporate world, its structures and how the organizations are shaped. How big companies manage to work so efficiently even though it is work from home. Learnt the importance of proper documentation, good presentation skills and market research.

PS-I station: L&T Infotech- Research and study on IIOT , Mumbai

Student

Name: ABHYANKAR HARSHAL VINAY .(2019A3PS0282P)

Student Write-up

Short Summary of work done: My project is to research about this system in vehicles and use the parameters it outputs to calculate Vehicle Health Index (VHI) . The calculated Vehicle Health Index can be used for maintenance of fleets of vehicles remotely. The main tasks can be divided into 2 parts, first part related to research on OBD parameters and Vehicle Health Index and second part on how to get these parameters from OBD using Arduino and the CAN bus.

PS-I experience: The overall experience was great. I had to attend a daily meet with the rest of the IIOT division in the afternoon. After these meets I would be assigned tasks by my mentor as per the requirements of their current project and would be given 2-3 days to complete them. At the end of the process I had to present the collected data to the IIOT division. The evaluative components during PS-1 were a breeze.

Learning Outcome: The main focus of my research was On-Board Diagnostics(OBD) systems in vehicles and using the parameter data from it for vehicle health index. Apart from that, I learnt various IOT communication protocols and software. I also learnt how corporate communication and meets take place and it improved my communication skills. I learnt a few Python concepts and got used to coding in VS code.

Name: UTKARSH YASHVARDHAN .(2019B4A70704P)

Student Write-up

Short Summary of work done: I was involved in the microservices development domain with my mentor for the project "Digital Command Centre" that our team was working on. I made three microservices for the DCC project namely- "enum-service", "tag-service" and "timesSeriesDCCDetails-service". Basically, the microservices that I developed would create some tables in the database and would allow the user to perform CRUD operations on them with a few variations for specific microservices. I worked with technological tools like node.js, express.js, postgresSQL, sequelize, swagger and timescaleDB to accomplish my purpose of creating the microservices.

PS-I experience: The experience with my PS-1 station was nice. I got to interact with many experts in the field. The work that I did was also good and significant to the overall project. My project manager was very nice and always kept giving me new and challenging tasks to widen my horizon. My mentor was a little strict when it came to completing the tasks within deadline but at the end it all turned out well as it helped me understand the importance of effective time management. My PS-1 faculty was also great. He was always there whenever I faced any issues with my PS-1 station. Overall, I would say it was a great learning experience.

Learning Outcome: I got to learn how to work with a lots of technological tools like node.js, express.js, sequelize, postgresSQL, swagger, timescaleDB etc. I learned how to

build microservices. I also learned how a professional team functions to develop the projects of importance. I learned how to manage my time efficiently in order to complete my tasks within the stipulated deadlines. I learned how to give presentations, participate in GDs and write project reports. I also learned how to communicate effectively within the professional environment among many other things. Overall, it was a great learning experience.

PS-I station: LightSpeed AI Labs Pvt Ltd - Industrial Automation & Control , Hyderabad

Student

Name: SATHVIK SWAMINATHAN .(2019B5AA1276H)

Student Write-up

Short Summary of work done: Involved work on FPGA Accelerators

PS-I experience: The mentors were always willing to help and pushed us to keep learning further in order to make contributions.

Learning Outcome: Presentation Skills, FPGA Programming

PS-I station: LightSpeed AI Labs Pvt Ltd - Machine Learning/DSP/AI , Hyderabad

Student

Name: TYAGI KUSH PRAVEEN .(2019B4A70689G)

Student Write-up

Short Summary of work done: I was given to come up with a 2D Torus structure of multiple FPGAs which were to be used to partition Convolutional neural network layers with the objective of reducing latency for real time DNN inference. I studied a lot about convolutional neural networks for the first half of my PS1, then from there proceeded to understand how we can partition part of the data of CNN layers across multiple FPGAs and see how the latency of the entire system is reduced. I finally wrote a code which compared the latency for a fixed CNN layer, by changing the number of fpgas.

PS-I experience: The experience was wonderful, it was an uphill struggle because I had to understand and work with concepts in electronics, deep learning and CS, none of which I was familiar with at beginning of PS1 being a dualite. The project was one of the best I could have asked for, it was challenging and taught me a lot of concepts at the same time.

Learning Outcome: I learnt a lot about Convolutional neural network and other Deep learning networks. I studied it uses and applications in AI. I learnt to use FPGAs to partition CNN layers by sharing part of the weights or IFMs of the CNN layer with the objective of reducing overall latency.

Name: NARESH CHAVAN .(2019B5A70638G)

Student Write-up

Short Summary of work done: The project was divided into two parts. In part I, I worked on a development platform, Vitis-AI, from Xilinx. Currently, extensive machine learning models have been made to improve user experience. These models require high power, have high computational demand and also need more space for storage. Therefore, one needs to quantize the models to tackle these problems. And, to run a model on a piece of hardware, one needs to compile it depending on the hardware. The software is used to quantize and compile various machine learning models such that they can be deployed on edge hardware. In part 2, I developed an Infrared Object Detection model using FLIR (Forward Looking InfraRed) dataset. The model detects objects in an infrared image with

certain probabilities. I used the YOLOv4 model that has Darknet-53 architecture and used transfer learning to train the model.

PS-I experience: My PS-1 experience was great. Initially, it was a bit challenging to set up the system eventually our industry mentor arranged an AWS instance for me to work on. My mentor has been very supportive throughout PS and has helped me debug a lot of errors. We had weekly presentations which again, was a great learning experience. Along with that, the group discussions, conducted by our college mentor, have helped me a lot.

Learning Outcome: In part-1 of the project, I learned about various techniques to quantize and compile machine learning models from different frameworks. In Part-2 , I learned about object detection and read about different state-of-the-art object detection models such as Faster R-CNN, YOLO etc. I read about the scope of infrared imaging in autonomous vehicles and the healthcare sector, and about various open source infrared datasets. I used one such dataset to train an object detection model and later, quantized and compiled it. During PS, I also improved presentation and communication skills, through weekly presentations and discussions with industry and college mentors.

PS-I station: LOGIQ LABS Pvt Ltd - Machine Learning/DSP/AI , Bangalore

Student

Name: ISHAN JAIN .(2019A3PS0365G)

Student Write-up

Short Summary of work done: The aim of the project was to optimize an article recommendation system based on natural language processing, machine learning and deep learning. we worked on various classification algorithms to classify articles into categories. Finally we implemented a RNN based model to classify articles. We also worked on content based and collaborative models to recommend articles to users based on there past interactions with the system.

PS-I experience: It was a good experience . I got to learn a lot of technical as well as non technical skills.

Learning Outcome: Teamwork, machine learning ,Natural language processing

Name: SIDDHARTH KOLIPARA .(2019A8PS1258H)

Student Write-up

Short Summary of work done: We were tasked with performing analysis on the shipment tracking database of the company. Our end goal was to make a model to suggest a shipment carrier based on the origin and destination for a package. Data was provided to us in a large JSON file which we loaded into Jupyter Notebooks for analysis. We cleaned up the missing and null values in the dataset, and explored Python libraries like Pandas and Matplotlib to carry out analysis and visualizations on a large data base. We explored the Google Maps API to geocode the address locations and to create a distance matrix. We used machine learning algorithms like K-means clustering and DBSCAN to simplify the dataset. We performed carrier specific and location specific analysis to gain key insights on the dataset. We created a spreadsheet of all the past carrier data of the company in such a manner as to obtain the carrier performance for various carriers in the dataset between a set of locations visually. We created a simple application to suggest the best carriers between a set of two inputted locations based on the historical data.

PS-I experience: My PS-1 was a great learning experience. The project given was relevant to my field of interest. The industry mentor was knowledgeable and pointed us in the right direction whenever we were stuck. I got to interact with many people who have a similar interest to mine, sharpening my soft skills and widening my network. I got a glimpse of what working in the IT sector is like.

Learning Outcome: Learned the main data science libraries in Python such as Numpy, Pandas, Matplotlib and scikit-learn. Learned to work with API's and HTTP requests. Learned to work with real world data on a large scale.

PS-I station: LogiQLabs-Data analytics , Bangalore

Student

Name: AKASH REDDY Y.(2019A7PS0055G)

Student Write-up

Short Summary of work done: We were required to build a content-based article recommendation system which works by using articles the user interacted with and also interests of similar users

PS-I experience:

Learning Outcome: I was able to explore machine learning, dl, various python libraries.

Name: AKASH REDDY Y.(2019A7PS0055G)

Student Write-up

Short Summary of work done: We were required to build an article recommendation system that classifies the articles into 4 major topics, classifies similar users into groups and efficiently recommends articles to the user. We were required to find top 10 similar article for each article.

PS-I experience: It was overall enriching and at the same time it was not all stressful.

Learning Outcome: Through this project I got the opportunity to learn various skills - both technical and soft skills and explore various concepts in the field of Machine Learning. Learnt basics of recommendation systems, NLP, DL and neural networks.

Name: SHREYA ENAGANTI .(2019A7PS1207H)

Student Write-up

Short Summary of work done: Article Recommendation using Machine Learning and Natural Language Processing. We used various python libraries such as numpy, pandas, and also nltk for text processing and keras for classification. Using techniques of vectorization, fuzzy features, lstm based deep learning and recommendation systems, we implemented new functionalities on the source code of the company.

PS-I experience: We were given source code and what to modify, but with little knowledge in Machine Learning and NLP it was quite difficult to learn on our own, more guidance from the company or instructor could have been implemented.

Learning Outcome: Experienced working life (just a little as the online sem hindered live meetings) and learnt to work as a team with other students, ps instructor and company instructors, and learnt to work and deliver the project according to required specifications and deadline. Also learnt ML, NLP, and various python libraries as well as recommendation systems while coding.

Name: AKHILESH SENAPATI .(2019AAPS1352H)

Student Write-up

Short Summary of work done: we were able to create a conversational bot for tracking shipments using rasa. First we came up with all the possible user inputs and listed them in intents and identified the entities like order no. , ref no. etc. We then created slot and forms to take in the user details and store in the bot. After this we connected the bot to an api given to us containing the details related to the specific order. with this we were able to give back order details and complete the project.

PS-I experience: It was very good, got a lot of support for the instructors.

Learning Outcome : Learnt about rasa and creating chatbots with it. Learnt about creating forms in chatbot and connecting or creating a api with it.

PS-I station: MapmyIndia- Marketing , Bangalore

Student

Name: KHODKUMBHE AAROHI RAMDAS(2019A3PS0451G)

Student Write-up

Short Summary of work done: 1. Developed an understanding about MapmyIndia, its products and services and business related terminologies.
2. Reached out to the several startups to market MapmyIndia's products.
3. Helped in crafting the Campus Ambassador Program and also wrote an article for the NASSCOM community.

PS-I experience: It was good. Good faculty, helpful mentor. Really enjoyed the work that was given.

Learning Outcome: Got to learn more about business world, especially market research and marketing. Developed soft skills such as communication, presentation skills etc. Group discussions were also enlightening.

Name: AKARSH CHANDRA .(2019B3A30508P)

Student Write-up

Short Summary of work done: My project revolved around working on the Start-up Outreach Program and crafting a Campus Ambassador Program for the company. As I was undertaking an Outreaching project, I had to first develop a deep understanding of the company's products and services to various constituents of society in the initial weeks.

I then worked on the development of USE CASES for start-ups using MapmyIndia's vast repository of Map APIs and SDKs. Subsequently, I analyzed and thoroughly researched existing Campus Ambassador Programs of tech-companies like Amazon AWS, Microsoft MSP and Cisco DEVNET to conceptualize one for MapmyIndia. Under the Campus Ambassador Program, we explored possible ways for MapmyIndia to build a presence in Indian colleges by offering our APIs and SDKs to their respective developer and tech teams. Finally, I researched and built a database of more than 30 startups which had recently raised funding in order to reach out to their product managers and technical executives to pitch MapmyIndia's products and services.

PS-I experience: The experience was nothing short of fantastic and full of learning. With the online nature of PS-1 this year, I firmly believe the experience would have been even better if we could work and observe at the actual office of the companies where we would then be a part of the fast-moving environment and get constant inspiration from the people around us. However, my company mentor, was extremely approachable and gave us valuable bits of advices during every interaction from his own experience working on the Start-up Outreach Program. The entire journey has definitely been challenging but exceptionally exciting.

Learning Outcome: With hopes of pursuing a career in Finance and Management, being able to work towards the Start-up Outreach Program at MapmyIndia was a fantastic opportunity to hone and develop my interpersonal skills. I built an understanding of the start-up ecosystem in India. The work involved a lot of planning and I certainly learnt about the fundamentals of networking.

PS-I station: Mazo solutions- Analytics , Chennai

Student

Name: FARZAN HOSHI BHARUCHA .(2019AAPS0008G)

Student Write-up

Short Summary of work done: We added features to resume parser application like extracting contact no. , name , email, address. Researched about digital signatures. We did data analysis on error data.

PS-I experience: It was a great experience and especially satisfying to see our product work.

Learning Outcome: gained experience working in an IT company. Also helped in improving team work.

Name: ABDUL AZEEM SHAIK .(2019AAPS1234H)

Student Write-up

Short Summary of work done: Web development using HTML5 CSS JS and Spring boot

PS-I experience: Amazing

Learning Outcome: Web development

Name: ADNAN QURESHI .(2019AAPS1347H)

Student Write-up

Short Summary of work done: The work that was assigned to me was mostly based on Data Science & Machine Learning which included developing tools for Resume Parser and Face Recognition. Along with this we also had to create a documentation about the ideas on how we can make a profitable use of raw data collected from the resume parser after receiving thousands of resumes and also doing a case study on the use and working of Digital Signatures.

PS-I experience: Overall I had a great learning experience from the PS-1 as because of this I got to learn a great no. of stuffs from the domain of Data Science & Machine Learning and got a a chance to apply those concepts on the the projects which were going to be launched in the global market by our PS Station.

Learning Outcome: I had a great learning about things in the domain of Data Science & Machine Learning in the duration of PS-1 apart from that as I along with my other team members had a daily virtual meet with the industry mentors about our works and Project updates helped me in enhancing my communication skills . Working in a team inculcated leadership qualities and completing all the work before the given deadlines boosted my self-confidence.

Name: RISHITA AGARWAL .(2019B2A40989P)

Student Write-up

Short Summary of work done: Researched about different software product websites. Worked on the website development of their new product mazo lenz.

PS-I experience: It was a great learning experience. PS-1 gave me a great opportunity to learn about the corporate world and use various tools and skills which are highly demanded in the Industry.

Learning Outcome: PS-1 helped me understand the importance of team work and communication which are essential for the project to be a success. I got an opportunity to learn a lot of new stuff and also understood the working of a start-up. The overall PS-1 experience was very enlightening.

Name: KAJAL KUKREJA .(2019B2A41021P)

Student Write-up

Short Summary of work done: Made a project which helps US hospitals in covid 19 vaccination procedure. Sends notification via sms and mail before the second dose and keeps the records of the patients in a systematic way.

PS-I experience: My PS-1 experience was good as my mentor guided and he helped me in any difficulty through out. Company co-founders were interesting as well as helpful throughout the process. They gave us freedom to work according to our pace and checked the progress weekly.

Learning Outcome: Learned new technical as well as soft skills, direct interaction with co-founder increased my confidence as well as my communication skills.

Name: GUPTA SACHIT VIKAS .(2019B3A30486G)

Student Write-up

Short Summary of work done: Web development Project.

The project assigned was to create a covid app and an alert system for the hospitals.

Skills I gained-

1. HTML
2. CSS
3. JavaScript
4. Bootstrap
5. Node.js
6. Angular
7. Flutter

PS-I experience: Overall experience was quite amazing. I learned a lot of new things. I learned how to create web application as well as mobile (android and iOS) applications.

Learning Outcome: Skills I gained-

1. HTML
2. CSS

3. JavaScript
4. Bootstrap
5. Node.js
6. Angular
7. Flutter

Name: HIMANSHU JAIN .(2019B5A40737P)

Student Write-up

Short Summary of work done: My project domain was data science- machine learning. I had two projects- resume parser and face recognition project.

In resume parser, the work was to extract information like name, address and email id from any given resume.

In face recognition project, I had to construct a code such it first detect the face and save it in the database and then when it come across the same face, it detect the face and returns the name. It can be used for marking the attendance or for the security system to detect the unknown people.

PS-I experience: It was really nice experience, I learnt a lot of new things. i was into this project along with three other member. We had regular meetings , where we discuss the updates of the project. The company mentor used to guide us at every stage.

Learning Outcome: I learnt a lot about data science application.I started with python and learnt about various python libraries. In face recognition project, I learnt about different face recognition modules like DNN , dlib, Facenet, MTCNN etc. It was a great experience.

Name: YASH GUPTA .(2019B5A80283G)

Student Write-up

Short Summary of work done: We were given several data science projects to work on such as facial recognition and natural language processing along with analysis of an error log file.

PS-I experience: We had daily meetings and were guided in those meets. The overall experience was very good.

Learning Outcome: I learnt about python and its libraries and Teamwork

PS-I station: Medsupervision Pvt. Ltd - App/AR/VR , Faridabad

Student

Name: RISHABH SINGHAL(2019B1A30876P)

Student Write-up

Short Summary of work done: The PS project required me developing an android app from scratch for the organization. The project required me to learn android development and kotlin programming from scratch. Other than that I had to work on android studio to apply the knowledge to acquired before into developing the final app required by the organization. The app required to fetch data from a cloud server to the user's app. The data was to be reformatted from csv to json format and then the server was setup using Firebase. The information for data to be fetched is sent via a query to the server and matching records are displayed to the user. The user can then select the results to view full details of the fetched query.

PS-I experience: It was a fine experience, learnt new things via the medium of this project. The instructor was very supportive. Expert lectures were useful to learn new things.

Learning Outcome: Primarily I've learnt android app development as the project required to develop an app. PS project also helped in improving soft skills.

PS-I station: Medsupervision-Mobile Appl Development , Faridabad

Student

Name: SAUMYA NILESH PAI .(2019A3PS0340G)

Student Write-up

Short Summary of work done: We had to make a cross-platform application using react native such that each user had some choices to make, after authentication we would track the user activity using Firebase database. We had to make use of APIs as well. We had to develop a complete application consisting of frontend and backend, major role in the application was played by YouTube data APIS.

PS-I experience: I had a very good learning curve during my PS experience. The organization had 4-5 projects in hand and gave us the option to choose project of our interest. I chose App Development, The organization mentor explained us the project and the framework to be used, I and my project partner had to self-study all the requirements needed and proceed accordingly with our project.

Learning Outcome: I had a good learning outcome from my PS Project. I got experience with development, the project we were working on, consisted of everything frontend, database, authentication, APIs and everything was interlinked. This project gave me confidence to build more cross-platform app with full functionality.

Name: MADEPALLI BALUPAVAN .(2019A7PS0061H)

Student Write-up

Short Summary of work done: The main objective of the project is to make a cross platform application using any cross-platform mobile development language. I chose react native and used it to integrate the backend APIs with template and also implemented few native functionalities in the application. I had to develop a complete application consisting of frontend and backend, YouTube APIs played the major role in the project.

PS-I experience: The organization gave me the option to choose one from the 4 projects they had. the organization mentor explained the project and the framework to be used. I had to self-study all the requirements needed and proceed accordingly with our project.

Learning Outcome: I learned JavaScript and react native framework. Learned more about YouTube APIs and Firebase.

Name: ARSHPREET SINGH SAINI .(2019B5A30828P)

Student Write-up

Short Summary of work done: Medicine Time - My Android App Project is a native android application meant to aid the forgetful and busy with remembering to take their daily medications. It is designed for users who need a little help keeping track of their medication schedule and who are dedicated to keeping the schedule. The application allows the user to store pill objects and multiple alarms for those pills. Alarms have one time of day and can occur on multiple days of the week. The user is able to view their pills in a today view and can select date to view medicines. In addition, the application stores the history of when each medication was taken; this will aid the user in keeping track of their medication usage. An extraordinary feature of this app is that it also provides an option to set a reminder for someone else whose data will be present in the database.

PS-I experience:

Learning Outcome:

1. Working with Android Studio
2. Programming languages - Java, .XML, PHP, SQL
3. App Dev Concepts - Activities and Layouts, Views, Intents, multiscreen apps, etc.
4. Databases - MySQL, FCM, APIs.

PS-I station: MSys Technologies - Tech , Chennai

Student

Name: SOURABH NANDWANI(2019A7PS0035P)

Student Write-up

Short Summary of work done: Our project aims to build a modern GitHub dashboard that would provide statistical information about various repositories. It would enable team leaders to track the progress of every team and repository based on the number of pull requests (PR) raised, the status of the PRs, the average and maximum age of open PRs, and few other parameters (commits, fork, star, watchers) to arrive the efficiency at the organizational level/ repository level/ team level.

PS-I experience: It was a good experience.

Learning Outcome: During the PS 1 learnt about various technologies such as HTML, CSS, React JS

Name: V SUSHANT(2019A7PS0045P)

Student Write-up

Short Summary of work done: I was in the backend team. Initially we had been trained on stack like NodeJS, ExpressJS, MongoDB, etc. There were also many 1:1 sessions with mentor in both training and project phases.

Our project was to develop a modern dashboard for Github which would provide exhaustive information about various repositories. It would enable team leaders to track the progress of every team and repository based on the number of pull requests (PR) raised, the status of the PRs, the average and maximum age of open PRs, and few other

parameters (commits, fork, star, watchers) to arrive the efficiency at the organizational level/ repository level/ team level.

PS-I experience: A very very helpful and productive experience! Awesome mentors! Initially there were orientation sessions, followed by division of teams (frontend and backend). Then started the training phase, we(backend) had been trained on stack like NodeJS, ExpressJS, MongoDB, etc. There were also many 1:1 sessions with mentor in both training and project phases. Then in the project phase, structured division of work, use of gitlab for version control, various other corporate protocols have been learnt. The mentors literally made us learn explaining everything from basics to complex stack and logics.

Learning Outcome: I had no experience in Backend before this. A corporate level proficiency in backend - NodeJS, ExpressJS, MongoDB, etc. has been gained. Various protocols while working had been learnt. The mentors were very helpful. After the internship, I can confidently say that I know Backend web development, not only the tech stack, but also the protocols, good industry practices while working.

Name: SAI TUSHAR BANDARU .(2019A7PS0046H)

Student Write-up

Short Summary of work done: Training of basic tools of web dev which included react js , html , basic css , tailwind css,axios , ant design.

Making a functioning gitboard website which is a more enhanced version of GitHub

PS-I experience: Really liked the mentors as they are very helpful and teach us at any point of time if we have any doubts.

Learning Outcome: Implementation of gitboard for making a web application and design as per project specifications.

Name: **HARDIK KATEHARA .(2019A7PS0089P)**

Student Write-up

Short Summary of work done: Our project aims to build a modern GitHub dashboard that would provide statistical information about various repositories. It would enable team leaders to track the progress of every team and repository based on the number of pull requests (PR) raised, the status of the PRs, the average and maximum age of open PRs, and few other parameters (commits, fork, star, watchers) to arrive the efficiency at the organizational level/ repository level/ team level.

PS-I experience: It was a good experience.

Learning Outcome: Learnt NodeJS, ExpressJS and MongoDB.

Name: **PRANJAL SINGHAL .(2019A7PS0146P)**

Student Write-up

Short Summary of work done: We had to create a dashboard for GitHub which would present data using various kinds of charts. The data was fetched using GitHub API. As per the company, "The project Github Metrics Dashboard has been designed to track the progress of every team and repository based on the number of pull requests (PR) raised, the status of the PRs, the average and maximum age of open PRs, and few other parameters (commits, fork, star, watchers) to arrive the efficiency at the organizational level/ repository level/ team level." My work was to create a few APIs for the dashboard. Basically, I had to fetch data from GitHub API, store in MongoDB , process it and return to the frontend.

PS-I experience: The mentors/ trainers were very friendly. At the same time, the meets with the project coordinator were very formal. The time commitment was averaging about an hour a day. I learnt new technologies. Overall, it was a good experience

Learning Outcome: I learnt JS, NodeJS, ExpressJS and MongoDB. I learnt about the industry standard for writing code.

Name: UTKARSH TIWARI(2019B1A71147H)

Student Write-up

Short Summary of work done: We had a Ps based on Web Application Development. A web app has two parts - Front end and Backend .We were divided into groups of two based on what we like or are interested in doing. We had our PS divided into II phases. In phase I, we were taught about the different languages and frameworks .And in the II phase we were told to apply the technologies learnt. Like I was in backend team so I had to make different API's for the application as a task given.

PS-I experience: It was overall a nice experience .I got to learn new frameworks and databases. I also got insights of making API and how does a server interacts with the database. I learnt about team work and project management. We used to have meetings for task updates and code reviews as well.

Learning Outcome: I learned new frameworks .I also learned how to to maintain a proper folder structure while making applications for easy debugging and testing and also such that in future the code can be maintained. Overall it was good learning experience. Also while writing the code ,we came across many helpful tools and got to know about their vast use and functions in IT field.

Name: SHUBHAM SHARMA(2019B2A30925P)

Student Write-up

Short Summary of work done: The first 2 weeks involved training for the skills required by the project. Various topics related to react web development were taught. After that

the project design was discussed and individual components were assigned to work on. Then everything was integrated to the main UI and data fetching from backend was implemented. This marked the end of the project.

PS-I experience: It was a great and wonderful experience. We learned so many things from our mentors. Everything from how the industry works to the workflow of the project. During the training sessions, everything was taught to us with great attention and each and every doubt of ours was entertained. Our mentors were extremely helpful and caring. Then during the working on project, every single doubt we had, on every single step of the process, we were helped by our mentors. They even taught us how everything works and how projects are done as a team. Overall it was a very eye opening and great experience.

Learning Outcome: I have learnt something about how things work in a corporation, I have learnt how projects are done as a team. I have learnt how to communicate with your peers and mentors. Also, the skills needed to take leadership of a project, and to get work done. These are just a few of the many things I learned.

PS-I station: Multigraphics - ERP , New Delhi

Student

Name: POPTANI ADITYA ANIL .(2019A7PS0086P)

Student Write-up

Short Summary of work done: Multigraphics is an E-Learning, Web and Mobile Application Development company. Under its E-Learning segment, it has a product called MG Edinso - a well designed Learning Management System which can be customized according to a client's need.

In the PS-1 program, we worked closely with one of the company's client to build a website and mobile application for the client's LMS. Firstly, the internship involved to prototype the applications on Adobe XD and towards the end of the internship, the development of the web application began on PHP Laravel.

PS-I experience: Overall, my PS-1 experience was much better than I expected it to be. The company's mentor was constantly in touch with all the interns, always guiding us wherever we were stuck. Apart from that, the development team of the company was also very co-operative.

Learning Outcome: Technical Skills Learnt: Prototyping using Adobe XD, Development using PHP Laravel
Soft Skills Developed: Team work, Communication Skills, Timeliness

PS-I station: Multigraphics Group- Digital marketing , New Delhi

Student

Name: NALLANA GEETHA CHARAN .(2019A3PS0210H)

Student Write-up

Short Summary of work done: I worked as a UI/UX designer for the clients of the company.

PS-I experience: My interests are always aligned towards UI/UX. I was allotted Digital Marketing, but the officials from the company understood my interests and redirected my project into UI. It is nice working with my colleagues and the officials in harmony to achieve the desired state of the final product design.

Learning Outcome: I learnt how to collaborate with various teams and how to stay organized and composed in tense situations too.

Name: CHINMAY GOYAL .(2019B3AA1290H)

Student Write-up

Short Summary of work done: I have worked on two different projects for two different clients of my station. The nature of work for both has been similar , has involved revamping the online presence / establishing an online presence for each client. Both the clients are coaching centres catering to different exams with the need to go online due to the pandemic. The first stage of my work required for me to do competitive analysis along with my team for both the clients. Identifying everything from strengths and weaknesses of the competition to the industry standards and best practices was a task we did to understand what direction do we shape we want our clients' online presence to take. After that I worked with a different team on UI wireframe design for the website , app interface of both clients. Various challenges were overcome by our team , and we managed to make a design that pleased the client, different teams of MG group - like marketing , development etc. as well as our CEO who personally oversaw our work during the entirety of our PS duration. Another critical task we accomplished was making a new logo for one of the clients. My efforts to coordinate work between all teams at our station were only second to the designated project manager among us. Hence , I also managed to familiarize myself with all people at my station as well as their work and learn the importance of communication and coordination along the way.

PS-I experience: PS1 has been a great learning opportunity for me. It has provided me the opportunity to tackle real-world problems as well as an insight into how the industry works.

It was completely new work - one I enjoyed doing a lot.

It has been altogether a wonderful experience- working together with multiple teams while doing different things like competitive analysis and UI design , work which is tangible and will very soon touch the lives of thousands of students.

Learning Outcome:

- Significantly improving my professional Communication in both English and Hindi
- Learning the importance of Formal Documentation and Review Meet
- Developing Competitive analysis skill , understanding competition in an industry
- Developing UI design skill - Designing UI wireframes on Adobe XD
- Managing Timelines
- Understanding the significance of Coordination and Teamwork as well as the effort that goes into coordinating multiple teams

PS-I station: Multigraphics Group- Market Research , New Delhi

Student

Name: SUSHMITA DE .(2019A4PS1288H)

Student Write-up

Short Summary of work done: In its first phase, our project required us to perform market research on two clients of Multigraphics, both in the E-Learning industry, to gain insights about their competitors in the market, prepare a marketing strategy to improve their online presence and to analyse their revenue models. Subsequently, we designed the logo and UI for the website as well as the mobile application for both the clients, keeping in mind our learnings from the first phase. The development team helped implement the web portal and the app in the final phase of the project.

PS-I experience: It was a smooth learning experience involving ample interactions with more than 5 esteemed employees of the organization. Meetings and review sessions with the mentors and peers were regular and quite insightful. The project was fit to my creative interests and having voluntarily exposed myself to the software Adobe XD and other fundamentals of UI/UX design from the very beginning of the project, I got the opportunity to be a part of the design team where I could further enhance my skills in my field of interest.

Learning Outcome: The project helped me learn about competitive analysis and SWOT analysis in depth. Data entry and presentation skills were enhanced. I learnt the fundamentals of UI/UX design and got familiarized with Adobe XD. Apart from these technical and business skills, PS-1 helped improve my communication, collaboration and time-management skills.

Name: MADAKALA KEERTHI REDDY .(2019B1A31057H)

Student Write-up

Short Summary of work done: The internship consisted of Market Research primarily to study the client's domain, identify its competitors, perform competitive analysis and utilizing the information gathered to design the flow of the website and the wireframe of the website using ADOBE XD to increase the reach and online presence of the client.

PS-I experience: It has been a good experience where several things were learnt which helped us in achieving the objectives required. Gained industry exposure.

Learning Outcome: The skills developed were many which included things like research, data analysis , SWOT analysis, competitive analysis and various other soft skills.

PS-I station: Multigraphics Group- Project management , New Delhi

Student

Name: RAM MEHTA(2019B3A80510P)

Student Write-up

Short Summary of work done: Being offered the role of Project Manager, I had to make sure that all the teams were well coordinated and worked in sync. All of them were working on the same client but through different domains and hence, it was of utmost necessity to keep them in check. I had to prepare timelines and make sure each time followed it. Along with this I was involved in performing competitive research for our client as well as help in the flow and ideating the design for client's products.

PS-I experience: PS1 has been a great learning opportunity for me. It has provided me with insights of how the industry works and gave me the opportunity to tackle real world problems. It was a completely new domain, that I had set out to explore and got deeply satisfied by it. It has been altogether a wonderful experience while working together with team and learning things from them.

Learning Outcome:

- Preparation of Gantt Chart
- Gaining soft skills like Professional Communication

- Importance of Formal Documentation and Review Meet
- Managing Timelines
- Significance of Coordination and Teamwork and morale boosting.

PS-I station: Multigraphics Group- Student behavioral analysis , New Delhi

Student

Name: BOMMAKANTI HASITA .(2019B5AA0781H)

Student Write-up

Short Summary of work done: To build the dashboard analytics for a e-learning website. Also,use Google analytics to target traffic data.

PS-I experience: It was a fairly good experience.

Learning Outcome: Communication skills were improved. Technical skills like using Adobe XD to design, knowing about google analytics and adsense were built.

PS-I station: National Centre for Polar and Ocean Research- Data Analytics, Machine Learning , Goa

Student

Name: RAJAN SAHU .(2019B4A70572P)

Student Write-up

Short Summary of work done: Hybrid deep learning models were used to create a weather forecasting dashboard for polar areas. Understanding the connection between weather factors and finding influential parameters through statistical analysis of weather information.

PS-I experience: It was a decent experience.

Learning Outcome: I finally learnt how to use deep learning technique for weather forecasting. I understood how to analyze weather data. I also worked on my presentation and communication skills.

Name: RAJAN SAHU .(2019B4A70572P)

Student Write-up

Short Summary of work done: Performed Time series analysis using Deep learning and Machine learning models. In addition, worked on the Development of weather forecasting dashboard for polar regions via hybrid deep learning models. In the end, performed Statistical analysis of the weather datasets to understand the correlation between weather parameters and identifying influential parameters

PS-I experience: It was a decent experience. I got to know about the importance of Weather Data analysis and also got a better realization of as to why Machine Learning Or Deep Learning Techniques could be preferred over Traditional Numerical based Weather prediction algorithms. At first it was a bit challenging, working day and night on model tuning, getting stuck at problems for more than a week. Gradually we learnt how to collaborate in a team for solving difficult problems. In conclusion, I got a better clarity on hands on implementation and also would like to appreciate this learning through live project experience.

Learning Outcome: I improved my communication and presentation skills. I realised how important it is to work in a team on a difficult problem.

Needless to say, discipline is also very essential for coming up with results.

From the technical aspect, I understood the working of Deep Learning models with more clarity and for a first hand experience, I couldn't have asked more. I also came to know about various creative methodologies that are used in weather forecasting.

And in conclusion got a decent idea of data analysis.

Name: VASU SWAROOP .(2019B4A70656P)

Student Write-up

Short Summary of work done: We were supposed to work on weather datasets. Our worked included working on a variety of machine learning and deep learning models. It was a weather dashboard which worked on statistical analysis of weather parameters. We worked at prediction, classification, data analysis etc. Initially, we worked at ML based weather parameter prediction. Then, we worked on DL based weather prediction. Next we worked on weather parameter data analysis. The last task was to work on predicting and classifying blizzards.

We were allowed to use R/Python for the same, but we stuck with python.

PS-I experience: The experience was overall positive. I think the experience depends a lot if not completely on the mentor you are allotted. Initially, the learning curve was very steep. We were expected to present results in a short time. Then, we were told to start with the ML and DL models and their mathematical basis.

Learning Outcome: We ended up working on Python libraries extensively. We worked a lot on data analysis as well as data visualization. Then, we worked on a variety of ML/DL algorithms. We also tried to understand the mathematical basis of those algorithms.

Name: A SUDARSHAN .(2019B4A70744P)

Student Write-up

Short Summary of work done: The project was based on Predictive Weather Analysis with the help of Machine Learning. The expected project outcome was to develop a dashboard for predicting various weather parameters. We were given time series data of 5 weather parameters namely, temperature, wind speed, air pressure, relative humidity and blizzards, measured hourly at polar regions. Till midsem we focused on prediction of a single weather parameter for given values of other parameters. We used 4 ML models (SVR, Extra trees, Random Forests and Adaboost) and various data sampling techniques such as rolling, sliding window, etc. Post-midsem the ML team focused on predicting multiple parameters for given input, then incremental data training of model (increase size of dataset at each iteration) and the correlation plots between the parameters. So, in short, we worked on Supervised Learning techniques for time series analysis with the help of Python and R.

PS-I experience: The PS1 was a different experience for two reasons. One, we learnt how to work on a project while learning the required concepts in parallel. Second, we did a course with not just theory but also applying the learnt theory directly to a real-world problem.

Learning Outcome: This project helped me in learning various things. I gained professional skills like interacting and meeting the expectations of a senior scientist. On the technical side, I learnt about Time Series Analysis, Data Science with Python and R and various concepts of Machine Learning.

Name: [SHRUTI RASTOGI.\(2019B4A70802G\)](#)

Student Write-up

Short Summary of work done: The project assigned focused on Data Analytics and polar weather forecasting using Machine Learning Techniques. The expected project outcome was to develop a dashboard for predicting various weather parameters of polar regions such as temperature, air pressure, wind speed and direction, relative humidity, blizzards, etc. based on hourly polar weather datasets using python. The ML team worked on 4 different models - Support Vector Regression, Random Forest, Extra Trees and AdaBoost, as well as hybrid models.

The next steps of the assignment consisted of understanding and preprocessing the given polar weather data and using suitable approaches to build the ML models, train and test data to compare their accuracies, processing time and various other performance metrics such as bias, variance, etc. Based on the results, a hybrid model was to be implemented which would select the most optimal ML model and implement it. Lastly, the results of the predictions of various weather parameters were to be visualised in the form of histograms, trend plots, polar plots etc.

PS-I experience: Decent, learned to work with ML models and get any and all tasks done.

Learning Outcome: Learnt predictive data analytics for forecasting polar weather parameters using ML using python/R, visualising data and gauging correlations between parameters, implementing Supervised learning models and incremental learning models

Name: [DHRUV SAXENA .\(2019B4A71369H\)](#)

Student Write-up

Short Summary of work done: Our worked involved prediction of weather and weather parameters at the poles such as temperature, air pressure, etc., using ML and DL techniques. I specifically worked in the ML domain and worked on supervised algorithms such as SVM, Random Forests, Extra Trees and Adaboost. My team and I carried out time series analysis for various parameters to predict the future values and trends. We worked on training our data from a 5 year dataset and tried predicting the temperature of the next 7 days. Then we compared our results with the actual data and kept tuning our models for better accuracy.

PS-I experience: Even though PS-1 was online, our mentor at NCPOR was really helpful. Sir was very regular , kept meets often and helped us out whenever we were stuck. I had no prior experience in this domain but the work at this station helped me learn and become good enough to deliver a final project. The work given to me helped me progress slowly into the field of ML and with sir's guidance, I was never confused or felt overwhelmed in this vast domain. Adding on, I got an opportunity to work at a research lab in my 2nd year itself and explore it considerably.

Learning Outcome: This project involves various concepts of Time Series Analysis, Machine Learning, Programming in Python, Statistical Methods, Data Analytics and Visualization. I learnt techniques like rolling average and ARIMA used for time series analysis along with Extra Trees, Random Forests, Adaboost , and Support Vector Regression. I also got a chance to explore various statistical techniques and parameters such as MAPE, R², MSE,etc. and learnt how to identify which model is better. Lastly, along with Python , I also learnt multiple Visualization techniques like Pairplots, heatmaps, correlation plots, seasonality plots, etc.

Name: YASHEE SINHA .(2019B5A70652G)

Student Write-up

Short Summary of work done: Machine Learning and Deep Learning applications on weather data to predict attributes of weather, such as temperature, wind speed, atmospheric pressure, and relative humidity. Also to classify blizzards in terms of predicting future events. Data visualization techniques such as box plots, windrose diagrams, etc.

PS-I experience: The work was fun and a good learning experience.

Learning Outcome: Learned ML and DL models

PS-I station: National Institute of Oceanography - Industrial Automation & Control , Goa

Student

Name: DHRITIMAN SINHA .(2019AAPS0005G)

Student Write-up

Short Summary of work done: Worked on design and simulation of hydrophone for measuring sea state. Read multiple research articles on underwater acoustics and hydrophone design. Learnt programming in Julia and how to use Julia libraries. Used UnderwaterAcoustics.jl, DSP.jl and more libraries.

PS-I experience: My ps experience was great. I got to learn a lot of things about underwater sound. My ps did not feel rushed at all and I was allowed to work at my pace. Although I felt that there was lack of enough criticism/feedback on my work. Mentor from NIO was supportive and appreciated work done by me. He also connected me with other professionals in the field. My project was an individual one but I felt the need of a group as there was no one to discuss issues with. Other students at NIO were very friendly and we had a great time, albeit online.

Learning Outcome: I learnt about coding in julia and bit about signal processing. In the start of project I used another software called UnetStack and I learnt about it too. I got to learn about open source software and hardware.

Name: [RAGHAV DHIR .\(2019AAPS0113G\)](#)

Student Write-up

Short Summary of work done: I was given the responsibility to design lights for underwater photography engineered to control their intensity and color through circuits and an independent PC to obtain the best possible results. Circuits are designed for intensity control, and they would be interfaced with Arduino and a GUI through programming languages like Python to communicate with the computer. PWM was used for intensity control through Arduino interfaced with the circuit and providing information to the PC through Ethernet Shield stacked on the Microcontroller.

PS-I experience: I had a good PS experience, all things considered. My industry mentor assisted me in a lot of the domains where I had very less prior experience, mainly in circuit design with various ICs and other components. He helped me understand the precautions to be taken and gave me a lot of insights on how to make the design more efficient. My

PS faculty helped ensure that there were no issues on the admin side of things and always listened to our requests and made sure that this whole thing conducts smoothly.

Learning Outcome: The project helped us understand the whole process of constructing LED lighting mechanisms and their general importance, underwater photography in particular. We learned about how varying light intensity can be an integral part of illuminating underwater surfaces. The intensity control method of PWM was perfectly understood and implemented through the knowledge of microcontrollers like Arduino UNO. We also studied working with various ICs like AL8862, utilizing their pins according to our use, and how various electronic components like resistors, capacitors, and inductors all have their applications and form the building blocks of the circuit. We also explored the software part of the project through coding the GUI in python acting as a value-added feature. Communication between an Arduino and a PC was also explored through interfacing with an ethernet shield and PyFirmata (a library in Python).

PS-I station: National Institute of Oceanography -Embedded Systems/IoT , Goa

Student

Name: SUPRATIM CHATTERJEE .(2019A8PS0652H)

Student Write-up

Short Summary of work done: My task was to create a mission planner application for a coral reef bot based on Qt5 which will allow the user to interact and perform various tasks with the bot depending on the mission. The application allows the user to display GPS positions on mouse click. There was also a feature implemented which allowed the user to plot transects in the map application.

PS-I experience: My PS1 experience helped me to understand how to build a project from the ground up. My mentor gave me the opportunity to experiment with the project and come up with own ideas as to how to improve upon my application in terms of efficiency and user experience. It was challenging as I had to learn everything from scratch and the work was fulfilling.

Learning Outcome: I got to learn about the framework Qt which is used to develop applications for various operating systems. I had to learn C++ , as the application needed to be efficient to be used in low powered hardware on the Coral reef bot. In addition to that I learnt valuable soft skills in communicating my ideas effectively and to present my work via seminars and reports. The group discussions helped me to gain new insights into various other topics.

PS-I station: National Institute of Oceanography -Machine Learning/DSP/AI , Goa

Student

Name: AVINASH GONDELA .(2019A8PS1357H)

Student Write-up

Short Summary of work done: The project given to me was entitled "Sound Based Classification of Underwater Organisms". My work was to classify sounds of different organisms. I was given a data set of 3 categories and had to classify them either anyone of the above three or as none of the above. I used different machine learning and deep learning algorithms for the same.

I implemented the classification algorithm using Support Vector Machines and Artificial Neural Networks. The algorithm would give the probability for each class. I had to then justify which algorithm worked the best for the given data set and also the problems faced.

PS-I experience: My overall PS1 experience was amazing. I learnt a lot of stuff about my organisation. My PS faculty and PS1 industry mentor were very helpful and responded very quick. My work also helped me dig deeper into the field of deep learning.

Learning Outcome: I learnt about convolutional neural networks, artificial neural networks and also about support vector machines. I learned how to make a model which gives probabilities and also learned how these models actually work in the industry.

Name: AAYUSH KABRA .(2019AAPS0222G)

Student Write-up

Short Summary of work done: My work was based on Marine Ambient noise analysis, variations and fluctuation studies. It was analysis of underwater noise collected from Goa and draw conclusions from it. It was also about identifying sources of noises and relating the noise with wind speeds at the location

PS-I experience: My PS experience was very good. My project was more based on research and exploration and less on development. I was given many goals to achieve by my mentor and I studied and applied them one by one in the project.

Learning Outcome: My learning outcome was about signal processing, underwater noise signal specifically. I learnt new tools like power spectrums and windows. After that, I learnt how to relate noise generated by the flow of wind. We also tried to identify the biotic sources of noise collected. It was a great opportunity to explore and learn new tools. I knowledge about MATLAB increased quite well.

Name: JEEVAN REJI .(2019AAPS0297H)

Student Write-up

Short Summary of work done: My project heading was Marine Ambient Noise: Variation and Fluctuation Study. The overall aim of the project was to analyze the marine ambient noise data from a water body and draw meaningful conclusions from it. First, I employed different windowing techniques to understand their effect on the signal to be analyzed. Calculating power spectrums, analyzing noise data with surrounding weather conditions were some of those. The average noise levels computed provided the cumulative noise levels produced by biotic and abiotic activities such as localized fishing boat movements. The computed standard deviation for the data with respect to Beaufort Scale has shown exponential fall in noise levels as the wind speed is increased resulting in production of ambient noise at higher frequencies. Finally, I tried to isolate the biotic noise from

recordings and tried to identify the fish species which were generating the noise mainly. I observed that in the part of the Arabian sea where I obtained the signals, most of the noise was generated by the Crawford fish, a specie that mainly feeds on sea urchins in the sea bed. There is scope for further improvements in the project, such as more detailed classification of biotic and abiotic noise and using advanced techniques for signal processing.

PS-I experience: I had a very good experience mainly because i was lucky to have two very helpful people to guide me whenever I had a difficulty - my PS mentor and my industry mento. Dr. Sandeep Joshi was very inspiring and he ensured that we had a sustained passion to work on our project and hopefully obtain a publication to our name. He was always free to clarify any doubts we had - be it in the evaluation components or be it in seeking help to write up our final report. He was a key reason why we were able to learn such completely new things with confidence. Mr. William was also very helpful and the occasional earful I heard from him was very important because without that, the content I would have written in my report would be less than satisfactory. He was also very flexible and caring - i especially remember how he allowed me to push a deadline to finish a certain objective of my project for later since I was due to get the COVID vaccination that day. NIO also must not be forgotten. Even amidst the pandemic, they were very professional and always enquired about our project's progress - especially Mr. Thavapandian (the HRM) . I very much enjoyed every bit and the only thing that is a sort of negative would be the inability to visit the station. Overall, I really enjoyed the experience and I hope the coming batches also have an experience like I did.

Learning Outcome: They were many learning outcomes and i shall list them one by one:

- 1) I learnt that for PSD - Welch's method is the best technique in comparison to the FFT method since Welch's method can smooth over non-systematic noise and overall signal doesn't get affected - showing how robust a technique it is vis-a-vis FFT method.
- 2) On analyzing the wind speed data and plotting vs atmospheric pressure, I learnt ow atmospheric pressure supports high wind speeds.
- 3)Plotting wind speeds(in terms of Beaufort Scale) vs frequency - the suppression of noise level at higher frequencies takes place.
- 4) Most of the marine ambient noise is produced by schools of fish and that generally the hydrophones that record the sound must be subjected to pressure corrections to obtain an adequate signal for PSD analysis.

On a more personal note and not professional- I learnt that being hardworking and passionate about things you really want to learn takes you to levels of commitment and excellence that you wouldn't imagine you cold achieve.

PS-I station: National Stock Exchange , Mumbai

Student

Name: MITALI DOSHI .(2019A7PS0064G)

Student Write-up

Short Summary of work done: The project assigned to me was client margin pattern recognition. NSE collects data through client margin reporting. The aim of the project was to create a framework for statistical analysis of this data to gain insights and find patterns that would help the organisation. Data analysis and visualisation was done using R. Since it was WFH, I was not given access to the confidential data due to data privacy and security issues. Hence, all the analysis was done on the sample data I was asked to create. Thus, the analysis was very basic.

PS-I experience:

Learning Outcome: I learnt a new tool for data analysis i.e R. I also learnt that in the industry, all situations are not ideal. For example, issues like data privacy and security are also very important and come into play.

PS-I station: Needl.ai- Data Analytics , Bangalore

Student

Name: HARSH MOHAN NAGLE .(2019A3PS0336G)

Student Write-up

Short Summary of work done: DevOps work - wrote deployment scripts and automated workflows.

PS-I experience: Learnt a lot of stuff. It's a startup so had proper work and daily meetings. But learnt a lot of things through this internship.

Learning Outcome: Learnt devops related stuff like docker, ci/cd pipelines, etc. Also wrote codes using python and bash.

Name: AMIT JINDAL .(2019A7PS0807G)

Student Write-up

Short Summary of work done: As a part of their DevOp team, my work was to automate the tasks. I managed all the requirements.txt files (a file for specifying what python packages are required to run the project) of their project using bash scripts.

PS-I experience: It was a great experience for me. I learnt a lot of new skills during my PS-1. Also, I got to work with their team who guided me throughout the PS-1.

Learning Outcome: I learnt how to automate the tasks using bash language. I also learnt some new skills like Docker, Git.

PS-I station: NetApp , Bangalore

Student

Name: Aneesh Rao M R(2019A7PS0141H)

Student Write-up

Short Summary of work done: NetApp provides many services to their customers, most of which are availed through API calls. Developers need to gauge how well the APIs that

they develop would perform in real-time scenarios. The aim of the project was to create an environment to benchmark any API by simulating practical use cases. The work done in this project helped provide a simple way to obtain detailed statistics on API performance and visualize the data. This in turn allowed conclusions to be drawn and improvements to be made. This project aimed to particularly solve API scaling and concurrency issues.

PS-I experience: Interning at NetApp allowed me to experience what it would be like to work in a large organization.

The meetings and interactions with my mentors in the organization gave me new understanding of the level of skill and expertise that is considered to be the industry standard. They helped me get accustomed to the organization easily. I got assistance whenever I asked for it, whatever the problem might have been.

It allowed me to discover new technologies and dip my toes into the vast ocean that is the IT industry.

Learning Outcome: I got to work with many technologies that I had only heard of. I got some experience with Kubernetes and ONTAP (NetApp's OS). I learnt about APIs, how they are written, what types of calls can be made to them etc. I worked with JMeter, an API benchmarking application. Using Java and JavaFX, I created an application for data generation, which gave me experience with UI design too.

Name: ARNAV AGRAWAL .(2019B2A70966P)

Student Write-up

Short Summary of work done: My main work revolved around creating and documenting Rest APIs using Swagger Editor and integrating them with the Backend Golang code. I was required to write a lot of backend Golang logic according to the functioning of the APIs. After this my second project revolved around using Docker and Kubernetes to pull images via SDI, tag and push them back. My second Project was based on DevOps and first project involved SWE knowledge.

PS-I experience: My experience at NetApp was just amazing. I learnt a lot about working in a large organisation. I participated in regular meets, seminars and presentations and got to learn about the workflow of the company. The regular interactions that I had with my mentor gave me wonderful insights into new technologies which are getting popular these days. Overall I would say, my first internship couldn't have been better than this.

Learning Outcome: Initially I started the project by exploring some core concepts of Python to understand a script. Then I started learning Golang for the first time. I believe that Golang is not very popular in today's world but after learning Golang, I realised this is the best language that I have used so far. I created and designed APIs using Swagger Editor in yaml. Then I explored all the major MYSQL commands and used gorm library of Golang to establish connection with database. After this I moved on to another project where I learnt the use of docker and Kubernetes. These tools are just so powerful that they are very much required by almost every company in today's world. I would say that it was a great learning experience overall with introduction to a lot of new and emerging technologies.

PS-I station: NIC- Mobile App development , Hyderabad

Student

Name: SAMARTHKUMAR MANISHKUMAR JAIN(2019A7PS0179H)

Student Write-up

Short Summary of work done: Made a flutter based product verification app which uses the concept of ownership transfer to verify authenticity of a product.

PS-I experience: We were asked to choose from a multitude of projects. We chose this particular one. then we were provided time and resources to develop our skills. Towards the end we were asked to show a working app.

Learning Outcome: Working knowledge of flutter app development and backend development using node.js and express,

PS-I station: NIC- Public Distribution System Operations , Hyderabad

Student

Name: RADHIKA SIGTIA .(2019A7PS0094H)

Student Write-up

Short Summary of work done: We did a project on object detection in AI

PS-I experience: It was good and the project was simple to complete

Learning Outcome: Implementation of Object detection

Name: RITIK UPMANYU .(2019B3A70517P)

Student Write-up

Short Summary of work done: This project is an attempt at developing an object detection and counting system using modern computer vision technology. This project aims at reducing the human effort involved during tracking the stock present in the warehouse and detect if any malpractice is happening. A better technique to achieve this goal is using image processing algorithms and methods on warehouse cameras feed. This aims to build a sack detection classifier based on object detection algorithms and frameworks for image processing including object detection. Manual counting of sacks has been carried out but it takes a lot of time and requires more labor. TensorFlow Object Detection API [2], an open-source framework for object detection related tasks, is used for training and testing a RCNN [6] (Region based Convolutional Neural Network) model. This system includes preprocessing of images, extraction of features, tracking of objects and counting using machine-learning algorithms.

PS-I experience: It was a beneficial experience, Our PS1 mentor helped at any point we needed, our industry mentor also provided us all the necessary guidance, attendance

was done on LMS, we had to upload weekly diary, reports, presentations on LMS, and it all went very smoothly.

Learning Outcome: We learnt a lot of things during this project, on the technical side, we learnt about computer vision and how it can be used to solve real life problems, we learnt about tensorflow object detection API, RCNN, coming up with new unconventional approaches to solve problems, In terms of soft skills, we learnt time management, being a team player, and how to function in a work environment.

Name: MADUGULA LIKITH SAI.(2019B5A70980H)

Student Write-up

Short Summary of work done: This project is an attempt at developing an object detection and counting system using modern computer vision technology. This project aims at reducing the human effort involved during tracking the stock present in the warehouse and detect if any malpractice is happening. A better technique to achieve this goal is using image processing algorithms and methods on warehouse cameras feed. This aims to build a sack detection classifier based on object detection algorithms and frameworks for image processing including object detection. Manual counting of sacks has been carried out but it takes a lot of time and requires more labor. TensorFlow Object Detection API [2], an open-source framework for object detection related tasks, is used for training and testing a RCNN [6] (Region based Convolutional Neural Network) model. This system includes preprocessing of images, extraction of features, tracking of objects and counting using machine-learning algorithms.

PS-I experience: overall I can say that it was good as we were able to built this machine learning program on our own.

Learning Outcome: I have learned the python language, I have also learned how to use the TensorFlow open source framework which is used for training and testing the Region base Convolutional Neural Network (RCNN) model, and many other things which are used in our project.

PS-I station: NIC-Web development , Hyderabad

Student

Name: ROHIT MUNDRA .(2019A7PS0115P)

Student Write-up

Short Summary of work done: We developed a web application to track distribution and sale of stamp papers in the state of Telengana. It also had a feature which allowed the Stamp Vendors to register themselves on the platform.

PS-I experience: It was good. Industry mentor was helpful.

Learning Outcome: My work was mainly focused on backend development. I learnt about the Spring Framework of Java and how to develop basic Spring Boot Web Application. I also gained experience on how to give presentations, creat project reports and collaborative with team members to work on an project.

PS-I station: North Eastern Space - Compiler Design/Geo Processing/Machine Learning , Umiam

Student

Name: SAARTHAK MEHROTRA .(2019A7PS0109P)

Student Write-up

Short Summary of work done: My team worked on developing a cloud native geoprocessing framework using open source tools. The project had two parts -

developing a Django server for the application and training machine learning models that perform certain operations on the geological data. I worked on the team that dealt with the Django server. We used a lot of tools to display the data, convert the data into numpy arrays to perform operations on them, convert them back to PNG images to display and also worked on adding certain functionalities to our application as well in the form of a Python package.

PS-I experience: The project was a great learning experience. Some things I got to learn include Django, developing a Python package, iPyLeaflet, WMS configuration for displaying maps on webpages and so on. Also got to learn more broadly about how satellite data - how to obtain it, perform operations on it, evaluate results.

Learning Outcome: I learnt Django, how to develop a Python package, other open source technologies that deal with satellite data, how to build software applications keeping the user in mind.

Name: SUDHANSHU MISHRA .(2019B1A70750P)

Student Write-up

Short Summary of work done: We developed a custom python package which interacts with the Django server and calls AI models developed by us to do some functionality. We developed an AI model based out of UNET architecture which will predict a built-up in some area i.e., to predict whether there is some construction in that area. Some of the key technologies used are: Django, python, Machine Learning and QGIS.

PS-I experience: In the beginning of the project, it was hard to understand the project. But as time passed and with my consistent efforts, I was able to understand the project. With the help of my mentor and my team mates, I was able to contribute to the project.

Learning Outcome: Technical proficiency gained: Django, Python, Machine Learning and QGIS software. Interpersonal Skills: Enhancement in presentation skills, speaking ability and increase in professional ethics.

Name: TANISH MITTAL.(2019B5A70658P)

Student Write-up

Short Summary of work done: We detected Builtup areas from multispectral satellite image. We first prepared the dataset and then implemented Attention UNet Architecture. After this we integrated the ML model, to a python package which could perform complex computations on satellite images. It uses django in backend.

PS-I experience: it was quite good. I learnt a lot about working on satellite images and GIS software. It also helped me in learning how ML work should be done in a team. It also improved my Pytorch skills.

Learning Outcome: My main learning was handling satellite data. As I didn't had any idea abt it earlier and after PS i know almost the complex computations which can be done on satellite images. PS helped me in furnishing my DL skills.

**PS-I station: North Eastern Space - Deep Learning/Machine Learning ,
Umiam**

Student

Name: GANDHI SHUBHAM RAJNISH.(2019A7PS0086G)

Student Write-up

Short Summary of work done: We explored several options for inference frameworks to be used for 3D Semantic Segmentation and Image Classification of image data captured by drones and satellites. We shortlisted two of them: NVIDIA's Triton Inference Server and MLFlow. I worked on exploring Triton and after comparing observations, we came up with a unanimous decision to go ahead with Triton because MLFlow did not suit our needs. The only downside to Triton was that the required development environment

was difficult to set up. We explored Triton's endpoints and performed inference with it using pre-trained models. We plan on taking the project to the next stage with an end-to-end pipeline deployed, possibly using AWS.

PS-I experience: My faculty mentor was quite understanding in nature and provided guidance whenever needed. My industry mentor made it possible for us to learn new skills and suggested workarounds to cope up with the shortcomings of working in an online mode. Overall it was a fun and engaging experience.

Learning Outcome: Although I was a bit familiar with the theoretical aspect of Machine Learning / Deep Learning, I realized the importance of inference servers such as Triton, that make deployment and management easier. I also learnt how to use Docker to set up software efficiently, making it easier for other developers to join the work. Moreover, I realized how important teamwork is.

Name: YASH BANSAL .(2019A7PS0484P)

Student Write-up

Short Summary of work done: Deployment of Deep Learning models using Triton Inference Server and development of frontend for end-to-end deployment using reactJS

PS-I experience: At first disappointing because most of us expected to get to work with Deep Learning models as done by our seniors, but by the end we managed to get good results and it was a good experience

Learning Outcome: Learned to deploy models on the Triton Inference Server

Name: V S ABHINAV RAHUL GANDRAKOTA .(2019A8PS1354H)

Student Write-up

Short Summary of work done: The aim was to provide end-to-end deployment of Deep Learning models, in particular Semantic Segmentation. The process started with scouting different frameworks. Taking various factors into account as well as reviews, this was followed by the exploration of MLFlow and the NVIDIA Triton Inference Server.

While Triton was difficult to set up, and interact with, MLFlow fell short of our needs, requiring various other platforms to support it for functionality. The use of Triton involved setting up repositories, model files, and configuration files that varied with the model backend and structure.

We would incorporate the implementation of the aforementioned endpoints in our backend during deployment, along with error handling and request optimization. This would also include displaying server statistics in the front-end.

For hosting an end-to-end model, we built a frontend using ReactJS and sent API requests to the specific endpoints on the Triton Inference server via a proxy server built with NodeJS.

Due to the aforementioned problems, we could not wholly finish our project by the end of Practice School-1 (23rd July). However, we are continuing this project and aim to complete a full working end-to-end application as soon as possible.

PS-I experience: I learnt a lot of new terms and concepts throughout the duration of the PS1. Working with other team members helped a lot as we could work on troubleshooting problems faced together and also learn new concepts from each other. It also taught us how to work as a team Working with the team was a pleasure.

Learning Outcome: I learnt a lot of new concepts such as inferencing and hosting an end-to-end model. Also had to learn how to work with various tools such as Anaconda, Jupyter Notebook, Gitbash, NodeJS and Postman.

PS-I station: North Eastern Space - Software Development , Umiam

Student

Name: [DIVIT PARAS SHETH .\(2019A3PS0353H\)](#)

Student Write-up

Short Summary of work done: Development of a vegetation monitoring system for the North-East using temporal satellite imagery. We used Google Earth Engine to calculate NDVI Bands and apply cloud masking techniques to satellite imagery. We also integrated all these computations into a client-side web app developed using Google App Engine.

PS-I experience

Learning Outcome: Learning involve interpretation of geospatial imagery and working on cloud based platform Google Earth Engine. Communication skills and softs skills development is also a part of the process.

Name: RICKY PATEL .(2019A7PS0051G)

Student Write-up

Short Summary of work done: The purpose of this project is to provide the organization with tools for its various deep learning models to aid in meaningful visualization and greater appreciation. The first tool enables the user to rectify inaccuracies in the rendered data as well as save multiple modified versions of the data separately. The second tool plots the water level and draws the base extent of different water bodies from the satellite images collected at various times.

PS-I experience: PS-1 gave us the opportunity for first time to work in a real world organization. I learnt couple of new technologies in web development and machine learning. I also got to improve my communication and presentation skills because of the group discussion and seminars conducted. PS-1 project was also really good because it had a impact on the working of our organization and they will be using it for their deep learning models. The industry mentor as well as the faculty mentor both were very supportive and guided us throughout the project. The seminars conducted by PS division also helped us in enriching our knowledge about various domains and opportunities available. PS-1 overall was a very enriching and good learning experience.

Learning Outcome: I learnt about integrating interactive maps in web application using leaflet. I also learnt about fetching remotely sensed satellite data and converting it different formats to make it compatible with web applications and browser. I also learnt

about raster and vector data and various formats to view satellite data. Preparation of professional presentation and explaining my project virtually to my other batchmates during the seminar. Got to learn a lot about python language because this is the first time, I am using python for development purposes. Learnt about various libraries related to processing satellite data available in python and how to import and use them in our project

Name: PRATHAM NEERAJ GUPTA .(2019A7PS0051P)

Student Write-up

Short Summary of work done: We built web based tools that made the applications of satellite imagery easily available to the public such as tracking the water level of rivers and lakes.

PS-I experience: It wasn't too hectic, mentor was very helpful. How much work you will do depends on you, the faster you complete your work, more is always in store and can always improve your project.

Learning Outcome: I learnt how satellite imagery is stored and processed and what could be done to make it useful for everyone.

Name: HRIDAY GAJULAPALLI .(2019A7PS1212H)

Student Write-up

Short Summary of work done: My project involved the development of vision tools for various deep learning models. I was tasked with creating web applications to visualize and manipulate geographical data.

PS-I experience: My mentor was really helpful and encouraging. I had a great time learning a couple of new things.

Learning Outcome: I learnt to create a REST API in Python using Django and its GIS extension - geoDjango. I also worked with ReactJS and frontend libraries such as Leaflet to deal with data in various geo-formats.

PS-I station: NPBridge Solutions Private Limited , Bangalore

Student

Name: ANUPAM KUMAR .(2019A3PS0348G)

Student Write-up

Short Summary of work done: Our project was to create an online repository that maintains turnkey solutions for various activities related to NGO management. The repository should be able to provision the resources in a self-managed manner over a public cloud, thus exhibiting a cloud service and should support deployment over multiple heterogeneous cloud platforms such as AWS, GCP and Azure. The management operations, such as software updates should be automated, thus avoiding manual interventions.

PS-I experience: It was a pleasant experience working with NPBridge Solutions Pvt. Ltd. In addition to software skills I developed some soft skills such as teamwork and effective communication. Every topic to be learnt was put out gradually building upon the known ones and was a very smooth experience. Would recommend.

Learning Outcome: I knew elementary things about Docker beforehand, but in the internship I got to learn about Kubernetes, Ansible, Terraform and more of Docker. I also came to know about Hugo , Ascinema and GitHub Actions, which are seriously amazing pieces of tech. Although we could not create the project by 23rd of July, all in all it was a good internship.

Name: SATWIK VATS .(2019A8PS0194P)

Student Write-up

Short Summary of work done: Our work was mostly based around Devops and Cloud Computing, which was a completely new domain for me. We explored and learned about tools like CircleCI, Docker, Terraform, Ansible and Kubernetes. Also, we got a lot of hands-on practice by working on AWS and our cloud fundamentals became crystal clear. The project aimed at creating an online repository that maintains turnkey solutions for various activities related to NGO management. The repository should be able to provision the solutions in a self-managed manner over a public cloud, thus exhibiting a cloud service.

PS-I experience: It was an amazing experience. We were put to work right from our first day. The mentor was quite supportive and there for us at each and every turn, just a text away. He encouraged slack discussions and team collaboration amongst us. What makes this station stand apart is that more than getting the job done, our mentor was concerned about us actually learning things. I would highly encourage this station to my juniors and it was a really good learning experience.

Learning Outcome: Being completely new to professional world, some of the intangible skills I acquired were punctuality, teamwork, leadership, professional ethics. I also developed a never-give-up attitude in the due process. Since our project was mainly based around Devops and Cloud Computing, a totally new arena for me, I got acquainted with this side of the IT Industry through this project.

Name: HARSH GARG .(2019B1A31118G)

Student Write-up

Short Summary of work done : Had an amazing experience in the PS-I. Learnt all burning and widely used technologies.

DOCKER,KUBERNETES,TERRAFORM,ANSIBLE,AMAZON WEB SERVICES,HUGO,CIRCLE CI. The project aims to create an online repository that maintains turnkey solutions for various activities related to the education sector.The repository should be able to provision the solutions in a self-managed manner over a public cloud, thus exhibiting a cloud service. The repository should support deployment over multiple heterogeneous cloud platforms such as AWS and GCP. The scope of the project would be to set up the core infrastructure of the repository and demonstrate the feasibility using a few open-source applications.

PS-I experience: There are many open-source software applications (generic and domain-specific) that can be very useful to digitize learning and management services of educational institutes. This project aimed to create an online repository that maintains turnkeysolutions for various activities related to the education sector. The repository was able to provision the solutions in a self-managed manner over a public cloud, thus exhibiting a cloud service. The repository supported deployment over multiple heterogeneous cloud platforms such as AWS and GCP. The management operations, such as software updates, were automated, thus avoiding manual interventions. The scope of the project was to set up the core infrastructure of the repository and demonstrate the feasibility using a few open-source applications.Further, functionality to dynamically manage the application's quality attributes such as performance and availability shall be implemented. A sample set for the selection of the open-source software is:

1. SunBird
2. Moodle
3. Rocket Chat

Had an amazing experience in the PS-I. Great IT company and mentors.Highly recommend to consider this company in PS station list.

Learning Outcome: Made my first Github page using markdown.

- Made my first site on Hugo and deployed on Github page.
<https://harsh-garg306.github.io/>
- Used ansible to deploy a docker container with nginx image.
- Configuring the ansible server.
- Automated AWS Cloud Infrastructure using Terraform.
- Launched VM and VPC on AWS using terraform.
- Set up the Kubernetes Cluster

Name: UDAY SEHGAL .(2019B2AA1089G)

Student Write-up

Short Summary of work done: Worked majorly on DevOps tools & software like Ansible, Docker, Kubernetes, AWS Cloud. Worked on creating an online repository for creating immediate solutions pertaining to the education sector. Learnt about CI/CD tools and automating deployment. Had to update them with our work twice or thrice a week. Started with git & github and also created our own static website which served as updates and a sort of a blog for our work. Deployed our VMs on cloud, created clusters on Kubernetes and worked extensively with Amazon Web Services.

PS-I experience: Everything was good. Mentors were really good and taught us patiently. Mentors had lots of industry experience and were happy to share their knowledge. Went out of their way to help us understand things. Spent a lot of time with us to make us comfortable and gave us enough advice to help us work in a smooth way.

Learning Outcome: Learnt a lot of technologies like Git, Hugo, asciinema, Kube, EKS, Ansible, Docker. Integrated these technologies and worked with them. Also learnt about the judicious usage of cloud services and the costs involved. Understood a lot of development tools and technologies and their usages in the industry.

Name: PRANJAL PANWAR .(2019B5A30701P)

Student Write-up

Short Summary of work done: Creating a remote repository that contains immediate, ready to use solutions for various workloads pertaining to the social or the education sector.

PS-I experience: It was a very good experience and the instructor was very experienced in his work.

Learning Outcome: I learnt about cloud for turnkey solutions using open-source software for NGO Management.

PS-I station: Persistent Systems Ltd.,Verna - Machine Learning , Goa

Student

Name: Harsh Mahajan(2019A7PS0036P)

Student Write-up

Short Summary of work done: We have achieved a thorough understanding of the working behind various knowledge graph libraries like LibKGE, deeper understanding of knowledge graph embeddings, and also a thorough analysis of the HetioNet knowledge graph which helped us to create a biomedical question answering system.

We have successfully used LibKGE to train embeddings using complEx and RESCAL model, which we have later used on our custom dataset which was created using neo4j. Thereafter, the EmbedKGQA model was adopted using these embeddings, which was deployed as a real-time web application using an API built using FastAPI.

PS-I experience: PS-I exposed me to how cutting edge AI research is carried out in the industry.

Learning Outcome: Learnt the basics of Knowledge Graphs, Knowledge Graph Question Answering, PyTorch, spaCy, FastAPI

Name: HARSHA VARDHANA VISHAK .(2019A7PS0079G)

Student Write-up

Short Summary of work done: My project was titled - "Study of financial standards and their potential for interoperability with distributed ledger technology". The aim was to study

different financial standards used by banks for transactions and explore how blockchain services can be interlinked to this.

In this process I studied different ISO message standards used by banks, noting the advantages and disadvantages of each. After this I studied the UPI framework as an example of many individual systems being linked together to form a more robust network. I then studied the architectures of four major blockchain providers - Ripple, Bitcoin, Ethereum and Corda, to see where interoperability could be achieved. I also studied individual Corda applications which had been built for this purpose. This required studying the documentation and going through their training manuals to understand how to build and run Cordapps.

I then looked at previous cases where DLT networks have been linked to legacy systems and used these to predict what future cases might be.

PS-I experience: The Company mentors were very helpful. They were always responsive and quick to answer any doubts I had. This was a field I had never worked in previously, but over the course of the internship was able to learn a lot about it.

Learning Outcome: I learnt what the main financial standards are and what purpose they each serve. I also learnt how to build and understand applications made in Corda along with the basic services provided by the other major DLT networks.

Name: SHOBHIT JAIN .(2019B3A70385P)

Student Write-up

Short Summary of work done: My major project was on Drift Detection in Machine Learning models. I started off with searching few datasets suited for my project and then created synthetic datasets to create data and concept drift in the model. I used open source libraries evidently.ai and alibi-detect to generate reports for drift detection. I created a complete model for Loan Prediction dataset with functions such as checking data drift in new incoming data. Finally I gave a presentation of my whole work to the project head and other team members of Persistent. My project head was impressed by my work and observations and asked me to write a blog out of it so I have even written a blog which they would be publishing later. After finishing this project since few days were left so I started working a bit on IP2Vec which is similar to Word2Vec. In IP2Vec we have to make vector embeddings for IP addresses to learn similarities between them. Since,

few days were only left I could not finish it but I learnt basics of NLP, how Word2Vec works and all that.

PS-I experience: My experience with Persistent was really nice. I learnt a couple of new things specially in the first two weeks. Along with technical skills I gained soft skills. The mentors were helpful. There was also Tech talk once every week by mentors. Overall it was great experience. Everyone at Persistent were professional in work and kind enough to help anytime.

Learning Outcome: I learnt how ML models are deployed in real life and that writing code is a tiny part of this overall process. During the initial days I learnt about a couple of new things like - API, Docker, Neural Networks etc. Giving presentation many times also helped in improving my soft skills. While working on drift detection project I understood the problem of data and concept drift in detail. And while working on IP2Vec I learnt basics of NLP and Word2Vec.

Name: ABHINAV BANSAL .(2019B3A71293H)

Student Write-up

Short Summary of work done: I created 3 Web apps using Blockchain and KERI

1. Issuer : It issues the credentials from a json file.
2. Holder : It request credentials from the issuer, encrypt it using a password.
3. Verifier : It verifies the credentials, decrypt it using the same password.

PS-I experience: PS-I experience was really amazing. The company mentor and college professor helped a lot to me in learning the concepts.

Learning Outcome: 1) Creating Webservers using Flask module in python.

- 2) Use KERI to sign the credentials and generate identifier.
- 3) Encryption of the data.
- 4) Decryption of the data.
- 5) Learnt some soft skills like, how to interact with company mentor.

Name: RHYTHM SETHI.(2019B3A71306H)

Student Write-up

Short Summary of work done: I explored ledger less technology and saw how it could help in the area of Self-sovereign identity.

For this purpose, I first explored KERI and built a small proof of concept around it. The proof of concept includes the following:

- 1.A simple Holder webapp that will retain verifiable credentials.
- 2.A simple Issuer webapp that will issue verifiable credentials.
- 3.A simple Verifier webapp that will verify the verifiable credentials.

I also did some research on Multi-tenancy.

PS-I experience: It was a good learning experience. Working in an industry with a mentor of the company helped me improve my technical as well as verbal skills. There were various talks organized by the company and those gave me a basic idea of various domains concerning ML and Blockchain.

Learning Outcome: I learnt about Self Sovereign Identity. I worked on Multi-Tenancy as well as KERI.

Name: BHARAT AGARWAL(2019B4A70725P)

Student Write-up

Short Summary of work done: My work started firstly with understanding and grasping the requisites for the allocated tasks. This was fulfilled by knowing how to create python environments, and how to use Anaconda. This was followed by how to use Google COLAB and use it's GPU runtime to train models. Also, setting up and SSH connection to run multiple scripts from different terminals was also done. Then, I explored and understood the Federated Learning Concept, why and how it is necessary and how it makes the training secure using Differential Privacy and Secure Aggregation. Then, I explored the source codes of Flower and IBMFL Frameworks and then configured Flower

to enable secure gRPC connection, for which I had to know gRPC framework, Protocol Buffers, SSL/TLS protocols, Certificate Authorities, OpenSSL. After this I referred to various ARXIV papers for the different aggregating strategies, especially Federated Average and Fed+. The Flower Framework didn't have the Fed+ strategy implemented and so I brought this as a strategy seeking insights from IBMFL. Then, we tested it's performance on various datasets - MNIST, CIFAR-10, EMNIST, MedNIST, KVASIR. This also required an understanding of numpy, pandas, sklearn, Keras Library and Convolutional Neural Networks which were a part of the pre-requisites / requisites. Moreover, running multiple clients in COLAB required SSH connection access which was also dealt with.

PS-I experience: My PS-1 experience was quite good. The company mentors allotted were prompt and much helpful in guiding us through and there was great communication between them and us. We had frequent meets where we solved any bugs faced by us in our code and we also discussed the further plans. They also provided a list of requisites to get us started in a proper structured way.

Learning Outcome: So the learning outcome list goes like this:

1. Better grasp of Python.
2. Working with python environments and Anaconda.
3. Working with Google Colab.
4. Convolutional Neural Networks.
5. Keras Library.
6. Federated Learning.
7. Flower Framework.
8. IBMFL Framework.
9. gRPC framework.
10. Protocol Buffers.
11. Secure and Insecure Connection.
12. SSL/TLS protocols.
13. Certificate Authorities, Digital Certificates, Encryption, Public and Private Keys.
14. Secure Connection using OpenSSL library.
15. Setting up SSH connection.
16. Fusion Algorithms in Federated Learning.
17. Worked with MNIST, CIFAR-10, EMNIST, MedNIST, KVASIR datasets.
18. Implemented Fed+ strategy in Flower.

PS-I station: Petasense Technologies Pvt. Ltd. , Bangalore

Student

Name: VIVEK TYAGI.(2019A8PS0627G)

Student Write-up

Short Summary of work done: We had to develop a Python script which contained a menu based user interface. The script should login the user to the company's API, take multiple inputs and check for input validity and generate data to send to cloud using API. The inputs are processed in functions to generate a list of points representing waveform. The script will be used by company's software developers.

PS-I experience: It's really good to have an experience as such received during the course of entire PS-1 at an early stage right after the second year since we get exposure to the real world and get involved more with the practical experiences rather than the theoretical stuff which we have been learning right from the beginning till now. A good experience for software development aspirants. Our company mentor guided us and was very helpful and understanding.

Learning Outcome: Enhanced my coding skills in Python and got a better understanding of APIs. Was able to learn about various Python libraries and also learned using Git. Also learnt to find out an optimal solution to given problem. Some other benefits are improving soft skills and got the experience to work at a company.

Name: UNNAT JAIN.(2019B4A70193G)

Student Write-up

Short Summary of work done: My project aimed at developing an application based on Python which displays a menu that takes different inputs, processes data internally and sends it to the Petasense cloud using API. This data is then used on ML algorithms in the cloud for testing how it would react in different situations. The execution of the Application displays a User-Interactive menu, with options like login, environment selection, and multiple inputs needed for data generation.

PS-I experience: The work was challenging and engaging enough to keep my interest throughout the project. My mentor was very helpful and helped me in developing the approach for the work to be done in each week. The overall PS experience was quite nice and the Work From Home experience didn't seem to be a barrier in the learning experience

Learning Outcome: I was able to implement what I have learnt and also learnt how to work in a group as a team. PS-1 also helped me in improving my soft skills like writing reports. I also learnt that even a single mistake or misunderstanding could lead to a great time loss so effective communication is very important when working with large scale companies.

PS-I station: Platifi Solutions - Full Stack Development , Bangalore

Student

Name: AGRAWAL MITANSHU HARISHBHAI(2019A7PS0149G)

Student Write-up

Short Summary of work done: We have been allotted total of three Assignments. First two Assignments are for revising and learning all the concepts related to MERN stack web development. In the third week we started Assignment 3 which is our actual project. We built a Covid portal for the comprehensive analysis of raw data.

PS-I experience: It is a unique experience working from home with industry experts and peers. I understood that team work and strong communication skills are a must to work effectively in the workplace.

Learning Outcome: I understood that as a team member we should work along with the team and the opinion of every team member, mentor and faculty member is important before taking any decision regarding the project. I also learned Basics of Backend Development using MERN stack.

Name: PATEL JAY RAKESHKUMAR .(2019A7PS0156H)

Student Write-up

Short Summary of work done: I learned MERN stack for web development. We were developing a covid portal for comprehensive analysis of raw data. We showed the statistics for covid -19 country-wise, state-wise, district-wise and hospital-wise. Data was represented in the form of charts and cards. Public users were able to view the statistics and admin users had the access to update the data as well. Admin can issue guidelines through the portal for public users.

PS-I experience: Experience of PS-1 was really nice. The mentors at PLATiFi Solutions were helpful and guided us through the whole project. They took regular updates from the students and gave his valuable feedback on the work done by us. Faculty mentor from BITS also helped and guided us. He took care of everything so that we have a smooth on boarding at the station and we didn't face any problems.

Learning Outcome: The first and foremost thing that I learned from PS-1 was teamwork. I had a good industry experience of how to work in a team collaborating with others to complete the tasks in a given deadline. Besides this, I learned MERN stack and now I have a good grip on the backend development in MERN stack.

Name: SADASHAY KANUNGO .(2019B3A70248G)

Student Write-up

Short Summary of work done: Two teams were formed for Frontend and Backend roles respectively. During weeks 1-3, individual Learning assignments were completed by all interns. These assignments covered specific aspects in MERN stack technologies like Simple React App, Functional and Class components, Redux, Simple Express server connected to a MongoDB database, Uploading files to a Server and Populate concept in MongoDB. The Final Project assigned to us in Week 4 was the development of a Covid Portal using MERN stack. During weeks 4-7, both teams worked together on the project,

and built a fullstack web app capable displaying static Covid data and various visualizations to public users, and allowing admin users to edit the data.

PS-I experience: I did get a lot of practice in working with MERN stack. Working with our team was also a new and pleasant experience. I would gladly recommend this station to an absolute beginner in Web Development.

Learning Outcome: Technical : MERN stack (MongoDB, ExpressJS, React and NodeJS), ChartJS, Material UI, Axios, BcryptJS, JSON Web Tokens, Mongoose, Handlebars, Git and Github.
Non Technical : Work distribution, Communication and Collaboration within the team, Making reports, presentations and documentations.

Name: NISHANT MAHESHWARI .(2019B3A70381P)

Student Write-up

Short Summary of work done: The project given by platifi is to develop the front end of a covid portal. The website will give all the necessary statistics like current cases, recovered cases, total deaths. It also displays the availability of beds in the district of Bangalore in different hospitals.

In this project I used:-

- HTML
- CSS
- BOOTSTRAP
- JAVASCRIPT
- REACTJS

The learning approach started with acquiring the necessary languages, which I did in the first three weeks of my Practice School by completing two assignments assigned by industry mentors. The first assignment was to develop a user list using reactjs and the second one was an individual task given separately to all the members of the group. The main project started thereafter. First me and my team members planned the structure of the website. We decided on the number of different components of the website and how we should present them to the user. After making a proper concept map we moved on to writing the code. After making all the essential functionalities, we started debugging and testing the website.

PS-I experience: PS-1 provided me with the opportunity to gain some industry experience, add a project to my resume and enhance my skills as a web developer.

Learning Outcome: Front end web development

Name: AKSHAT SRIVASTAVA(2019B3A70563G)

Student Write-up

Short Summary of work done: We had to create a frontend of the Covid Portal using ReactJS and Material-UI , where the Api was provided from backend.

PS-I experience: It was a very nice experience , where i was guided on learning the frontend technologies.

Learning Outcome: I have gained confidence in creating frontend website and also integrate it with backend api.

PS-I station: Preludesys- Data Analytics , Chennai

Student

Name: VADYALA SHASHIVARDHAN REDDY(2019A7PS0003H)

Student Write-up

Short Summary of work done: We were first asked to learn some pre-requisites for Data Analytics. These included basic of Python programming language, Structured Query

Language for Relational Databases, Statistical Mathematics for Data Analytics. Also we learnt about Data Analytics, Data Science and Data Mining. Then we learnt what is Machine Learning. We presented our learning over a presentation meet.

Post-midsem we were divided into smaller groups. My team had to code a Machine Learning model to predict house prices based on various features of the house. Over the next two weeks, I learnt using the Anaconda IDE's Jupyter Notebooks. I learnt using various python libraries like NumPy, Pandas, sklearn, matplotlib and seaborn from Kaggle and other sources. The following week we presented our projects over a meet with the company mentors. The same week we were given another Machine Learning problem with the same teams. My team had to make a Machine Learning model to detect Thyroid disease from the user's input of his test results. We used the same tools and libraries and then presented our projects to our company mentors. Then we were given a task to explore about data visualization. We learnt and prepared a document on our learnings and submitted through mail to our mentors.

We also attended meets with company experts to learn about Inside Sales, Knowledge Process Outsourcing etc.

PS-I experience: My experience at PreludeSys was very productive. They organized various talks with domain experts in the IT field. We were divided into teams and given projects and regularly had progress meets so that we can learn from other teams' projects as well. I received proper guidance whenever I had any queries. They were quick to respond and explained things clearly. My teammates were also really co-operative and responsible. Overall it was a very satisfying experience.

Learning Outcome: I became acquainted with the Python language for Machine Learning by using various libraries. I also learnt using the Anaconda IDE's Jupyter Notebooks. I developed my soft skills by engaging in group discussions and presentations.

Name: KOMMINENI SAI VENKATA LAXMI DRUTHI(2019A7PS0023H)

Student Write-up

Short Summary of work done: As our project dealt with Data Analytics, we were told to explore the basics about it and the related fields such as Data Science, Data Mining, Big Data etc. And we were told to learn some pre-requisites for Data Analytics which include basics of Python, SQL for Relational Databases, Statistics for Data Analytics, and various

algorithms in Machine Learning. We were evaluated by learning outcomes through presentations.

Half way through PS1, we had to code a Machine Learning model to recommend movies to user based on the ratings, genres etc. For the next two weeks, we worked on building it, got hands-on experience on Jupyter Notebooks, an IDE for Python and learnt about various python libraries like NumPy, Pandas, sklearn, matplotlib and seaborn from Kaggle and other sources. The company mentors gave us inputs too. We were given to build a Machine Learning model for fraud detection of credit card transactions. We used the same tools and libraries and then presented our projects to our company mentors. Then we were given a task to explore about data visualization. We learnt and prepared a document on our learnings and submitted through mail to our mentors.

We also attended meets with company experts to learn about Inside Sales, Knowledge Process Outsourcing etc.

PS-I experience: PreludeSys mentors organized various talks with company employees who are experts in their own fields such as Inside Sales, Solutions Delivery, Knowledge Process Outsourcing, Marketing, Business Overview etc. which gave very good experience on how an organization works and even though how diversified the fields are, how they coordinate and work together. We were given more of team works, which helped us to learn from others. Mentors were quick to respond to the query emails and gave inputs during discussions.

Learning Outcome: I developed my soft skills through interactions with mentors and other team members during learning. I got a good experience on how to deal with big data both in terms of visualization and analyzation. I got to learn how python is used for solving machine learning problems and how to write a neat code.

Name: [B SRIHARSH .\(2019A7PS0165H\)](#)

Student Write-up

Short Summary of work done: During the first month went through the training part, wherein they told us what to learn and we did research on our own to learn the basics of Data Analytics. During the later part of June we were given our first project, it was regarding a Movie Recommendation System. The second project was on Credit Card Fraud Detection system. Lastly they explained regarding how Data Visualization part of Data Analytics works.

PS-I experience: All in All it was a valuable learning experience. We were completely new to this field in the beginning but as time passes we learned how different algorithms were applied.

Learning Outcome: Skills gained would include data science in Python, useful libraries Data visualization using matplotlib.

Name: SAGI SAI RAMA AKASH VARMA .(2019AAPS0193H)

Student Write-up

Short Summary of work done: We were given two use-cases Fake News Classification and Sentiment Analysis. So they both use Machine Learning algorithms to classify the data. We had to pre-process the data then analyse it using data visualisation methods and then used the algorithms and found out the accuracy of various classification problems.

PS-I experience: It was good and fun experience. It helped me learn a lot not only about the subject but also my social skills.

Learning Outcome: I learnt many new things like how to code in Python, various Machine learning techniques and also how Data Cleaning and Data visualisation works in projects.

Name: SAGI SAI RAMA AKASH VARMA .(2019AAPS0193H)

Student Write-up

Short Summary of work done: We were given two use cases to do one is fake news classification and other is sentiment analysis using machine learning and data

visualisation concepts. We were to develop a machine learning algorithm which can classify fake and real news in first case and which can analyse the sentiment of a tweet in another case.

PS-I experience: It was pretty good experience since I had no prior knowledge in Machine learning and Data Analytics I learned a lot also the mentors were so helpful and helped with any problems I had.

Learning Outcome: I learned about Machine learning and Data Analytics about which I had no experience before.

Name: BANDE CHINMAY PARAG .(2019AAPS0202G)

Student Write-up

Short Summary of work done: We started by making presentations on introduction to data analytics and the difference between data analytics and data science. We then made 2 projects based on data analytics. Every week we had a seminar with different teams like Sales team, marketing team.

PS-I experience: The experience was good. We interacted with a lot of senior people of the company and learned how they manage their teams and what exactly they do. Our industry mentors also shared many important resources with us and guided us whenever we got stuck.

Learning Outcome: I learned the basics of data analytics. I also learned how to train different models in python for supervised learning.

Name: ISHAAN SINGH .(2019B1AA1093G)

Student Write-up

Short Summary of work done: Draw conclusions from certain data sheets provided by the human resources department of the organisation by using power BI.

PS-I experience: Its was a good learning experience. We had regular learning sessions hosted by different departments of the company which helped us in learning how the organisation operates.

Learning Outcome: We learnt to use power BI which seems to be in great demand in the analytics field.

Name: ISHAAN SINGH .(2019B1AA1093G)

Student Write-up

Short Summary of work done: We were provided data sheets by the human resources department of the organisation regarding various details pertaining to the employees and we had to come to conclusions to help the company take better decisions.

PS-I experience: It was a good learning experience as the company hosted multiple sessions regarding how the various departments of the company work.

Learning Outcome: We learnt about power BI which seems to be in great demand nowadays amongst companies looking for data analysts.

Name: Tarun Chordia(2019B3A70611G)

Student Write-up

Short Summary of work done: We did an analysis of the HR data sheets. We extracted the usefull data from the sheets and attempted to find trends in them. For example, we tried to find a trend between the working hours of the employees and their leaves.

PS-I experience: The experience at PreludeSys was good. The mentors are very polite and helpful. The faculty who mentored us was also were helpful.

Learning Outcome: I got to see some aspects of the corporate world, developed presentation skill, improved professional communication. As for the actual project, I expected more to be learnt. We just used MS Excel and Power BI.

Name: GAURI MISHRA .(2019B4AA0172G)

Student Write-up

Short Summary of work done: We receive a lot of data from the HR department, I cleaned and organized the data and analyzed it by using the tools MS Excel and Power BI. Created interactive dashboards consisting of a bunch of visuals like KPI, sliders, charts, cards, etc.

PS-I experience: Our PS station organized seminars talking about various domains like marketing, inside sales, etc., they were very insightful. Mentors replied quickly and were very friendly. Our faculty mentor encouraged us throughout the course.

Learning Outcome: Learned data cleaning using various functions; how to create dynamic reports, and how data can bring impact on a company using business intelligence skills and tools.

PS-I station: PreludeSys- IT helpdesk analysis , Chennai

Student

Name: AADITYA MISHRA .(2019A3PS0400G)

Student Write-up

Short Summary of work done: we learnt data analysis on Power BI. we were given some company's data, which we used to make a dashboard in Power BI.

PS-I experience: it was great. i learnt data analysis, and got exposure to IT industry.

Learning Outcome: learnt working in a startup. learnt data analysis.

Name: PRIYANSHU NOUGRAHIYA .(2019B1A31073G)

Student Write-up

Short Summary of work done: We were given project under IT helpdesk ticket analysis using Microsoft power Bi tool. The broad overview of the project is related to analysis of IT-helpdesk tickets using various data analytics tool. We analyzed given data and monitor performance statistics by creating a business dashboard using Microsoft Power Bi. The main objective of this project was to create meaningful dashboards to analyze the major area from where tickets were raised, and the average time taken to solve a ticket. These helped in analyzing the efficiency of solving tickets of particular department and devise ways to decrease the number of tickets and time taken to solve them.

PS-I experience: The experience was quite good. The company mentors were helpful in guiding us at every step. We were allotted a project which increased our technical skill set through practical application.

Learning Outcome: I got the insights of using Power Bi tools along with key aspects of data analytics.

Name: AARYANÂ CHARAK. (2019B1A40179P)

Student Write-up

Short Summary of work done: The broad overview of the project is related to analysis of IT-helpdesk tickets using various data analytics tool. We analyzed given data and monitor performance statistics by creating a business dashboard using Microsoft Power Bi. The main objective of this project was to create meaningful dashboards to analyze the major area from where tickets were raised, and the average time taken to solve a ticket. These helped in analyzing the efficiency of solving tickets of particular department and devise ways to decrease the number of tickets and time taken to solve them.

PS-I experience: It was good, resourceful. Employees, mentors and Client were very supportive and friendly. Got exposure to corporate lifestyle along with newly acquired skills relating to the field of data analytics. In a sentence: "It's amazing".It boosted my technical skills, presentation skills, communication skills, and knowledge about the domain I am working on.

Learning Outcome: The presentation of excel in the form of a dashboard became very essential with data like this dashboard was essential to display data in understandable and conclusive form and thus helped in drawing important conclusions from data and monthly analysis of the given data.

PS-I station: PreludeSys- marketing and inside sales analytics , Chennai

Student

Name: ANSHUL KUMAR .(2019A4PS0651G)

Student Write-up

Short Summary of work done: The main work for us was to perform different functions on the datasets given to us in excel if the leads are in limited numbers. Our mentor instructed us if the leads are significant in number, we may use R. The excel datasets given to us were of limited rows, so using Excel was beneficial for us. The second main work assigned to us was Market Research, in which we needed to search about CPQ services or Salesforce services in different countries of the world. We needed to make reports on Competitions, Market value, User Reviews, Price and ease of using the software. We also made reports on the Ratings giving companies like Forbes, Times, etc.

PS-I experience: I missed the opportunity of working offline in the PS 1 company due to the Covid 19, but nevertheless, I learnt a lot working from home too. The experience was different, obviously, but our mentors of the company and our PS instructor didn't let us feel different. There were many seminars taken by heads of the company from almost all the various departments to let us know about how actually an enterprise works at all the levels of the company. The work was assigned to us every week, and we were given feedback based on the work submitted. The main tasks we were given were: Performing different functions on the leads provided to us in an excel file, making reports on mainly the salesforce services, including the competitors, user reviews, market value, etc. The evaluations were fun; we had a group discussion on "Product vs Research." where there was a good debate among the prescribed groups of students. After the discussions, our PS instructor teacher gave his feedback on the talks we performed. We also had different quizzes and report submissions for which we did extensive research on the domain we are working; this helped us to learn more about our domain, especially state of the art. Overall, it was a great learning experience. It enhanced my Data Analysis skills and improved my knowledge about Sales and Marketing in an Enterprise.

Learning Outcome: I was able to improve my Excel and R skills. My knowledge of Marketing and Sales of an Enterprise increased manifolds. I also improved my speaking skills and presentation skills. The main thing I learnt was to work in a team to achieve a goal in a prescribed time. As the same thing happens in any company you work.

Name: KALEY PRANAY CHANDAN .(2019AAPS0342H)

Student Write-up

Short Summary of work done: We were given few works rather than a project. We were provided with marketing and sales data (like call data, email metrics etc) in microsoft excel and we had to process it as required. We were sometimes asked to generate graphs from the data.

Other works included web browsing for market data of some softwares or technologies, searching for their reviews etc.

PS-I experience: It helped us in learning about various processes that happen in marketing side of SaaS sales. The company members welcomed any doubts and were willing to help if we want to learn something.

Learning Outcome: This station and project domain will be helpful for anyone who wants to learn about marketing and sales processes and work on the data too

Name: SUDARSAN R.(2019B3A40741H)

Student Write-up

Short Summary of work done: We had to do a lot of data analysis and cleaning using excel and also had to do a lot of market analysis to determine entry possibilities for the company into new segments of the market.

PS-I experience: It was quite interesting and fun to learn new methods of data analytics. Market research was completely new to us and we learnt a lot doing it. The mentors were quite helpful and conducted multiple sessions for us to understand the functioning of the company.

Learning Outcome: Data analytics , cleaning of data , market research , making industry standard presentations and reports , better understanding of functioning of companies and teamwork.

PS-I station: PreludeSys- People analytics dashboard , Chennai

Student

Name: BOMMIDI SATISH .(2019A3PS0419H)

Student Write-up

Short Summary of work done: We are asked to analyse the given data by the company. We got to know about the new software Microsoft power bi and to analyse data using that software

PS-I experience: We are asked to analyse the given data by the company. We got to know about the new software Microsoft power bi and to analyse data using that software

Learning Outcome: We got to about the new software power bi which is the only learning outcome

Name: SIDDHARTH GAURAV AGARWAL .(2019A8PS0011G)

Student Write-up

Short Summary of work done: Had to find relations between the given data in Excel to help the company make decisions for their employees

PS-I experience:

Learning Outcome: Got to learn about power bi

PS-I station: PreludeSys- Presales data analytics , Chennai

Student

Name: TANAY ANAND .(2019A1PS0150P)

Student Write-up

Short Summary of work done: The project was related to marketing and sales analytics. The project involved analyzing the Sales data (call disposition and email data) on various metrics to generate data driven insights. MS Excel as mainly used for data analysis and visualization along with MS PowerPoint. We also worked simultaneously on Market Analysis, to analyze the opportunities for the company to venture into new domains and markets conducting SWOT analysis, sentiment analysis etc. as a part of market research. Apart from this, we were also involved in a few small tasks/ live projects involving data analytics, which involved data cleaning, preparation, applying sorting and filters, creating pivot tables and charts; analyzing the data to present the relevant results as a part of the report. We were also provided with some tutorials in the initial week to help us get acquainted with the required knowledge that would be required for the project.

PS-I experience: Interning at Prelude Sys was a nice experience. I got to learn how such IT based organizations work and also managed to build upon by time management and communication skills. I also got the opportunity to work with the team, the company also organized weekly sessions in the initial 4-5 weeks to get us acquainted with the organization and its working. I also got to learn about data analysis and visualization by working on the project which I hope would be helpful for my future career pursuits.

Learning Outcome: The PS-1 program gave me a chance to enhance my communication, teamwork, time management and technical skills (data analysis and visualization). I got to learn more about data analysis, market analysis and the role of data analytics in marketing, increasing and optimizing the customer acquisition and sales process.

PS-I station: Prodapt , Chennai

Student

Name: PUNIT MAHESHWARI .(2019A7PS0007P)

Student Write-up

Short Summary of work done: My Project was to develop a chrome Extension for helping developers using Azure DevOps. The Primary Functionality of the extension is to show all the bugs assigned to the developer at one place ordered on the basis of severity.

PS-I experience: My whole PS experience was quiet good. The industry mentor was good. He provided resources to start learning and helped me whenever I needed help.

Learning Outcome: I learned about chrome extension , JS and API's during my PS.

Name: VENKATA SAI PREETAM KOTTEDA .(2019A7PS0030P)

Student Write-up

Short Summary of work done: Full stack web development using MERN stack.
Text analytics of unstructured data using NLP.

PS-I experience: It was a quite knowledge gaining experience and all the prodapt staff were supportive towards my career

Learning Outcome: Everything I had done herr was new to me, so i gained knowledge in these feilds

Name: LAKSHAY MUNJAL .(2019A7PS0047P)

Student Write-up

Short Summary of work done: Worked on developing a chatbot and automating it's functions. We put in place a collection of commonly asked questions (FAQs) that new employees could have. We combined all of our FAQs. We've also automated a lot of action files.

PS-I experience: It was a good experience

Learning Outcome: Learnt about RASA framework, Integration with MS Teams

Name: OLLALA NIKHIL KUMAR .(2019A7PS0064H)

Student Write-up

Short Summary of work done: The project aims to identify potential defects/bugs in a software product based on some software metrics and show suggestions where the errors might occur. This would use the previously collected data to determine whether the lines of code or files consist of errors. We developed a machine learning model, which is used to predict defects.

PS-I experience: My industry mentor was very friendly. There was always enough time for us to complete the assigned work. We learnt new Machine Learning techniques from their employees. There was always someone who helped us if we are stuck.

Learning Outcome: Machine Learning, Control Flow Graphs.

Name: ROHAN MITTAL .(2019A7PS0075P)

Student Write-up

Short Summary of work done: Use and implementation of Modal View Controller. And visual studio extension development of serializer of code from c# object to json or xml data.

PS-I experience: It was a fine experience. Learnt some basics about corporate life structure.

Learning Outcome: MVC, Serialization

Name: NULU UDAY DHEERAJ .(2019A7PS0083P)

Student Write-up

Short Summary of work done: I worked on addition of a feature called CLI crawler in the PAT framework, which helps in detecting the software bugs present in CLI and this can be used with different networking devices.

PS-I experience: I have learned a lot from my PS-1, as i had to work on PAT framework i learned different networking protocols and switch protocols, worked with different packages in python. I worked on a new feature that helps in detecting software bugs in the CLI. and this framework can be used with different networking devices like routers,switches. Not just this but i also got to learn about what a company does and how different teams and members combine to work on a project.

Learning Outcome: Basics of computer networking, knowledge on different packages in python

Name: KRISTIPATI RAGHAVA KASYAP .(2019A7PS0087P)

Student Write-up

Short Summary of work done: Implement User authentication using MERN stack.

PS-I experience: Very good learning experience.

Learning Outcome: Good grasp on MERN stack

Name: LALIT KUMAR JENA .(2019A7PS0094P)

Student Write-up

Short Summary of work done: Mobile Full Stack Development- We planned and made updates to a telecommunications app. We implemented video call and speech to text accessibility functionality.

PS-I experience: It was good.

Learning Outcome: Flutter, Firebase, NodeJS, Agora

Name: NANDAN PARIKH .(2019A7PS0097P)

Student Write-up

Short Summary of work done: When new employees join a new organization, they are unfamiliar with the working environment. Naturally, a lot of questions about the operations and protocols of the organization come to their mind. In most cases, the questions are either resolved by asking fellow employees or raising query tickets. A significant amount of the respective department employees' time is wasted in answering queries raised by such new joiners, who often have very similar queries. Our goal in the project is to develop a chatbot capable of answering such questions to relieve the workload of the employees. To develop this we will take use of NLP and the RASA framework to make it so that the bot can make contextual conversations and learn new phrases and correct itself through training.

PS-I experience: It was a good experience. The work was a little tedious but gave me a great insight into how big corporates operate. Got to work with senior engineers which provided me with invaluable experience

Learning Outcome: NLP, MySQL, Automation

Name: [KAMBLE ABHAY DEEPAK .\(2019A7PS0128G\)](#)

Student Write-up

Short Summary of work done: The work in Prodapt, consisted of making a software that detects defects in a given input code/file. The software used Machine Learning/AI to detect the defects in the code. We found various algorithms and methods to find the defects. The work was divided into two parts, the non-AI part and the AI part. The non-AI part mostly aimed at analyzing the input file and the software was used to find out the values of various features that we would use in the ML model.

The AI part was mainly solving a classification problem, which consisted of feature extraction, data mining and selection of appropriate model. The non-AI part was written mainly in C++ and the AI part in Python.

PS-I experience: The PS-1 experience was extremely nice and helpful. It gave me a space where I could get a glimpse of the professional working environment, and learn a lot. I also honed my speaking skills via the presentations and group discussions.

Learning Outcome: I learned a lot about the various data mining and, got to learn about the various probabilistic methods that are being used in the field of Machine Learning, and how to implement them on the real data which is given as an input. I also learned about C++ Programming, Command line Arguments and Context Free Grammar.

Name: YASH BHARTIA .(2019A7PS0151G)

Student Write-up

Short Summary of work done: Made application for pre onboarding engagement and automated the process of sending emails and scheduling meetings dynamically according to date of joining.

PS-I experience: Great, the mentor was very nice and helped us a lot throughout, got to work on a real world project and in general it was a good learning experience

Learning Outcome: Learnt about managing and creating databases through SharePoint and using them in different applications for automation and app development.

Name: PARAS MITTAL .(2019A7PS0183G)

Student Write-up

Short Summary of work done: Created a pre-onboarding tool for company . Designed UI for the application and implementing it to ensure the app is smooth , easy to use . Using sharepoint list created database for candidates as per the requirements of HR team. Implementing various features like autoupdate , search etc on homepage. Creating workflows for new employees , and triggering them automatically as per date of joining. This scheduled automated mails,forms etc. The app was important as it helped the HR dept to track progress of multiple people simultaneously and make them part of team quickly and effeciently.

PS-I experience: I really enjoyed working at my ps station. Industry mentor was really helpful and helped to explore new technologies . Worked closely with HR dept this helped a lot in development work.

Learning Outcome: Learnt a lot of new things which are important for development work. Understood the importance of deadline and how to plan ahead to meet the deadlines. Challenges in a real time app and how to make changes for them .

Name: AKHIL VENKATASAI KAPPAGANTULA .(2019B3A70537G)

Student Write-up

Short Summary of work done: Writing relevant code for creating bugs in Azure DevOps for failed test cases automatically

PS-I experience: Good experience

Learning Outcome: Gained relevant communication skills while interacting with peers as well as mentors and gained exposure to industry related software such as Azure DevOps. Gained exposure to Visual Studio as well which was used to write code and learnt how a company tackles issues and builds solution internally

Name: PRANAV KUMAR .(2019B5A70860P)

Student Write-up

Short Summary of work done: The project title was App Development where we were tasked to build a secure telecommunication application using Flutter. We implemented fingerprint authentication as well as login/signup options using Firebase Authentication. For the video chat option , we used agora opensource API's. For the token generation , we used nodejs to create a backend server and Heroku to create a web server and implemented Firebase Database to store and retrieve the token so generated on the client side. We also implemented speech to text package for disabled people. To ensure the secure nature of the video chats , dart packages were used to disable screenshots/screen recording while on call

PS-I experience: It was a great learning opportunity and our Industry Mentor helped us all the way and ensured that we overcame the steep learning curve via Daily Sync up Meets. We were able to effectively implement all features.

Learning Outcome: I learned a lot not only about the several frameworks mentioned above but also about team work and collaboration especially via the Scrum meetings. How development is not only about crude implementation but also about optimization of the feature. We were made aware of the latest technologies used in software development side such as Azure , Agile Framework and effective use of GitHub.

PS-I station: Purchasing Power - Web Development/UI Development , Chennai

Student

Name: PARIKSHIT VYAS.(2019B2A70691P)

Student Write-up

Short Summary of work done: I was given three tasks out of which two were on responsive web design and the other one was to analyze the site of the station using different web performance metrics and then submit a report on it with some suggestions to improve the website performance . These tasks improved my web development skills and also introduced me to website performance metrics

PS-I experience: It was a fun and an enriching experience.

Learning Outcome: My web development skills were improved and also I was introduced to website performance metrics

**PS-I station: Race2Cloud Technologies - Software Development ,
Bangalore**

Student

Name: SARANG DESAI .(2019A8PS0594G)

Student Write-up

Short Summary of work done: Developing an app which will help Non-Governmental Organizations (NGOs) or Non-Profit Organizations with managing their funds easily. Using Zoho creator, this application will make the process of accepting funds from donors, and distributing the acquired funds to people in need very easy and fast.

PS-I experience: Although a very short span of time, the experience was great and enriching.

Learning Outcome: The major learning outcome was working with Zoho creator, and other low code platforms.

Name: SHISHIR RAJ BAIRATHI .(2019ABPS0908P)

Student Write-up

Short Summary of work done: Automated a purchase process by creating an application using zoho creator which is a platform as a service provider. It would allow the user to make a request for purchasing a product and then would generate a purchase order for comparing multiple quotations provided by different vendors. It would generate PR Numbers and require signature of official based on a purchase matrix for approval of the order.

PS-I experience:

Learning Outcome: I learned about Zoho Creator and how its used to make applications

Name: ARCHISHA SINGH .(2019B5AA1391H)

Student Write-up

Short Summary of work done: Care management System on Zoho Creator:
Zoho creator is a low-code application development platform that allows users to create custom applications on their own, with minimal coding experience.
Through our application (created via Zoho Creator) we aim to improve the current state assessment and pain points of Health / Care management system. To finally have an Electronic medical record to capture and maintain resident centric medical information, such as medical history, background, diagnosis, allergy, and investigation.
It eliminates redundant and inefficient manual paper-based processes and case files as well as Help nursing team and staff to better monitor and manage residents, such as their vital signs and health status Finally we have alerts and notifications of abnormalities. All this electronic record can further also be used to connect to a larger database at a higher level for eg : National Electronic Health Record (NEHR).

PS-I experience: My experience was nice and so was my PS instructor, he guided us through everything wherever we lacked and it was my first time experiencing how a company works.

Learning Outcome: I learnt app dev and web development basics and learnt using a low code app development software.

PS-I station: Race2Cloud Technologies Pvt. Ltd. - Apps on Zoho Creator , Bangalore

Student

Name: ARPIT SINGH .(2019B1A40956P)

Student Write-up

Short Summary of work done: The project was to build a Case Management System in Zoho creator (which further could be exported as a mobile app or a web application). The final application was able to register a new case, new client, a new agency, manage previous cases, clients, auto-update status of cases, send automated email notifications to the user registering and many more features which were specified by the customer/organization dealing with our PS station. The application also had a dashboard, which helped in the analysis of the data in various forms. The UI of the dashboard was designed via ZML and various workflows in different forms were configured via deluge.

PS-I experience: For me, PS-1 was a very enjoyable and beautiful journey. My station and faculty mentors were very helpful and gave me some very valuable guidance. Overall, it was a fun learning experience.

Learning Outcome: Working in Zoho Creator, I learnt Deluge, ZML, HTML and CSS. Also building reports from data of forms helped in understand the importance of data analytics. Further, working as a team throughout the project, improved my communication and decision making skills.

PS-I station: Rashiv Cloud Solutions- Social media and research , Bangalore

Student

Name: JAIN HARDIK ASHISH .(2019A3PS0318P)

Student Write-up

Short Summary of work done: We built the website for Rashiv Cloud Solutions (an edu-tech startup) which consisted of the Home page, Careers page, Contact Us page, Blogs Page, Admin page and t&c page. The major technologies involved include Node.js, Bootstrap4, jQuery, owl carousel, pop.js, ghost CMS, Google cloud platform, Google domains, mongo db, node mailer.

PS-I experience: It was a nice experience working with a team and being constantly guided by mentors from industry and academia. Besides the technical skills I improved a lot in soft skills.

Learning Outcome: Soft skills like group presentation, group discussion, project report, teamwork, planning, distribution of work and others. Technical skills involving various frontend, backend and cloud technologies.

Name: ARCHIT AGRAWAL .(2019B1A81048P)

Student Write-up

Short Summary of work done: The project given to our team is to design the company's website from scratch. For this the company has given us a structured timeline where first we have to do benchmarking and make a rough outline of website with presentation. Then we have started working on the website. We divided our team into two- frontend and backend. So, I am in backend team and we have worked in this mainly on the data part of the site. We have integrated a whatsapp chatbox, design the database for log in and forms that are there in the website. We are contributing with the frontend team to publish the website on the internet.

PS-I experience: When I first started the work there are some nervousness in working there and some worries about how the projects are going to be distributed. Do I get the

project I want? But these worries got fade away instantly when our PS mentors decided to discard the business project and accommodate with the our team's wishes and assigned the web development project to all of us. After this there are some ups and downs during working of the project but I think we did very well and or mentors have fully supported us throughout this journey. This is my personal experience with regard to project. Now I will like to describe other experiences like report and GDs. Group discussion is a very good and enriching experience for me personally as I have improved in this area very much during the two GDs. This was a very fulfilling experience. I have read about technical report and presentation in first year. This is the first time I got to utilize these theoretical learning and converting it into practice and I learned through this experience and I think I will improve more in the future.

Learning Outcome: The learning outcomes are:

1. Learned the proper and structured way to design the website.
2. Learned some technical skills for designing of the website
3. Improved presentation skills and coordination of the team
4. Improved speaking, listening skills from group discussion.

Name: KRISH GARG .(2019B2A41462H)

Student Write-up

Short Summary of work done: At Rashiv Cloud Solutions we were assigned the work of design and development of the official website of the company. We were asked to benchmark, design frontend and develop the website that will be launched at the end of the PS1 schedule. The website was purpose-built using the well-documented and flexible MERN stack, a javascript stack along with the bootstrap, standard HTML, CSS, and JavaScript programming languages. A thorough research is conducted and a comparison is carried out between various websites in the same business to identify the best features and benchmark the required details. The content and features got finalised through various presentations. The hosting and domain service providers were finalised after going through their flexibility, pricing and scalability.

PS-I experience: It was an interesting experience so far. We started the project from scratch and developed our skills from making wireframes for the user interface to storing the data collected and linking the frontend to backend of the project. Being new to backend was a bit challenging part which helped me gain significant knowledge about the databases and API calls. Teaming up with students from different campuses helped us

widen our public relations, develop team skills and improve our communication skills as well.

Learning Outcome: In the start I got to know the importance of websites in the current world scenario for any business either it may be small or large. I became familiar and learned various languages and frameworks used in the website. The group discussion part helped greatly in working as a team and doing things efficiently. Overall it was a great learning experience.

Name: BIJIVEMULA SAI NATH REDDY .(2019B2A41544H)

Student Write-up

Short Summary of work done: Website development for Rashiv Cloud Solutions

PS-I experience: It was nice with good teamwork and guidance.

Learning Outcome: Learnt how to build a website

Name: GURMEHAR SINGH KATHPALIA .(2019B3A30567G)

Student Write-up

Short Summary of work done: Our ps work was to develop a website for the our company rashiv cloud solutions where they have all the courses they offer for the cloud computing services and I worked for the frontend team from our group . We worked under the guidance of a mentor from the company learning various languages of web development like html, css, nodejs, javascript etc. We developed different pages of the website like a blogs page, home , courses page. We had meetings every week with the company and our instructor with all the group members and developed the website.

PS-I experience: My experience was working in the frontend team learning languages and developing the website with the group and had a different experience working online with the team.

Learning Outcome: I learnt the frontend side of web development learning various languages and how to make a website from scratch, also working as a team in this online mode was something new to learn

Name: SARA PRAJWAL .(2019B3A80413H)

Student Write-up

Short Summary of work done: Designed and developed the website for the organisation.

PS-I experience: I learnt a lot both in technical and soft skills parts.

Learning Outcome: Full stack web development

Name: DARSHAN V SIMSON .(2019B5A40721P)

Student Write-up

Short Summary of work done: Our project was website development.

PS-I experience: Good

Learning Outcome: Web development

PS-I station: Rebus Research - Web Development , Mumbai

Student

Name: SATEJ SUNIL BIDVAI .(2019A7PS0088G)

Student Write-up

Short Summary of work done: I worked as a full-stack developer. The tech stack used was MERN (MongoDB, Express, React and NodeJS).

PS-I experience: My overall experience was quite good. The mentors were also very approachable and helpful.

Learning Outcome: I learnt working with MERN stack in a big project and collaborating using Git and Github.

Name: HERSH KUMAR KADAMBALITHAYA .(2019AAPS0189G)

Student Write-up

Short Summary of work done: The role as an intern in the company was that of a Backend (Web) Developer. This required me to work with a tech stack of Node.js, Express.js, MongoDB, and Redis (cache), all in JavaScript. I had previous experience with the tech stack as well as some projects involving building REST APIs with the same, so no real training was required. Throughout the course of the practice school duration, my work involved improving or adding new APIs to the server-side application. All the

platforms of the product (Web frontend, Mobile frontend, Web admin dashboard) connected to the backend application to get or update data, so it is a focal point of the product as all the logic goes there.

PS-I experience: The mentors were generally very friendly and approachable at any time, to clear up any doubts in the allotted work, or discuss and finalize any completed work. The product itself is finance (trading, investments) based, and I had very limited knowledge of that. This meant that I had to contact the mentors more often to clear up any concepts in the code logic, and there were no issues with communication. However, work on the backend side was a little limited after the halfway period, which meant that there weren't too many tasks that were being allotted. They were focusing on a complete overhaul of the frontend, and major work was going on there. So I took the opportunity to start learning React.js, which was part of the frontend stack, to be able to contribute. However, React is a vast library and I could not learn enough of it by the end of the last 2 weeks that I could contribute to the frontend work, nonetheless, it has piqued my interest and I plan to continue learning React.

Learning Outcome: The company itself is a startup, so working there meant that we got exposure to the working environment of a startup. It is not as formal as an established company, and this actually helps in the initial stages where it's important to be open to asking questions and interacting with the mentors. The work itself gave me experience with writing production-ready backend code, and this meant learning things like documentation and security. Also, working with the frontend team to build and integrate APIs helps in proper communication to understand what is required and the best way to deliver it, coordinating with a team. Punctuality is also something that comes into play when attending meetings regularly which decides the impression you leave on people in the company. All in all, a healthy experience which also kept me generally productive throughout the duration of the internship.

Name: YADBEER SHARMA .(2019B3A70521P)

Student Write-up

Short Summary of work done: Front End Android development using Flutter

PS-I experience: Good learning experience

Learning Outcome: How to handle REST APIs and develop android applications using flutter.

Name: ARPIT SHRIVASTAVA .(2019B5A70818P)

Student Write-up

Short Summary of work done: I worked on testing, documentation and rewriting APIs for the stratzy mobile app.

PS-I experience: I had a great learning experience and a great industrial exposure during PS-1. My mentor helped me a lot to gain new skills and apply them to get maximum productivity during the period.

Learning Outcome: I learned how to use postman to test APIs and also got experience in writing APIs using JavaScript.

PS-I station: Redpine Signals India Pvt. Ltd. DBA Ceremorphic India Pvt. Ltd. , Hyderabad

Student

Name: SHREYAS PARAG SOMVANSHI(2019A3PS0434G)

Student Write-up

Short Summary of work done: Researched about 2D/3D FPGA architectures and the frameworks/tools that are used in configuring one.

PS-I experience: It was fine

Learning Outcome: FGPA 2D and 3D architectures. CAD tools used for configuring FPGAs.

Name: SPARSH KACHHADIYA .(2019A8PS0491G)

Student Write-up

Short Summary of work done: In the first week we were given research papers on FPGA design and synthesis and analyse it with the POV of speed, area and power. Then we researched on different types 2D/3D/2.5D architectures and other mesh/cluster based architectures. Then we started researching on different open source FPGA projects like Symbiflow, VTR, OpenFPGA, etc. Rest of the work revolved around that and generating a netlist and then a binary file to programme a FPGA.

PS-I experience:

Learning Outcome: FPGA design flow, and several types of architectures. Using VTR.

Name: SURAJ S.(2019AAPS0317H)

Student Write-up

Short Summary of work done: We were required to search about FPGA architectures. The first half of the internship was essentially a SOP, the next was the exploration of tools for designing a custom architecture. In the first half of the 8 weeks, we studied the internals of the architecture of FPGA. We also covered basic IC chip design and learnt about the process. We were required to make presentations and report our learning to

the PS1 instructor. Specifically we studied the academic models of FPGA and learnt the different architecture models.

In the second half, we explored different tools for implementing an academic FPGA architecture. We explored frameworks like VTR, Symbiflow and Bitman. Finally we were required model an architecture of a commercial FPGA.

PS-I experience: The station was very enthusiastic from the get-go and we began the journey 1 week before the scheduled start-date, much to my immeasurable excitement. We submitted a list of changes to the site design given to us. I was thrilled to see that the perfection of the design deemed the changes unnecessary. The experience was a perfect reflection of what a true work experience is; the pressure, anxiety and hard work. It was eye-opening. The weekly meets held by the station were also heavily engaging. Overall, it was truly a great experience. Thank you.

Learning Outcome:

It was a great learning experience. I never thought I would be learning something completely new in such a short amount of time. I also got to improve on my communication and presentation skills. In fact my interest in core electronics actually increased after this PS1 , I am also looking forward to go deeper in the topic in the future.

PS-I station: Regional Remote Sensing Centre , Jodhpur

Student

Name: SHUBHAM KUMAR .(2019A7PS0015G)

Student Write-up

Short Summary of work done: In the summer of 2020, more than 10 Indian states were hit by a major Locust attack which caused extensive damage to crops and other natural vegetation. Govt. departments visited the affected areas to assess the damage in order to provide subsequent economic relief to the farmers. However, these conventional in-person methods of damage assessment are time-consuming and costly in nature. In our project, we use Remote sensing technology to carry out vegetation condition assessment. Google Earth Engine cloud-computing platform is used for a detailed analysis of data

obtained from multi-temporal satellite images. Damage visualization is done on the basis of False Color Composite and Natural Color Composite images of the study area, which is followed by a mathematical representation of the damage on the basis of various vegetation indices. Finally, a conclusion of the analysis is presented which also includes a short portion highlighting the pros and cons of the Google Earth Engine platform.

PS-I experience: The project was interesting, and our mentor was very supportive. As it was remote work, we couldn't work with more sophisticated data due to security reasons. Google Earth Engine was used extensively for the whole project. Overall, a decent learning experience.

Learning Outcome: Learnt using Google Earth Engine using JavaScript. Improved soft skills and Presentation skills. Also, got familiarised with some of the Remote Sensing concepts.

Name: AMAN SHARMA .(2019A7PS0053G)

Student Write-up

Short Summary of work done: My project was about identification of vehicles with fake number plates. We had to extract number plates from images of vehicles using OpenCV. Text from images of number was read using Pytesseract, which is an optical character recognition tool. We used convolutional neural networks to identify the color and model of the vehicle. Fake number plates could be identified by matching the color and model of vehicle with details of vehicle with the identified number plate fetched from databases.

PS-I experience: PS-I at RRSC, Jodhpur was a great experience for me. Our mentor and faculty were very helpful and supported us throughout the PS. My fellow team mates were helpful and coordinated well in the project work. I got exposure of working in a research institute. The project was insightful, interesting and served as a good learning opportunity in the field of deep learning and image processing.

Learning Outcome: I gained introductory knowledge of deep learning and computer vision. The Group Discussion and various other components that happened as a part of PS improved our communication skills as well as presentation skills.

Name: KSHITIJ SHAILESH UPADHYAY .(2019A7PS0105H)

Student Write-up

Short Summary of work done: Worked on the project- 'Live identification of vehicles with fake number plates using Machine Learning Algorithms. We read number plates using Automatic number-plate recognition (ANPR). ANPR uses a series of image manipulation techniques to detect the number plate and then optical character recognition (OCR) to extract the alphanumeric of the license plate. We used a combination of Tensor Flow Object Detection with OpenCV to detect the number plates and PyTorch and EasyOCR or pytesseract to extract the text out of it. We checked the database of the RTO to get the details of the vehicle associated with the number extracted from the number plate. Finally, we used transfer learning to predict the model of the car, where a pre-trained Convolution Neural Network, VGG-16 from the Keras Application, is used to solve the problem under consideration.

PS-I experience: We were given a choice to select from several projects. We were also given a chance to bring forth any project idea we had thought of. The mentor was supportive and guided us throughout the course. We had review meets to discuss our progress with the station mentor. We also had weekly meetings with the faculty advisor for the same. There were Group Discussions, Seminars to discuss various prospects of the industry.

Learning Outcome: We explored the domains of Machine Learning, Computer vision and Deep Learning. Working with scientists at ISRO was an incredible experience.

Name: RIJUL DAHIYA .(2019A7PS0182H)

Student Write-up

Short Summary of work done: In our project, a method of DEM super-resolution based on a neural network was introduced. Our approach can effectively extract the feature mapping relationship between a low- and high-resolution DEM (input features) to output features, i.e., the LiDAR data using an artificial neural network.

The results showed that the artificial neural network has a more significant impact on DEM super-resolution. Compared with the other similar models with fewer layers and Neurons, our method significantly improves the DEM's reconstructed details and recovered textures.

The model is ready to be used for creation of a super resolution and accurate DEM. Our model should make accurate height predictions for all the input data.

It can be seen that the structure of the deep network is of considerable value for enhancing the resolution of DEMs. These predictions would definitely be more accurate than the Digital Elevation Model data that we have, and should provide height values, as close to the ground-truth as possible.

PS-I experience: The experience in our PS was excellent. Though there was a communication gap, we completed our project. The project tested our old skills, and we learned some new skills too. Our PS station mentor supported us all along, and I learned a couple of skills, including better communication. I learned various machine learning tools and algorithms and implemented them in our project. We implemented SVM, ANN, Decision trees, Linear and Polynomial regression, Lasso and Ridge regression. We got to know ANN suited our domain and our project very well and gave excellent results.

Learning Outcome: I understood how to pre-process the Raster data, the contents of raster data, and how it is formatted in .tif files. We also learned to use the GDAL library to interpret the .tif files and represent the data in a Pandas data frame.

I also learned how to use Pandas library, clean and process the data to use as an input to the Tensorflow Deep Learning models. We implemented the proposals and experimented with various kinds of Neural Networks to compare the results and choose the network model which is most appropriate for the problem statement.

I also learned about Hyperparameter tuning. After identifying the best neural network model, we tuned the various Hyperparameters of the model to obtain the final Deep Learning model with the highest possible test accuracy.

Name: AKSHAT AGRAWAL .(2019AAPS0264H)

Student Write-up

Short Summary of work done: In India and most parts of the world, it is mandatory for all vehicles running in public places to have a number plate with their unique registration number. Unfortunately, number plates are often stolen or faked by people trying to conceal criminal activity. A system that can identify fake number plates on vehicles by processing the data from police cameras can be of great help for law enforcement in dealing with crime.

The system has to be able to read the number plate on a vehicle. The details of the vehicle with that number plate have to be obtained from the m-Parivahan API. At the same time, the system has to recognize the color and model of the vehicle. The details have to be matched, and an alarm has to be generated in case of discrepancy.

The system has to be fast enough to process data in real-time. In addition, since the amount of data to be processed is massive, accuracy must be reasonably high to avoid frequent false positives.

PS-I experience: The project here helped me in exploring the field of machine learning and working as a team.

Learning Outcome: Python 3, Optical Character Recognition and Convolutional Neural Network.

Name: RAHUL KUMAR SINGH .(2019AAPS0299G)

Student Write-up

Short Summary of work done: Our project was to combine a Digital Elevation Model (basically an image, where each pixel contains the latitude, longitude and height of the region it's showing) with much more accurate LiDAR data, to create a much more refined, accurate and super-resolution Digital Elevation Model. The Photon data was in a .CSV file format, but it came in multiple files. We used Pandas Dataframe to clean all the .CSV files and combine them. The Digital Elevation Model was a TIFF file, so we had to use GDAL (Python Geospatial Library) to extract the latitude, longitude and height information from the file. After processing the two datasets, and combining them, we used Deep Learning to solve the problem statement, using a regression based approach.

PS-I experience: Overall, I felt that PS was pretty well organized at least from the university's end. This 'course' provided me a lot of exposure, by introducing me to a real world problem, and while finding a solution for it I gained a lot of knowledge that would be useful in the future. The project was pretty interesting, but it was a bit unconventional and a highly specific application of Deep Learning, with not a lot of resources available online. However, in the end we managed to come up with a solution for the problem statement.

Learning Outcome:

- 1) Python
- 2) TensorFlow for Deep Learning
- 3) Reading Research Papers
- 4) Maintaining a diary/Keeping a log – Through the weekly diary tasks, I had developed a habit of maintaining a log of my activities regularly. This is something that was extremely useful as it not only made me organized, but it also helped me plan for the upcoming days and set daily and weekly deadlines for myself.
- 5) QGIS software
- 6) Geospatial Python libraries such as GDAL

Name: HARSHAVARDHAN MADINENI(2019B3A70615H)

Student Write-up

Short Summary of work done: We have to take as input the existing Digital Elevation Model (DEM) data from the Shuttle Radar Topography Mission (SRTM) which has a 30m resolution and Lidar Altimetry data and output a DEM with a resolution of 10m. DEM data from the SRTM has a data point for every 30m at a near-global scale. For some use cases we need a better resolution and also more accurate data. Lidar Altimetry data is captured by reflecting laser beams on to the ground from satellite. The different receiving times of the reflected laser light from the surface of the Earth provides us with a very accurate measurement of the altitude of each point. Laser Altimetry data has a point for every 70cm. We used Deep Learning models to solve this. We first processed the data and created five features for each box of length 10m and mapped it to the average of the height values of all the photon points present in that box. We implemented a regression model using ANNs to do the mapping.

PS-I experience:

Learning Outcome: I learnt about Deep Learning and various models in it and their implementation using Tensorflow. I could say I also developed my interpersonal skills a bit.

Name: MADADI CHETAN KODAND REDDY .(2019B3A70629H)

Student Write-up

Short Summary of work done: Combined existing Digital Elevation Model(height map of a particular regions) and LiDAR point data to create a refined Digital Elevation Model. We did this with the help of ML/Deep Learning tools.
Main language used- Python.

PS-I experience

Learning Outcome: Python programming language, Deep Learning.

Name: ROHAN KUNWAR .(2019B3A70666P)

Student Write-up

Short Summary of work done: In the summer of 2020, more than 10 Indian states were hit by a major Locust attack which caused extensive damage to crops and other natural vegetation. Govt. departments visited the affected areas to assess the damage in order to provide subsequent economic relief to the farmers. However, these conventional in-person methods of damage assessment are time-consuming and costly in nature. In our project, we use Remote sensing technology to carry out vegetation condition assessment. Google Earth Engine cloud-computing platform is used for a detailed analysis of data obtained from multi-temporal satellite images. Damage visualization is done on the basis of False Color Composite and Natural Color Composite images of the study area, which is followed by a mathematical representation of the damage on the basis of various vegetation indices. Finally, a conclusion of the analysis is presented which also includes a short portion highlighting the pros and cons of the Google Earth Engine platform.

PS-I experience: PS-1 was a good all-round experience for me. First of all, I got to learn how to use Google Earth Engine, which was completely new and introduced me to the domain of Geo-information Systems, working with satellite datasets and using Earth observation systems and remote sensing for practical purposes. I also learnt a lot about the work culture at Government organizations like ISRO through interactions with my project mentor. I picked up many soft-skills that are useful in real world scenarios and it made my entire experience wholesome. However, I wished this internship was not remote as it deprived us of the chance to work on more sophisticated software as well as satellite data used at ISRO.

Learning Outcome: Javascript, Google Earth Engine, Remote sensing concepts
Image processing, Presentation skills, soft skills

PS-I station: Sawolabs- Developer Advocacy , Bangalore

Student

Name: RISHABH SINGH .(2019B2A11056G)

Student Write-up

Short Summary of work done: I was a developer advocate there.I had to curate sample video tutorials for other developers to understand how to integrate SAWO's API.I also checked hckathon submissions of various participants.Also some work related to product management was also assigned to me.Overall the focus was on community building.

PS-I experience: My experience was average.I was assigned several task and helped improve user/developer experience with SAWO's API.I also had to assist developers who were trying to integrate this API in their projects.

Learning Outcome: I learnt basics of several frameworks.Also I got an insight about the work of a Product Manager too.

PS-I station: Sawolabs Technologies - Software Development , Bangalore

Student

Name: DABBIRU BHARADWAZ RUSHI .(2019A7PS0111H)

Student Write-up

Short Summary of work done: The project was "Curating Sawolabs Doc's page through research and analysis" .First we had to research doc pages and the whole website of different companies whose product was similar to "SAWO". After analyzing the data I had to make changes/improve the docs page of Sawolabs technologies.

PS-I experience: PS-1 experience was great. I got to learn various things in this 6 week internship. : It was a great learning experience, letting me know how work is done in industry and how to apply my academic knowledge.

Learning Outcome: The work required of me was a complete documentation overhaul. I think that it was a good experience. I did get to learn technical aspects like Django and Flask, but the work was scattered across different backgrounds .I got to know that it is always important to have good communication and interpersonal skills for better functioning of a software development team. The most important thing I had learnt is to always consider how a consumer/developer sees and understands and implements the product of the company.

PS-I station: Sawolabs Technologies- Market research , Bangalore

Student

Name: SHIVANSH BANSAL .(2019A1PS1047G)

Student Write-up

Short Summary of work done: my work at Sawo Labs has been to research typical marketing strategies used by various B2C and D2C companies, as well as the directors competitors of Sawo Labs, focusing mostly on companies operating in India and South-East Asia. Our work included Influencer research, keyword analysis and analysis of competitors.

PS-I experience: My experience as an Intern at SAWO Labs was very good, as I was introduced to a field that was very new to me and led to learning a lot of new things in a short amount of time. It also gave me an exposure to how companies works in real life, carrying out day-to-day tasks and making strategies for the future work.

Learning Outcome: I've gone through a steep learning curve. I have learnt about a lot of different things, ranging from technical knowledge to learning about how a company, especially a startup runs from inside. This internship has led me to explore a lot in the marketing field, and has introduced me to new forms of marketing, and gaining attention of our target customers like Search Engine Optimization and Affiliate Marketing. It also enabled me to learn about various technical things related to IT field and especially Authentication domain as well as about the business side of things.

Name: [Anuneet Kaur Soni\(2019A8PS0359P\)](#)

Student Write-up

Short Summary of work done: SAWO Labs is a B2B2C service-based company whose API integration enables one-tap authentication on your app (Android, iOS) and web to provide a passwordless and OTP-less authentication experience. The project required me to research product launches, go-to-market strategies and analyse business relations. I was also expected to collaborate with the marketing team and support activities related to developer relations. The project also required formulating strategies to position SAWO in various global surveys, interviews, and conferences.

PS-I experience: I had a good time working with the team at SAWO Labs. They are all incredibly enthusiastic and passionate people.

Learning Outcome: - I understood SAWO Labs' product and its functionality.

- I gained context on the target audience and their consumption tendencies.
- I learnt about the most common developer-focused GTM strategies.
- I understood product-led adoption and ways of increasing sales efficiency.
- I learnt about the importance of data cohesion and ways of transforming data into actionable insights that can then be acted upon.
- I understood how deals are closed in the industry—right from the initial call with a prospect to landing and expanding.

Name: AANSH AGARWAL .(2019B1A81075G)

Student Write-up

Short Summary of work done: Initially, at SawoLabs my work was to research the relevant influencers and developers in the SaaS market who influence the market online. I collected data about such people on LinkedIn, Medium, Hacker News, Reddit, Youtube and many other social media platforms depending on whether they can provide our company with marketing support. Next, we did market research on various e-commerce companies and determined the marketing strategies used by them along with many other details and listed them as data.

Our other task was to determine what platforms they use (like react, angular, vue, etc.) and what were the market shares of these in the e-commerce market. We then narrowed down our research to the Indian and South-asian markets and collected data on the companies that might be interested in our product.

We also did the keyword research for our company which took majority of our work time and gained much experience in that work.

PS-I experience: The experience was fine as the work kept me involved for the most part and it was quite interesting to work with my peers and mentors together. Initially I thought it was going to be online so it might not be that involving but as the company was an IT based one, I got enough experience and got to know people there.

Learning Outcome: I got a hang of keyword research here as how important it is and how to implement work related to this area. As of now I can do keyword research related to any market field and feel comfortable enough doing it. Another thing I learned was implementing SEO and SEM to research the market and optimize the search results. Team work among peers and company mentors was one of few more things I learned here.

Name: RAGHAVÂ SHARMA . (2019B2A40206P)

Student Write-up

Short Summary of work done: I interned in SAWO Labs in the Marketing research domain. I worked on the database to look out for new leads to acquire and formulate the inbound and outbound marketing strategies for the company for new clients acquisition. I also conducted market research to look for new prospects to whom the company can pitch its products and services. I also found out the details of micro Instagram influencers who could be helpful for the company for promoting SAWO Lab's product. In addition, I analyzed some of the Shopify apps for listing company's products on their site.

PS-I experience: Working at the SAWO Labs was a nice experience. I got to learn about the intricacies of marketing and how companies go about the process. I also worked on some live projects/ tasks and gained new technical and non-technical skills. The review meetings gave a good sense of understanding of the work. I also enjoyed the Zumba, Yoga, and Karate sessions organized by the company to refresh ourselves after each week's milestone. I would recommend others for doing their internships in this company.

Learning Outcome: I learned about marketing research, marketing techniques, and client acquisition. I also enhanced my time management skills, presentation skills, and communication skills, and technical skills.

PS-I station: SharedPro Technologies- Community Building , Vadodara

Student

Name: P AKHIL .(2019A8PS0635H)

Student Write-up

Short Summary of work done: I was given the task of researching and finding new companies that have underutilized human resources. After that, the company mentors get in touch with these companies to recruit them. This research is carefully documented which serves as a roster/cloud bench for the SMBs that require people with specific skill sets for their projects.

PS-I experience: it was a good learning experience and i got to know how the it industry operates

Learning Outcome: Learnt about the it industry

PS-I station: Shris Infotech Services Pvt Ltd , Hyderabad

Student

Name: KRISHANG SAHARIA .(2019A3PS0310P)

Student Write-up

Short Summary of work done: Had an exciting PS1 journey. I was involved the Blockchain team of my station. In the starting days we learned about ethereum blockchain, cryptography etc, then we learned about writing smart contracts, sending transactions on Ethereum Blockchain etc. We had to choose our project, from a list of projects. Got a chance to learn about the importance of teamwork, communication. We regularly had training sessions and doubt sessions. Learnt about how to interact with the Blockchain, etc. Learned about the Software development lifecycle, learned the importance of scheduling and deadlines. Also had a chance to interact with The CEO of the company.

PS-I experience: Had a wonderful PS1 journey. I got an opportunity to gain hands-on experience in the industry, also my communication and presentation skills had improved a lot. Got to learn about the revolutionary technology of Blockchain, worked on the Ethereum Blockchain.

Learning Outcome: Had learned a lot. Some of the learning outcomes includes - enhanced communication and presentation skills, realized my interest in the Software Development field, realized the importance of teamwork and learned the importance of scheduling and deadlines. Also learned about Software development lifecycle.

Name: AKASH JYOTI SAHOO .(2019A7PS0004P)

Student Write-up

Short Summary of work done: Worked on building a mobile crypto wallet application with enhanced security features using Ethereum blockchain and Flutter.

PS-I experience: Overall had a really good experience. The team at Shris responded to our doubts whenever we had them and also conducted some training sessions for certain topics. They could have been more active but apart from that, I got to learn a lot from them and from the project.

Learning Outcome: Learnt how to write smart contracts on the Ethereum blockchain using Solidity. Also learnt how to use Flutter and Dart to build mobile User Interfaces. Gained some communication skills as well by giving presentations and participating in group discussions.

Name: VEERLAPATI SAI GEERATH ADITHYA .(2019A7PS0020G)

Student Write-up

Short Summary of work done: We were given freedom to choose our project among the ones. The fields available are server maintenance , flutter ui and blockchain. After some research I have chosen blockchain. My project was to create a wallet for ethereum based transactions and store the private keys securely in server. In the first 2-3 weeks I have learnt about ethereum, blockchain transactions , writing and deploying solidity

contracts and hashing algorithms. Then i have worked on generating accounts for deploying on blockchain node. I have used some dart and flutter packages for creating accounts. Then i have moved onto flutter for creating mobile application and transaction. After learning flutter i have worked on making transactions successful and integrating them with flutter UI. We have tested sucess of transactions using some free test blockchain nodes. However due to time limitations we are unable to complete the user interface of application project.

PS-I experience: PS-1 was an enriching experience for us. We were happy to get the freedom of choosing our project and working with new technologies. Apart from the technical learning, we also got to know many aspects of the corporate life. We are grateful to our mentor who believed not only in providing technical knowledge, but also helped us in increasing our efficiency by helping us with planning and shaping our project. Hence I will say a student should really look forward to these types of learning outcomes as well. Overall, the PS-1 experience was good and different from the academic learning in college we had experienced before it.

Learning Outcome: We learnt and understood the concepts of a blockchain, and how to code annd deploy on the a test blockchain node. i have learnt some basic flutter material UI for making of mobile application. We learnt working in groups, dividing and integrating our work to make application. Nott only gained the coding skills but also got an insight on how tasks are completed and deadlines are achieved in corporate world. A strict timeline is necessary if one is serious with his work.

Name: ATHARVA AMOD DANI .(2019A7PS1213H)

Student Write-up

Short Summary of work done: Worked on designing a mobile app using Flutter.

PS-I experience: Overall valuable experience and learnt a lot about corporate life.

Learning Outcome: Learnt more about app development and design process.

Name: SAYANI MALLICK .(2019AAPS0218G)

Student Write-up

Short Summary of work done: Mental health disorders are widespread and so is the stigma around it.

To provide a safe and secure platform to people in need of comfort and protection, the app @help has to be developed from scratch using Flutter, Dart, Elasticsearch and the @protocol. The app will store the chat history in the @sign servers.

This will ensure that the users get complete anonymity and can also fight against their mental health problems using this app. The entire UI was developed in Flutter. The @sign authorization used for registering the users provide anonymity to users. The register/login page of the app has been created and the prototype of the search panel and the 'View available helpers/doctors' has been created.

PS-I experience: Through PS - I, I was introduced to app development in general. I learnt Flutter, Dart and Elasticsearch and also learnt how to apply it to create a product to be used by lots of people. Working on a real life project under the guidance of the mentors and PS faculty was a great experience. Not only my technical skills were improved but also my communication skills improved a lot.

Learning Outcome:

Learnings:

1. Working as a software developer means handling a lot of bugs in the software and this requires patience and determination.
2. Improving communication skills with mentors and other colleagues.
3. The theoretical as well as practical knowledge of the following was gained:
 - a. Dart
 - b. Flutter
 - c. Elasticsearch
 - d. Object Oriented programming
 - e. Use of Android Studio for app development in general

Learnt how to create an entire app from the scratch and use various programming languages to create a product.

Name: PUSARAPU SUJITH .(2019AAPS0246H)

Student Write-up

Short Summary of work done: I have worked on creating a crypto wallet mobile application where the private key of the user is stored in a more secure server. When the user requires to make a transaction the user has to retrieve private key from the server by two layers of authentication

PS-I experience: It was excellent and helped me to work on an interesting and very challenging project

Learning Outcome: I have learnt how Ethereum Blockchain works and programming with Solidity

Name: AYUSH UPADHYAY .(2019AAPS0293G)

Student Write-up

Short Summary of work done: We are making an application via Flutter using Dart and ElasticSearch. Name of application is @Help, which can be used to help people in stress and mental problems.

PS-I experience: It was good

Learning Outcome: Flutter, Dart, ElasticSearch, @Platform, Docker

Name: AYUSH UPADHYAY .(2019AAPS0293G)

Student Write-up

Short Summary of work done: First we learned about application development on flutter, docker, @platform, ElasticSearch, created our own @sign. Then we started making our application @Help which was to help people who are going through stress and other mental problems.

PS-I experience: It was really nice. The mentors which were allotted to us were very helpfull and knowledgeable.

Learning Outcome: I learned fully fleshed application development with flutter, ElasticSearch, @platform, Dart and team work.

Name: NILAY ARYA RAJEEVALOCHANA .(2019AAPS1230H)

Student Write-up

Short Summary of work done: My project was to create a more secure cloud based Crypto Wallet. Current Crypto wallet solutions save the blockchain private keys on the user computer or on cloud 3rd party applications. This is quite risky as the private key holder is the owner of the crypto currency on the blockchain. The solution is to create a Crypto wallet that saves and access blockchain private keys in @Sign server. This ensures that @sign user will have all the blockchain private keys in @sign server. Hence, it is more secure.

PS-I experience: I had a good learning experience at Shris Infotech Ltd. The employees were very helpful and patient with the us. Multiple project update meets were conducted throughout the journey . My PS1 faculty was very supportive and encouraging and pushed all of us do work for the company.

Learning Outcome:

1.Designing UI on flutter

- and writing smart contracts.
- 2.Patience
- 3.Communication skill

Name: HARDIK JAIN .(2019B3A30355P)

Student Write-up

Short Summary of work done: My project was on the crypto wallet for @protocol. It was based on the Blockchain Technology. Crypto tech in concern was ETHEREUM. In the project I built my own @sign server. On the server I made the facility to secure the private keys of Ethereum. Also permitting peer to peer transactions using the @sign server. The project was to secure the private keys which are prone to hacking. Also the private keys from @sign itself are generated which we secured using a biometric encryption.

PS-I experience: My PS-1 experience set forth me to the industrial practical experience. The representatives from the company, the manager, the HR everyone were the most amazing people very easy to contact with and very helpful. The team was always there to quench the inquisitive attitude. And our PS instructor was a very great instructor throughout the span. She helped a lot and was always there whenever needed. My PS-1 experience was a good experience with the brief touch upons to the new scenario of working in the industry.

Learning Outcome: I learned in the core matter about the blockchain technology. Being a novice in this field I got healthy exposure to the subject matter of the Blockchain Technology especially on Ethereum. Then the most important learnings were from the skill developed to be able to interact with the working professionals. To build the connections with them. To be able to take constructive criticism. To be responsible towards the work allotted and to be regular in giving updates to the concern-in-charge.

Name: NAYAN JAIN .(2019B4A80722G)

Student Write-up

Short Summary of work done: The project aimed at developing an android app @help, that enables the people to speak about their mental health. The project work required the technologies such as Dart Programming language, Elastic search, Flutter SDK, @protocol. The domain of the project was Mobile app development. A mobile app was created which would provide safe, secure and accessible platform for people in need of comfort and protection. The company gave the initial weeks to go through the technologies that were to be used in this project. They suggested a Udemy course to have a go with the flutter + dart technology. All the members from the organization helped in making us familiar with the working of the company and held the sessions to provide a good knowledge of app development. Also, PS1 faculty, Mrs. Sonika Rathi Ma'am also guided us constantly to have discipline and professionalism in our work.

PS-I experience: It was a great and healthy experience to work with an organization. It was vital for us in this stage of our career. It was the first I got to learn about the working of a company, the very aspects behind the success of an organization. This experience helped us inculcate the discipline, work ethic and professionalism in our work. As I started implementing the learnings from this project, I got to know that it has resulted in developing my interest in the app dev. Working at this level definitely help me boost my confidence and competent. Completing the small tasks, the evaluations and all the works, created a sense of accomplishment. I got to know how important is the teamwork. One has to work with full commitment, integrity, honesty and has to always help the people in need. The success of the organization is the result of combined efforts of all the teammates and not an individual.

Learning Outcome: Initially I did not have any coding background. The faculties made sure to give enough time to have a go with the technologies. This was a very helpful exposure I got. As I started implementing the learnings from this project, I got to know that it has resulted in developing my interest in the app dev. The Internship experiences made me realize how important the teamwork is. One has to work with full commitment, integrity, honesty and has to always help the people in need. The success of the organization is the result of combined efforts of all the teammates and not an individual. Getting this exposure, helped me eradicating the fear of working at higher levels. It helped me to believe in myself irrespective of how the situation is and also made me more competent and confident. Completing the small tasks, the evaluations and all the works, created a sense of accomplishment. I feel proud of myself to be able to contribute to the growth of the organization.

PS-I station: Silver Touch Technologies Ltd , Ahmedabad

Student

Name: KAPARTHI JAGATH .(2019A4PS0547H)

Student Write-up

Short Summary of work done: We worked on Robotic Process Automation(RPA)- Basically we create bots which automate the daily tasks we do. We created these bots using Automation Anywhere software. Our main project was to extract the LinkedIn posts and then classify them as a lead or not. For the extraction part we used various libraries in python such as mechanical soup, beautiful soup and selenium. And for the classification part we used a simple classifier model using an ensemble of Naive Bayes, Logistic Regression, and Decision Tree classifiers. Apart from this we also developed few bots dealing with excel.

PS-I experience: It was a good experience. Mentors were very helpful. Learned new skills.

Learning Outcome: Automation Anywhere software, python, working with excel.

Name: BADAR APOORV AVINASH .(2019A7PS0060P)

Student Write-up

Short Summary of work done: For the initial three weeks ,we learnt about RPA (Robotic Processes Automation) and making bots for automating simple tasks using the Automation Anywhere software.We did a course as well as had training sessions for the same.Then,we were allotted the project of scraping LinkedIn posts and filtering the potential leads into an excel file for their sales department. For the web scraping, we explored the Automation Anywhere software and some python libraries such as MechanicalSoup, Beautiful Soup and Selenium.For the classification of posts , we first tried a neural net architecture using word embeddings and LSTMs.However,this

approach wasn't very successful and was switched for a simpler ensemble of Logistic Regression, Naive Bayes and Decision Tree classifiers.

PS-I experience: Overall a good learning experience.

Learning Outcome: Basics of NLP, web scraping, soft skills like effective communication and presentation, report writing and RPA as a domain.

Name: KARTIK SINGH .(2019A7PS0127G)

Student Write-up

Short Summary of work done: Me and my team worked on a fairly new technology known as RPA (Robotic Process Automation) . The PS1 majorly revolved around developing bots which reduced redundant tasks for organisations, which would help the authorities there to work on other tasks more efficiently and hereby saving time.

PS-I experience: The Workstation was really friendly , and we had an awesome teamwork in there. Got to learn a few things that people don't usually pay attention to like Robotic Process Automation technologies and using UI based web apps to make projects instead of core coding. So got to learn programming and development from a whole new prospective.

Learning Outcome: We learnt a few new techniques of making bots and automating normal and repetitive tasks. This PS1 was a great learning experience for development of soft skills.

Name: DEVANSHI GUPTA .(2019A7PS1265H)

Student Write-up

Short Summary of work done: We learnt about robotic process automation and its tools . We created many small scale bots . We made use of python script to learn web scrapping and also used NLP and machine learning algorithms for classification and segregation. The task was to automate the extraction of posts from LinkedIn which are posted by potential leads for the company. Primarily this consists of LinkedIn posts containing specific keywords (for example, “PHP developer”) with different companies looking for IT solutions. An example of a potential lead is “I’m looking for professionals who can help me with React JS - Web Development.

The development was carried out primarily as a three-step process:

- Extraction of posts from LinkedIn using Web Scrapping done using selenium and beautifulsoup(python libraries)
- Classification of posts(filtering out the leads) used a simple classifier model using an ensemble of Naive Bayes, Logistic Regression, and Decision Tree classifiers .
- Writing the filtered posts to an excel file which utilized automation anywhere tool.

PS-I experience: My Ps 1 experience was very informative experience as it showed me the inner workings of an IT based company. It helped me develop many soft skills as well as technical skills.

Learning Outcome: I have learnt about Robotic process automation, basics of python, web scrapping techniques and basics of machine learning.

Name: YOGESH GUPTA .(2019A8PS0435P)

Student Write-up

Short Summary of work done: Work was basically in robotic process automation. The tool which we used was Automation Anywhere. It is an extremely simple yet powerful tool. First few weeks were spent majorly on learning and small take home assignments. In later weeks we built a email extraction bot for the marketing team for the company using automation anywhere.

PS-I experience: Workload was extremely light. There was no pressure as such. Mentors were humble and polite. But as a learning point of view I think more tools and technologies could be added in the projects.

Learning Outcome: Have a good grasp on building bots in Automation Anywhere. Learnt softskills like work ethics, teamwork.

Name: RITVIK RAJKUMAR AGRAWAL .(2019B3A70506G)

Student Write-up

Short Summary of work done: RPA- Robotic Process Automation using tools like Automation Anywhere. Constructed a basic bot (which could have been made in no more than 2 days) using automaton anywhere. The utility of the bot was that it could extract email addresses of company officials automatically and then send the log file along with the extracted emails to the marketing team of SilverTouch. However, the bot development was an easy task and involved basic excel skills, database management,etc.

PS-I experience:

Learning Outcome:

Learnt basics of Robotic Process Automation.

Soft Skills.

Excel basic commands.

Database Management.

SQL.

Automation Anywhere Bot developer training.

Name: MANAS LOHANI .(2019B4A70109G)

Student Write-up

Short Summary of work done: Worked on making bots for business automation. Used the software Automation anywhere and for the final project used python to automate the extraction of posts from LinkedIn which are posted by potential leads for the company.

PS-I experience: Good experience. The faculties allotted from BITS are really helpful.

Learning Outcome: Learned about the functioning of organizations and how automation is brought about. Also was a good first experience of making a project with a team.

PS-I station: Smartlink Holdings Ltd (Digisol Systems Ltd) , Goa

Student

Name: KASAT CHIRAG DEEPAK .(2019A7PS0028G)

Student Write-up

Short Summary of work done: Developed a business intelligence dashboard for Intel's Malaysian office. Used React for frontend and Node for backend.

PS-I experience: It was good and a decent project.

Learning Outcome: Working in a team

Name: ACHAL JAIN .(2019A7PS0056P)

Student Write-up

Short Summary of work done: We tried to implement a BI Dashboard using React and Express and used MSSQL Database. We used a ready made template for the main dashboard. As the data we were using was static and not very high moving, our dashboard was just a single page application.

PS-I experience: It was a good and enriching experience

Learning Outcome: I learnt some basics of web development.

Name: GUTHULA BALADITYA .(2019A7PS0067H)

Student Write-up

Short Summary of work done: We are supposed to develop a Business Intelligence dashboard for Intel, which shows analytics of RMA'd products. We need to develop a web frontend using React, an API using Express and Node.js, and use SQL server as our database management system. We need to fetch data from the server and display statistics related to return orders, such as how many defective products have been returned recently, how many customer-induced damaged products have been returned, and other such statistics. All of this data has to be presented neatly and should be interactive; for example, date ranges can be changed and our displayed data should update accordingly.

PS-I experience: My PS-1 experience is so good. Because of my good team members and a extraordinary mentor. And my company instructor also helpful and he clears our doubts within a hour and also he is also very talented person he also helped us in some technical skills. Overall a good and pleasant experience for me in PS-1

Learning Outcome: My learning outcome is I learnt so many concepts like node.js, react and some part of the cube.js etc i have learnt. And came to know how a company works in this PS-1

Name: ASHWIN AVINASH WADATKAR(2019A7PS0082H)

Student Write-up

Short Summary of work done: Our task was to build a single page web application that displays essential statistics, trends, and other important information. These bits of information are monitored thoroughly before the company can make business decisions. We had to learn React, HTML, CSS, JS, Node.js and Express for completing this. We worked the backend using Microsoft SQL Server; Frontend was handled using React, and API was taken using Node.js. The initial phase of the project involved identifying key data points that we could display on the dashboard. Subsequently, we divided ourselves into three teams of 3, 3 and 4 people to work on Frontend, API and Backend. This was followed by setting up GitHub repositories to keep in sync with our work. We had frequent meetings with our company mentor to stay updated with our work progress and get constant feedback about our work. The PS acads like quizzes and seminars went on pretty smoothly, thanks to our faculty, and so we could devote significantly more time towards our project.

PS-I experience: The overall experience of PS-1 was great. We learned quite a few things and got some exposure as to how work is done in industries. It was a helpful, practical experience that would not have been gained through just sitting in the classroom and listening to lectures all day long. Overall, it was great!

Learning Outcome: Web development

Name: JOEL K BIJU .(2019A7PS0084G)

Student Write-up

Short Summary of work done: The project assigned to us was to develop a BI dashboard that displays crucial information associated with Intel Malaysia, like displaying the count of defective items in a month or year, the trend of back-orders, the number of replacements, and re- orders registered, among other data points. The first step towards the project was to realize prospect data points that we could display on the dashboard. The data points had to be significant. The data fetched from the database could be

changed, but it was crucial that, as interns, we thought of useful data points. Next, our company mentor divided our group of ten into three groups to simultaneously work on the three main facets of the project which were front-end development, API development and stored procedures

PS-I experience: PS-1 experience was overall good .It was a good industry-based learning experience. We had weekly meetings with our faculty mentor and industry mentor to discuss the progress and guide us throughout the project.

Learning Outcome: PS-1 helped me to improve my communication skills and teamwork. I had to learn SQL, React, Node.Js and React from scratch.

Name: [Aryan Arora\(2019A7PS1204H\)](#)

Student Write-up

Short Summary of work done: We had to develop a Business Intelligence dashboard for Intel, which shows analytics of RMA'd products. We developed a web application using React, an API using Express and Node.js, and used SQL server as our database management system. We had to fetch data from the server and display statistics related to return orders, such as how many defective products have been returned recently, how many customer-induced damaged products have been returned, and other such statistics. All of this data had to be presented neatly and should be interactive; for example, date ranges can be changed and our displayed data should update accordingly.

PS-I experience: Our company mentor divided us into three groups. The divisions were for stored procedures, API, front-end. Following the team division, we set up multiple Github repositories to organize and handle the parts of the project and the material associated with them. Later, we decided to keep a single repository. We also decided on a template for the front-end, as it would have been easier to choose one rather than designing it from scratch. Finally, we gained access to the company database and fetched the specific data, according to the data points, and displayed them on our dashboard.

Learning Outcome: Our Tech Stack, React, Node, and Express are leading industry standards and used by major companies, thus we felt like we learned a lot out of this. We also used GitHub for our version control, which is one of the most widely used version

control technologies. Thus, we learnt a lot in the field of web development, and it gave us a starting point to learn even more.

PS-I station: Swecha - Shell Programming , Gachibowli

Student

Name: APOORVA SRIVASTAVA .(2019A1PS0709P)

Student Write-up

Short Summary of work done: My project was on speech Corpus API. web application based project. We made changes to the existing mozilla common voice repository. my work was on the backend side

PS-I experience: Fine.

Learning Outcome : Presentation skill. Team work spirit. Technical skills as typescript, Node.js, MySQL

Name: OSAMA ZAMEER .(2019A2PS1509H)

Student Write-up

Short Summary of work done: I worked on the project "fake news detection" during my PS1. It was a great working opportunity for me. I was responsible for developing a website from scratch. For that I had to learn frontend and backend development. Also I was responsible for integrating the website with machine learning model and Solr search engine. This was my first time doing such large project and my mentors and coordinators really helped a lot throughout the process.

PS-I experience: It was a great experience. I learned many new things. Whole process was very smooth. Organization mentors were reachable throughout the tenure and helped a lot in developing the project. My BITS mentor also helped a lot during PS1.

Learning Outcome: I learned many new things. First of all I learnt how to develop a website all from scratch using modern technologies. I also learned about solr seaching tools and a lot about machine learning. So overall it was a great learning opportunity and I learnt a lot.

Name: DHRUV J DOSHI .(2019A3PS0325P)

Student Write-up

Short Summary of work done: I worked on their Mobile Autonomous Cart which is an AGV for agricultural work. I worked on the navigation aspect where I took input from the camera and gave instructions. I also built an object detection module with the help of TensorFlow for detecting predefined objects in a video.

PS-I experience: I was initially skeptical about working remotely, but things were really smooth and I enjoyed contributing to open source and free software.

Learning Outcome: I learnt the basics of deep learning and convolutional neural networks. I am now able to work with the basic libraries in Python like NumPy and OpenCV and frameworks like Tensorflow used for deep learning. I also learnt to work with remotely working distributed teams with the help of Agile ADLC practises and worked on multiple DevOps softwares and technologies.

Name: KEVIN BIJU KIZHAKE KANICHERY .(2019A7PS0045H)

Student Write-up

Short Summary of work done: We had to create an integrated monitoring system for Swecha's infrastructure. This system would collect hundreds of metric points and logs from the hardware, software and networking stack and store them for further analysis. A dashboard that helps visualize all the collected metrics and logs was also made. If there are abnormalities in the collected metrics, an automated alert will be sent to set people via Telegram or E-Mail. We used Grafana, Prometheus and Loki for this project.

PS-I experience:

Learning Outcome: We learnt how to use Grafana, Prometheus and Loki. These are all enterprise class tools which are very helpful for DevOps and systems administration. Reading about their internal architecture was very illuminating. Integrating them together was a very insightful experience overall and we were glad we had this opportunity.

Name: ABHINEET KARN .(2019A7PS0091G)

Student Write-up

Short Summary of work done: Making a functioning ML model, able to detect images with pothole, from those without. Built an API integrating the front-end with the backend, for a complete web application.

PS-I experience: The experience at PS-1 was very enlightening. I learned about how to work with a professional team, on the same project and having regular dev sprints. Since my company was an NGO, we were advised to decrease use of proprietary software, and thus I explored many open source applications.

Learning Outcome: Outcome was work experience in a professional environment and a working project, as a contribution to free software.

Name: NEMANI SUDEEP KUMAR .(2019A7PS0163G)

Student Write-up

Short Summary of work done: Our project involved in building a text corpus API. I worked on making user data collection anonymous.

PS-I experience.

Learning Outcome: I learned about how a real work place environment operates and learned how to coordinate with a huge group of people working on a same project.

Name: AASTHA RASTOGI .(2019A7PS0175G)

Student Write-up

Short Summary of work done: Our project was - Mobile Autonomous Cart with guided vision for Agriculture. It's aim was to build Mobile autonomous cart for agriculture that is able to accurately identify the objects with both self-guided and Human (on ground and remote) guided capability. The cart would be used to collect and transport crops from farms, spray pesticides and for irrigation. I worked on the objective to instruct the cart to move on a central track, after detecting it. We also detected the deviation the cart might have while moving, and instructed it to take turns so as to keep on the central track. The technology used and project area was Machine Learning and Computer Vision. Challenges faced: Since the whole project requires hardware integration, which was not possible in a remote practice school internship, we could only work on the software part of the project.

PS-I experience: At first the station introduced us to various fields of technology by taking webinars. They assigned us projects and mentors almost after a month. Due to which, we couldn't have time to build upon the additional features of projects. Overall the experience was exemplary, because of interaction with Swecha team, PS Faculty and fellow peers from across campuses. It was a huge learning experience as I learnt and implemented various new tech fields and stacks.

Learning Outcome: I learnt about Deep Learning, Neural Networks and Computer Vision so as to work on the objective I took up. I also got familiarised with GitLab and Agile Methodologies which I hadn't used in projects before.

Name: MATHARU ROSHAN SINGH AVTAR SINGH(2019B1A31086G)

Student Write-up

Short Summary of work done: Built software for a Mobile Autonomous Cart for Agriculture, we used Machine Learning and Deep learning techniques and developed a vision based navigation system for a Mobile cart. It has multiple applications in farming like spraying pesticides, carrying goods and in future even harvesting. The project is a step to make technologies like these available, affordable and accessible to common people of India which is the main aim of Swecha Non profit organisation.

PS-I experience: The project was very interesting and application based, the start of the project was very slow in the first month where we majorly focused more on free software courses rather than the project. The courses were very informative and encouraged us towards free software movement which is the main principle followed by Swecha in the last few weeks we worked on the software part of the project and developed the first basic version for the client "Triangle Farms" on Hyderabad. I would be interested to contribute to the project after PS1 as well.

Learning Outcome: I learnt a lot about the Free software movement, it's importance and relevance in the present scenario where privacy and personal data are a being shared through the internet. In the project o also leant about principles and techniques involved in Machine Learning and Deep learning which helped me to develop interest in these areas in which I had no prior knowledge. I also learnt important soft skills like team management and communication skills which will help me in the corporate world in future.

Name: SHUBHAM PANDEY(2019B1AB0982P)

Student Write-up

Short Summary of work done: I worked on a free and open source audio spaces solution, an alternative to Clubhouse or Twitter Spaces. Starting off with market research about all such apps, we eventually figured out the MVP of our product. We extended an already existing open source solution called Jam Systems.

PS-I experience: It was fair enough. The group discussions were good and my faculty always pushed me to do better against all odds. There's a great learning opportunity in PS-1 if you are looking for it.

Learning Outcome: Learned about many technologies through workshops conducted by Swecha team. Learned to handle organizational and team issues.

Name: DIVYAM AGARWAL .(2019B2A81072G)

Student Write-up

Short Summary of work done: We have to create a local version of Mozilla Common Voice known as Swecha Voice. In which we had to extract Telugu sentences from a book Vikasitha, which were to be uploaded to Mozilla Repository. Then an anonymous form had to be applied to the website which would collect the data of the users without him/her requiring to login/signup into the website. Then we created a storage that was an alternative of Amazon S3 Storage. In addition to that, we attended live sessions, seminars, quizzes that were organized by Swecha.

PS-I experience: It was a great and enriching experience overall.

Learning Outcome: I learned communication skills and leadership skills in addition to the technologies which were required for the above project.

Name: SAYAN SAMANTA .(2019B2A81088G)

Student Write-up

Short Summary of work done: The project assigned to us was Swecha Voice project which aimed to modify Mozilla's common Voice project. Swecha team had already cloned and modified the version of Mozilla's Common Voice. But the website, called the Swecha Voice website needed modifications. These modifications were: Modifying the Text Corpus, Implementing S3 proxy and collecting anonymous data from the user. I was a part of the Text Corpus team and our job was to extract sentences to train the machine learning model. The cloned version of the website did not have enough sentences for the Machine Learning model and those that were there were also not optimal. Some sentences were too long for the user to read or had poor syntax. Modifying the text corpus dealt with collecting data which is optimal for both the reader and the machine learning model.

So we learnt about Machine Learning tools like Orange ML and data visualisation tools like Apache Superset and created a model for Speech recognition system in Telugu. So we built a custom function which was coded in python using Pandas library to extract only those sentences that followed some constraints like no. of words, no punctuation marks in between sentences, etc. Text corpus for the website was taken from 'Vikasitha' and sentences were added to the website. We also debugged some of the issues that the Swecha voice website had with connecting to the database and deployed our modified version.

PS-I experience: We were successful in integrating the code with the Swecha common-voice repository and connected with the MySQL database. We were able to extract the sentences which were inline with some constraints. The last week was a little hectic but it was fun working with everyone else as a team and overcoming all the challenges together to finish the project. We learnt how to work as a team and Practice School has definitely helped all of us to improve our technical as well as communication skills. I myself did not know much about python but this project led me to learn Python and then write a custom program which would help the team with the subtasks provided to us. Everyone in Text Corpus team as well as the other two teams worked together and helped each other whenever any of us needed help in understanding the code or writing the code etc. It was because of the contribution of every single person in the team that we were able to successfully build the machine learning model for Text Collection.

Learning Outcome: learnt more about Python, explored various libraries such as Pandas, CSV, CSVFiles, learnt about machine learning tools such as OrangeML and data

visualisation tools like Apache Superset etc. Also learnt how to work with MySQL databases.

Name: SATHVIK KANTHETI.(2019B3A30638H)

Student Write-up

Short Summary of work done: The first month of the PS mostly consisted of training where we had the opportunity to attend seminars on various topics given by many distinguished individuals. In the later half we were assigned the project of coming up with an Infrastructure monitoring dashboard. We were asked to familiarize ourselves with tools like Prometheus and Grafana, and create customized dashboards for monitoring of hardware, applications and network. The next few weeks consisted of installing and configuring the tools and customizing dashboards and the alerting systems as per the requirements of our PS station. We have successful in completing our project.

PS-I experience: It was a great learning experience. It certainly gave us a lot insight into the workings of the industry. We were also given the opportunity to enhance our technical knowledge of the field for which I am very thankful. However, communication from the end of the PS station was a little lacking, and there were huge delays in the allotment of projects.

Learning Outcome: I understood the concept of monitoring systems and their importance. I understood the significance of collecting and storing metrics and logs for systems running multiple servers. understood the basics of using exporters and visualization tools to represent the collected metrics. I learnt the proper way to conduct myself during meetings and also how essential it is have a proper chain of communication to be able to get work done efficiently.

PS-I station: Swecha - Speech Recognition , Gachibowli

Student

Name: AKULA KOTESWARUDU .(2019A7PS0035H)

Student Write-up

Short Summary of work done: The work I did was improvement of already existing fake news detection system by introducing new deep learning techniques into it. our Fake news detection system finds whether a user given input text information is fake or not by fact checking with some trust worthy websites. It stores the articles from different trustworthy websites in database and using the it will do fact check. Our team introduced an idea of using Text Summarization for correlation between sentences. The basic idea of using text summarization is to extract summary out of the article' s before we store them in SOLR(search engine + database) and then store the summary along with the article in SOLR. whenever a user comes in and enter some text we will search it through the summary along with the article because generally no one enters the same text or use same words that are present in an article into the text box instead they often use different words and write only summary of what they read or heard somewhere so abstractive text summarization will do the same while extracting summary i.e. it may give different words and extract only important points of whole article so while searching if we search through summary it may increase chances of matching users text. we also introduced OCR , language translation and video from text flexibilities into the system.

PS-I experience: I have learned about what are free and opensource projects, how to use them and how to contribute them etc. I got experience of using agile methodology in software development life cycle as we followed sdlc with daily sprints. so we got exposure to sdlc. i got experience of how to organize the work of different people in a team using platforms like gitlab. Got some idea of the way we follow to build a production level application.

Learning Outcome: I already have some experience on machine learning before PS-1 but it is enhanced way better with deep learning techniques as i have implemented them in our fake news detection model. i learned gitlab and some other useful GUI based tools for ML and NLP through swecha.

Name: S KARTHIK REDDY .(2019A7PS0038G)

Student Write-up

Short Summary of work done: Feasibility of Non-docker implementation of S3proxy. Checking for S3proxy and how do we achieve that.

- Resolve some configuration-related bugs of MYSQL.
- Stabilizing and debugging the Swecha voice project.
- Proposal of new common voice version as a base of the project.
- Checking the possibility of node environment implementation of the web.

PS-I experience: It was a good experience working with industry mentors and taking help from them and sitting together in debugging sessions and also they conducted classes to make familiarize with tools not only project specific but also others. Although my project was speech recognition due to the lack of datasets for training the model we had to build the speech corpus for collecting the data and use them for training model in future.

Learning Outcome:

- I became fluent and familiar with using Git Bash, Gitlab, Github.
- I learned about Common and important tools used in various tech companies.
- DeepLearning methods in natural language processing.
- I became familiar with the Docker environment.
- I became good at working with large project files and handling them

Name: DHRUV VEER BHUTANI .(2019A7PS0080G)

Student Write-up

Short Summary of work done: Development of machine learning model to detect potholes in an image. API development for it's integration in the larger Citizen dashboard project. Datasets also needed to be found for the model, which was then self trained and built using TensorFlow. API development was using flask and testing was using Postman

PS-I experience: Swecha had taken a large number of students for PS-1 and does have the number of projects to support that. The individual focus received is then less but

teamwork is essential. The mentors were quite capable but the direction of the project was up to us

Learning Outcome: There was a huge focus in their philosophy about the perils of proprietary software which helped raise awareness about Free Software. Deep Learning and API fundamentals were looked up by us to code the project

Name: [DHYANA CHIDVILAS ROTTELA .\(2019A7PS0093G\)](#)

Student Write-up

Short Summary of work done: Swecha voice project aims to train and Build a Speech Recognition Model which could understand and also respond in Telugu (especially). But we first had to collect data for the model, so the project objectives were re-aligned to data collection and my team was given S3 proxy server implementation which involved the following tasks:

- 1.Stabilizing and debugging the Swecha voice project.
- 2.Proposal of new common voice version as a base of the project.
- 3.Checking the possibility of node environment implementation of the web.
- 4.Figuring out the complete Architecture.
- 5.Checking for S3proxy and how do we achieve that.
- 6.Feasibility of Non-docker implementation of S3proxy.
- 7.Finding where collected clips are stored.
- 8.Resolve some configuration-related bugs of MYSQL.

PS-I experience: The experience was good. But the project which we were working on, wasn't aligned to what we had expected. I expected a speech recognition model, but we ended up working on S3 proxy server, basic backend work.

Learning Outcome: With respect to the S3 proxy, I learnt how to debug and analyze github repositories and understand how the the backend of the projects works.

Name: BOLISETTY LOKESH .(2019A7PS0103G)

Student Write-up

Short Summary of work done: I worked on the text corpus API for swecha Voice. I had to take out sentences from a file given and store only those sentences which have specified number of words.

PS-I experience: Mostly there were lectures and webinars. Talks and competitions were conducted. Project and mentor allotment happened after a month from the start of PS. Tasks were given to each team and we had to work collectively on them. I gave a talk in the lightning talks they conducted and presented my project ideas couple of times.

Learning Outcome: I have learnt to communicate formally about my ideas and proposals for the project. I have learnt to present my ideas and work with deadlines. I have learnt using GITLab issues to effectively showcase the project progress.

Name: BOLISETTY LOKESH .(2019A7PS0103G)

Student Write-up

Short Summary of work done: I have modified the text corpus. As a part of this, the tasks were,

- 1.) Increase the database of text corpus
- 2.) Make constraints on what sentences have to be included
- 3.) Integrate the code into the main codebase.

I used Pandas library and coded everything in Python.

Since I completed all masks, I was asked to scrape data from wikipedia. I wrote the code for that and integrated it with the existing code

PS-I experience:

Learning Outcome: Improved leadership skills, presentation skills and able to go through a real open source project and manage merges in it.

Name: BHEEMSHETTY SREEKAR .(2019A7PS0137G)

Student Write-up

Short Summary of work done: Swcha Voice is an initiative to build a speech recognition system in local languages. It should be very user friendly and privacy aware. To build such speech recognition system considering the constraints like noise and different slangs and dialects of the language, we needed at least 2000 hours of voices in each language to train the model. Currently, we do not have that huge data. So our project was re-assigned to make the existing speech corpus of swecha even more user friendly and privacy aware to collect 2000hrs data as soon as possible. To do that we had 3 sub-teams and I was part of Text Corpus team. Our job was to filter the sentences from the csv file of VIKASITHA and add them to the database. And these are the sentences which would be displayed o the screen for the user. We completed this task successfully and were assigned another task, to increase the sentences in the database. We were successful in doing this as well using the datasets of clean telugu wikipedia articles in kaggle.

PS-I experience: Overall It was a good experience. I got to know how an organization works. I learnt about different methodologies that could be followed to complete a software project like waterfall and agile methodology. We followed the agile methodology to complete our project. I got an experience of presentations and writing the reports. I also found how a team should function in order to complete the project before the given deadline. It was good to meet nice mentors who will guide us through our project.

Learning Outcome:

- 1.) I got hands-on experience of python as we implemented our algorithm in python.
 - 2.) I learnt about different methodologies of completion of a software development project.
 - 3.) I learnt how to interact with mentors and how to work in a team.
 - 4.) I got experienced of giving presentations and writing reports.
 - 5.) I figured out how to read the existing repository and contribute on top of that.
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Name: VISHAL VIVEK BHARAMBE .(2019A7PS0160G)

Student Write-up

Short Summary of work done: Collection and processing of data , with preprocessing of audio input and integration with the database, over which we have to learn about models and requirements for automatic speech recognition and try to implement it as a side project

PS-I experience: PS1 was my first industry experience so it was very interesting and important program.Overall, it was a nice experience and i got to learn a lot from it. and i got to know how a firm works. I got to know and learn about communicating in a professional space . The projects had a lot of potential and we completed our assigned project as well

Learning Outcome: Due to the various Lectures and sessions that were conducted by swecha we got to learn about Free Software , Dark patterns and minute differences between free and open source and got to know about Agile as well.

Name: PRONOMA BANERJEE .(2019B4A70690G)

Student Write-up

Short Summary of work done: Our project was on building a web extension for Fake News Detection. As part of the ML team, I had to get a very good understanding of Natural language processing, working with Apache Solr, candidate selection, doc to doc comparison and textual entailment to improve our ML model. We also applied LSTM seq2seq models for text summarisation for better keyword extraction and interpretation of similar news articles and handling negations. This was followed by classification using pre-trained models such as XLNet. We learnt how to contribute to any open-source project, through GitLab.

PS-I experience: My PS experience was good. At first we had several sessions to help beginners understand the concepts of Machine Learning, Deep learning, Computer Vision and Natural language processing. We also had a few sessions describing the Agile software development life cycle and its importance. My PS station, being a centre for the

Free Software Foundation of India, also took several initiatives to let us to know the importance of free and open-source softwares and software interpretability. Overall, even though remote, I had a good learning experience as well as bonded well with my project team, even with the members from other campuses.

Learning Outcome: I learnt a lot about the entire field of Deep Learning and NLP, and could apply it hands on in a project. I also learnt to use GitLab, send merge requests and hence contribute to any large scale open-source project.

Name: SINGH AKSHAT RAVINDRA KUMAR .(2019B4AA0842H)

Student Write-up

Short Summary of work done: As a part of Practice School-I, we were initially told that we will be working as a team to build and train a machine learning model for speech recognition for regional languages, especially Telugu. The counterparts for them in popular languages like English, are in huge numbers, and quite useful. We learnt the process of contributing to open-source softwares and working as a team for software development. The mentors and clients decided to change the workflow. They said that the current data is insufficient and the data storage mechanism needs few changes. The prerequisite objectives were primarily divided into Generating Text Corpus, S3 Proxy Implementation and making corpus Collection anonymous. I have been a part of the S3 proxy team.

PS-I experience: It was a good learning experience.

Learning Outcome: We learnt how to collaborate with a team.
I got to learn about the importance of open source contributions.
I learnt how to use basic git commands, and to use github and gitlab.
I learnt the basics of SQL.
We completed the tasks assigned to us.

PS-I station: Swecha - Web Development - (3) , Gachibowli

Student

Name: HARSH SHANDILYA .(2019A3PS0231G)

Student Write-up

Short Summary of work done: We had to work on a free software alternative to clubhouse and twitter space. A project was already in place called JAM Systems, we just had to improve on it by adding authentication, changes in user interface and other improvements.

PS-I experience: It was an overall development of technical skills and soft skills and am looking forward to apply what I have learnt in ps1 in further projects.

Learning Outcome: ReactJS and WebRTC

Name: AGASHE SHRISHAILYA ANIL .(2019A7PS0004G)

Student Write-up

Short Summary of work done: Worked on a Mobile Autonomus cart. Did the Arduino interfacing tasks. Learnt libraries in python

PS-I experience: Decent.

Learning Outcome: Got to work in python; Got to learn how to communicate and work in a team

Name: REDASANI ANMOL VIVEKKUMAR(2019A7PS0072G)

Student Write-up

Short Summary of work done: Worked on Mobile Autonomous Cart by Guided Vision. I learnt Python and its libraries and worked on the XY plotting.

PS-I experience: It was fine.

Learning Outcome: Learnt Python libraries and worked on XY plotting.

Name: AEISHNA KHAUND .(2019A7PS0131G)

Student Write-up

Short Summary of work done: We were divided into groups and allotted projects; the projects did not have to be of the domain allocated. For example, I was allotted the Web Development station of Swecha, but I chose an ML project. We had to make work on an ML model that can detect road potholes with good accuracy. We tested several pre-trained models and finally wrote our own CNN model. Our project was part of a larger citizen welfare project. We also did some work on developing API for this model so that other applications can use it easily. We were required to do a project demo for the client at the end of the PS.

PS-I experience: The first contact with the company and the allotment of projects took some time. The first month was mostly for seminars and teaching sessions related to the Free Software movement and ethical software, and some technologies, like Agile development, Orange ML, Computer Vision and so on. The work actually started towards the end of June. The project mentors and coordinator guided us well. In late July, the process of keeping the coordinator and mentor updated with our work progress was followed strictly, and we were given daily grades based on our work. As team lead, I also had to give updates in team-lead meetings.

Learning Outcome: I learned to work independently, and gained interpersonal skills from having to coordinate with teams that were working on other areas of our larger project.

Name: ADITYA SHARMA .(2019A7PS0176G)

Student Write-up

Short Summary of work done: The project was to build a speech-to-text generator, so for the first half of the PS, research was done on the machine learning algorithms to be used. Learnt about the different algorithms that could be used for this. The meeting with the client entailed that a model must be made for the Telugu language. We were then given the task for data collection. Sentences from a Telugu book were taken and a website was to be set up so that people could anonymously provide a voice clip for the training of the model. The clippings were saved to local storage in wav format to be used for training later.

PS-I experience:

Learning Outcome: Learnt about ML algorithms.

Name: KUNAL SEERNANI .(2019AAPS0246G)

Student Write-up

Short Summary of work done: Was part of the team working on the Front-end of the Swecha Voice website to incorporate an additional feature using React, TypeScript, and CSS to collect user data for training a voice module.

PS-I experience: It was a good experience as we got to learn a lot. Our mentors guided us and regular training sessions were held throughout the internship.

Learning Outcome: I started with learning web development: HTML, CSS, Bootstrap, Javascript. I also got a chance to learn REACTJS, MATERIAL UI and their real-life application.

Name: SANCHIT NARANG .(2019B2A31439H)

Student Write-up

Short Summary of work done: My project dealt with web development and I was a part of both frontend and backend team. I was allotted Farmers' Cooperative as my project. The aim of the project was to reduce the middlemen costs by building a website helps customers directly interact with the farmers. We started with making the the home page of the website and made it responsive and dynamic. We added many products and enhanced the UI/UX of it. We created shopping page which lists each product along with description and incorporated filtering and sorting features. We used HTML,CSS and Javascript for it. The complete backend was done using NodeJS. We enhanced user interface and made the webpages look attractive and engaging. A specific product page was also made to incorporate live time bidding using hyperledger fabric blockchain technology. This helps both customers and farmers to interact in live time and shows the current bids and the current prices of each and every product. We also made a cloud database with sample data fitting the structure of the registration, bidding and shopping page and many more. We used MongoDB as our database for storing all the necessary information . We also did authentication using passport local mongoose and created the login/signup pages. The project was concluded by connecting backend and the blockchain part with the frontend and finally deploying it.

PS-I experience: It was great to be a part of Swecha and contribute to free software development. I got the chance of interacting with the clients and making projects under them. It was an awesome learning experience for me as I got to know how things actually work in the professional work front. It gave me an opportunity to express my skills and implement it. We had daily standup meets with team members and also the clients which helped me grow a lot. I believe this exposure will help me not only in my personal growth but will also make me a refined individual ready to contribute to the industry in the best possible way.

Learning Outcome: Practice School 1 allowed me to expand my horizons and apply my knowledge at a professional workplace. It helped me build a bridge between industry

experience with academic instruction. With everything going virtual due to the current pandemic , seeking practical experience is a must. PS1 provided me with the required industry exposure that will help me to grow as a person. It helped me learn a lot by applying the knowledge and skills I possess in real life situations. Also, one of the major objective of practice school is to help us learn organization structure and its functions and to develop community exposure and skills. I believe this exposure will help me not only in my personal growth but will also make me a refined individual ready to contribute to the industry in the best possible way.

Name: [Yash Vimal Saravgi\(2019B2A31530H\)](#)

Student Write-up

Short Summary of work done: We worked on a Web App called Kisan Market. Kisan Market is that sort of platform where the farmer directly interacts with the customer and sells his products at Minimum Supporting Price. We built the Frontend with help of HTML, CSS, JS and for the backend we used Nodejs, MongoDB and we also implemented Hyperledger fabric blockchain.

PS-I experience: PS 1 experience was overall good .The quality of the project given was fine. It was a good experience for a web development project.

Learning Outcome: The project helped me understand how a open source organization like Swecha works. It also helped me in improving my frontend knowledge and As there were several components of evaluation during the course of PS1, I also learned how to prepare myself for group discussions and seminars. So overall the learning outcome was good.

Name: [TUSHAR SHARMA .\(2019B2AA1065G\)](#)

Student Write-up

Short Summary of work done: I worked on Project Swecha Voice, which aimed to build completely free software and privacy-aware speech recognition system for regional languages. Our Project Aimed at Collecting Speech corpus for training the model for the future purpose like voice assistant and speech recognition API development. We already have existing Speech recognition and dialogue systems however, privacy-aware speech recognition alternatives for regional languages are very few. Our problem statement was to collect important information related to the voice corpus and, at the same time, ensure the anonymity of the user. We successfully integrated a fully functional form to the website and developed the UI as expected by the organization. Apart from the form integration, we have also committed the changes as expected by Swecha on Git lab Project Repository. In the Backend, we Connected the database to the localized codebase, Created a table in the database, which would be required to fill the anonymous data and finally linked the clips collected to this anonymous data

PS-I experience: It was an enlightening experience and gave valuable insight on how corporate work and the process of making and submitting projects in an organization. The beginning part of the project was given a generous amount of time, so that team members can pick up the essence of the project and get acquainted with the technology stack without being overwhelmed. Initially, we faced some challenges while setting up the basic project structure, collaborating via GitHub, and running the project in the local environment, but eventually, everything was sorted out. Overall, it was a good experience which led to developing a lot of skills, technical as well as soft skills.

Learning Outcome: Since I worked on website development, I learned about some basics and advanced features of Web-Development including HTML, CSS, Bootstrap, Typescript, React, NodeJs and MySQL as well. And, our Team worked on Gitlab, so get to learn about open source contributions. Also being Team Lead get to learn about Team Management.

Name: PRAKHAR GUPTA .(2019B3A70516P)

Student Write-up

Short Summary of work done: We began by learning about free softwares and are currently using industry grade free softwares such as codelab, bluejeans (video conferencing platform), and have successfully developed a website , web extension for

our fake news detection project. Swecha has supplied us with excellent mentors and a staff to ensure a smooth workflow.

PS-I experience: good

Learning Outcome: successfully learned to develop a website , web extension for our fake news detection project

Name: Akash Saini(2019B4TS1274P)

Student Write-up

Short Summary of work done:

Our project is on TRAINING AND BUILDING A MODEL FOR SWECHA VOICE. We have created a Text Corpus for Swecha Voice. We have considered the book Vikasitha in .csv format as the dataset for building the text corpus. The purpose of the text corpus is to check the occurrences of words related to others to validate linguistic rules. It Will help in increasing the accuracy of the speech-to-text converter using grammar to calculate the probability of a word. Added features like an unanswered query will automatically be stored in the database, and it delivers the answers to the user in both text and speech format.

PS-I experience: I had a very educational and enriching experience working with SWECHA and being a part of the Free Software Movement of India. I learned various aspects of the corporate world and a lot of things about my project domain. Being the Team Lead, I delegate tasks and set project deadlines. We got exposed to the work culture in an IT company and learned to do teamwork. The mentors helped us a lot and guided us in every stage of our project. They taught us about all the latest technologies used by IT companies to develop industry-standard products. Overall, it was a good learning experience.

Learning Outcome: I got to learn different technologies, software, python libraries, etc. I had no prior experience of Machine Learning and Natural Language Processing, and PS proved to be the beginning of a new journey. I gained basic knowledge of different Machine Learning classification algorithms and different scrapping, text processing, and text vectorization techniques to use those texts for classification. And most significant of

all, I gained the experience of work from home. Participation in Group Discussions and Seminars and presentations of our project in seminars helped me develop different soft skills.

Name: CHOUDHARI PUSHKAR DURGADAS .(2019A3PS0262P)

Student Write-up

Short Summary of work done: Worked on Designing Front-end for an Auto Program evaluator similar to the ones, in Code forces or Code chef with the added benefit of not needing any testcase as the program generates its own testcases.

PS-I experience: It was good, resourceful. Employees, mentors and Client were very supportive and friendly. Got exposure to corporate lifestyle along with newly acquired skills relating to the field of computer science. In a sentence: "It's amazing". It boosted my technical skills, presentation skills, communication skills, and knowledge about the domain I am working

Learning Outcome: Team work, Development of free software, testing of free software, WebDevelopment.

Name: ADNAN MOHD .(2019A3PS0376H)

Student Write-up

Short Summary of work done : The domain was Full Stack Web Development where we were supposed to work on two projects:

1. Online Blood and Plasma Bank
2. Auto Equivalence Evaluation Web Application

The tech stack required for the aforementioned is:

HTML, CSS, Bootstrap, JavaScript, Express.js, and MongoDB .

The projects were highly structured and involved regular standups and dev/tech sprints.

PS-I experience: The experience provided a plethora of opportunities of learning and the imperative exposure to industrial standards of work.

Learning Outcome: Got an insight into industrial structure and pattern of work. Learnt to apply theoretical concepts in real-life. Improvised upon the current skills.

Name: KUSHAGRA MOTIANI .(2019A3PS0430G)

Student Write-up

Short Summary of work done: I am part of the team working on the Front-end of the Swecha Voice website to incorporate an additional feature using React, TypeScript, and CSS to collect user data for training a voice module.

PS-I experience: It was a good experience as we got to learn a lot. Our mentors guided us and regular training sessions were held throughout the internship.

Learning Outcome: I started with learning web development: HTML, CSS, Bootstrap, Javascript. I also got a chance to learn REACTJS, MATERIAL UI and their real-life application.

Name: SAMAR JAISH .(2019A3PS1309H)

Student Write-up

Short Summary of work done: I had a project on Speech and text api in Swecha. The work involved working on an anonymous data collection form, building our own s3 proxy

and text corpus. I successfully integrated a fully functional form to the website and made changes to the UI as expected by the organization. On the backend part, we were able to create a table in the database into which we could push the user data. Once the front-end team integrated the form into the codebase we worked on it and managed to send the data collected from the form into the database. I also subsequently linked the clips that are being recorded to the user data.

PS-I experience: My mentor was very cooperative and helped me in developing the approach of the task to be done on each day. The overall experience of PS-1 was very fascinating and provided a good amount of industrial exposure and opportunity to learn new things besides the barrier of Work from Home. The beginning part of the project was given a generous amount of time, so that team members can pick up the essence of the project and get acquainted with the technology stack without being overwhelmed. The continuous evaluation like Group discussions, Seminars and Project reports were also fun and a new experience.

Learning Outcome: PS-I was a great learning experience for me. I got introduced to new packages like ReactJs, Typescript, MySQL, NodeJs, Docker. I also worked in SDLC environment with other other members of my project. Apart from these technical learnings I also enhanced my soft skills and took responsibility of being a project lead.

Name: SAGAR SAHIL NILESH .(2019A4PS1108G)

Student Write-up

Short Summary of work done: My work involved working on a e-commerce website for farmers, where buyers and sellers match. This helps famers get price for their produce and hence uplift them.

PS-I experience: It was a great experience to work in a team and such experienced mentors.

Learning Outcome: During the course the practice school internship I have learned the following tech stacks for incorporating frontend and for making the necessary updations in the UI/UX of the website:

1. HTML
2. CSS
3. JS

Name: ANSHUMAN SINGH .(2019A4PS1361H)

Student Write-up

Short Summary of work done: My project was to develop an audio-based solution(clubhouse/twitter space alternative). Web development projects using MEAN stack(Mongo, ExpressJs, Angular, NodeJs). Though initially, we faced many difficulties regarding implementing the above, our mentor was very motivating and understood our doubts and clarified them on time. We were also provided ample time to learn whatever was required by the project. The work given to us was appropriate for our qualifications and even allowed us to push ourselves to complete the project.

PS-I experience: I learned a lot of things, from how an organization functions to how teams coordinate on projects. I studied various new languages and topics, which will help my future courses and projects.

Learning Outcome: I got to engage with web development techs like nodeJs, git, angular, and MongoDB

Name: GUNDLAPALLI SHIVA HARSHITH .(2019A7PS0030H)

Student Write-up

Short Summary of work done: I were tasked with creating the UI of an Auto Evaluation Tool which would later be available as plugin for Moodle. My team and I made three pages for the tool namely student's exam page, teacher view page and login page. I then

integrated the code of the Auto Evaluation Tool provided by the client with the back-end of the exam page and stringed the remaining pages together.

PS-I experience: It was very good.

Learning Outcome:

- Learned Web architecture.
- Learned HTML, CSS, Javascript and Node.js.
- Learned how to work in a team.
- Learned Agile model.

Name: MOHIT BATHLA .(2019A7PS0068G)

Student Write-up

Short Summary of work done : I was a part of a machine learning project 'Pothole Detection'. We made use of convolution neural networks to build a model which can detect potholes on the roads. An image is uploaded by some person on the citizen dashboard (built by webd team) if he/she encounters a pothole and our model helps to detect whether it's really a pothole and not a fake request. If the pothole is detected the complaint gets registered.

PS-I experience: It was a great experience. I learnt various new things not just technical but also non technical like communication, presentation skills.

Learning Outcome: This internship gave me a kickstart in a field which interests me i.e machine learning. I am so excited for the journey ahead.

Name: LALWANI PIYUSH MANOJ .(2019A7PS0081H)

Student Write-up

Short Summary of work done: Deep Learning and computer vision was introduced by the sessions held by Swecha. Done a course on Coursera on Deep Learning which helped me with understanding Deep Learning better. The Pothole Detection Model was ready but not been tested .After testing,fixing the bugs and replacing Rcn algorithm with cnn algorithm the model was running. Afterwards the model had been trained with a larger dataset to improve its accuracy. At the end I was allotted for finding more datasets which could be integrated with Mark a spot.

PS-I experience: Working on these difficulties provided me with excellent real-world experience in how solutions are developed and executed, particularly in how there is no single correct answer and the most optimal approach must be consistently sought.It was also really beneficial that we were able to work on this as a group effort, just as we would in the workplace. It taught us important lessons about collaboration.

Learning Outcome: The project exposed me to a variety of Python libraries, including TensorFlow and Keras. We also had to use NumPy and Pandas to support the structure of our model. Swecha's webinars provided an excellent introduction to the theory of Deep Learning and Computer Vision.

Name: PAGAR ATHARVA BHUSHAN .(2019A7PS0085H)

Student Write-up

Short Summary of work done: I was allocated the Citizen dashboard project by the Swecha team for the PS-1. City dashboards are a visual way to showcase your municipal measures and goal progress. Part of this project, we had to implement the open-311 APIs standards to build an app and website to collect citizen complaints and show these statistics over a map for the dashboard.

PS-I experience: We had stand-up meets and dev-sprints everyday. Mentor meets took place twice- thrice a week. The mentors helped a lot while the debugging and the

deployment process. The work environment was very positive, professional and helpful. The overall experience was very good during this PS duration.

Learning Outcome: These are the major Learning Outcomes:-

- We understood the importance of Open-source and how effective FSMI is.
- Swecha has helped us realize how dark patterns exist and how to be aware of them.
- We have used Drupal and its free software modules to implement our applications features.
- We have switched to Debian or Ubuntu which promote the Free Software Movement.
- Building a fully working and interactive dashboard, integrating API's.
- We have switched from the native IDE's to Web based open source IDE such as Lime Text editor and the terminal from Debian/Ubuntu.

Name: HARSHAL AGRAWAL .(2019A8PS0416P)

Student Write-up

Short Summary of work done: We were assigned on a web development project wherein he had to make a website called "Farmers Cooperative" where the farmers from all over the country could post their crops for bidding. The main aim of this project was to eliminate the injustice that is being faced by farmers all over india due to price difference in MSP and the price they are forced to accept due to no other way. On our website the farmers could get a huge amount of profit for their hard earned crops.

PS-I experience: PS-1 has been my first look into the corporate world and the experience has been really nice. We attended a lot of meetings with our mentors as well as the clients. We listened to their instructions and suggested a few improvements on our own much as I imagine would happen in our professional lives in a few years as well. All in all it was a wonderful experience.

Learning Outcome: My job in our project was to work on Blockchain technology along with one other teammate. We used Hyperledger to achieve the same and used javaScript to write the smart contracts.

Name: ANIRUDH SRIVASTAVA .(2019A8PS0496G)

Student Write-up

Short Summary of work done: We were given a number of open source projects that we could choose from and were assigned to teams based on those choices. I was assigned to work on the development of a Placement Management System initially which was later changed to the development of an Audio Spaces Solution akin to Clubhouse. We were allotted mentors by the company to assist us with the project, with whom we had periodic meets regarding updates on the project and guidance regarding the same. Work was divided among subteams created within the teams and we had daily dev sprints and standups. I personally was in the backend team on the first project (PMS) and in the testing and deployment team (Audio Spaces). I was also responsible for conducting market research for both the projects, where I had to analyse the competitors' platforms and find potential issues or features that could be added.

PS-I experience: It was a decent experience overall. The pace of the project was a little slow to start with, but it picked up in time. The mentors and instructor were very cooperative and understanding, and working with my peers from other campuses was a good experience. The frequent chopping and changing of the project and demands from the company was slightly difficult to deal with, but we were well guided throughout.

Learning Outcome: The company placed a lot of emphasis on the usage of free software tools, so I learned about many new tools that I didn't know of before. They also conducted various sessions and panel discussions in preparation for the project which covered a variety of topics. On a personal level I learnt introductory web development in preparation for the project and exchanged knowledge with my peers too. Lastly I also gained soft skills thanks to the nature of the project which emphasised on teamwork, meetings with clients and mentors as well as the group discussions conducted by the faculty in charge.

Name: Hreetik Arora(2019A8PS0513G)

Student Write-up

Short Summary of work done: Project on Mobile Autonomous Cart with guided Vision for Agriculture. This Project aims to build Mobile autonomous cart for agriculture that is able to accurately identify the objects with both self-guided and Human (on ground and remote) guided capability. This involves multi-sensor fusion mechanisms and vision guided autonomous learning approaches. The possible use of the following sensors are estimated for project development:

TeraRanger Tower Evo Solid-State LiDAR system
TeraBee follow sensor
3D Camera

PS-I experience:

Learning Outcome: Machine Learning Basics and Computer Vision Basics.

Name: [SABBISSETTI HEMANTH .\(2019AAPS0202H\)](#)

Student Write-up

Short Summary of work done: The project chosen was Fake News Detector. We tried to identify the news either Fake or not fake using fact verification. Providing Explainable response using trust worthy news sites, giving supporting documents with fact checking.

PS-I experience: It was good, the mentor was regular in communication and pointed us towards all the necessary resources. Our PS - Instructor was also very helpful and regular in every assessment.

Learning Outcome: I got to learn about many different technologies and software such as HTML, CSS, JS and Django. I learnt a lot of things about web development and it gave me a headstart to start learning on my own. I learnt how to communicate and work with industry professionals.

Name: VIRAMGAMA ANIKET BIPINKUMAR(2019AAPS0205G)

Student Write-up

Short Summary of work done: Worked on Web Extension Development. Project was about Machine learning but I was required to build a web extension for the Model. Project name was Fake News Detection

PS-I experience:

Learning Outcome: Just basic JS.

Name: RAVISH CHAND .(2019B1A31036P)

Student Write-up

Short Summary of work done: We worked on developing a free software alternative to Uber and designed a responsive website for ride-sharing. In addition, we developed a CRM solution to assist the organization in managing events and tracking participants across multiple events. Being a team leader, I had regular meetings with clients and mentors. My role was to host daily stand-ups, design daily tasks, lead the dev sprints and report the progress to the organization.

PS-I experience: It had been a pleasant experience. Employees, mentors, and the client were all quite accommodating and pleasant. I obtained work experience in the corporate world as well as gained new technical skills.

Learning Outcome: Teamwork, gained leadership qualities, boosted technical skills, development, testing feasibility of software, working in Agile SDLC model.

Name: MOHD AKHLAD ANSARI .(2019B2A30906G)

Student Write-up

Short Summary of work done: I was assigned to work on an online blood bank project. I worked on the front-end of one simple web page which consisted of a form. After midsem, our project suddenly changed and we were assigned to an AutoEvaluation project which consisted mainly of backend and we were expected to come up with a working web app in that amount of time.

PS-I experience:

Learning Outcome: I learnt about HTML CSS JS and NodeJS. Made some webpages on my own.

Name: SHAMBHAVI SUMEDHA .(2019B2A31080G)

Student Write-up

Short Summary of work done: Had to make a website for detecting fake news detection using HTML, CSS and JS in collaboration with Machine learning team.

PS-I experience: Got to learn HTML and CSS which gave me a good start towards front end web development. My work included the beautification of the site, using animations, setting font style and other styling. I also learnt how an industry works. I enjoyed my work and got to learn a lot of soft skills like presenting my ideas in front of everyone, being able to speak up in front of the team leads and team work.

Learning Outcome: I have learned HTML, CSS, Bootstrap and JS.

Name: HITESH KUMAR .(2019B2A31548H)

Student Write-up

Short Summary of work done: During the first half of my PS1, I was allotted 'Online Blood Bank' project by Swecha. I was asked to contribute to the development of an online blood and plasma bank portal. . This was my first introduction to the world of web development. With my mentor's permission, I spent some days to learn HTML, CSS, and JavaScript. I mostly contributed to the development of the UI using HTML, CSS and helped in fixing some miscellaneous bugs and issues. This was my first time working with a team, and it was good.

During the second half, since the blood bank project was done, I was allotted a new project called "Auto Equivalence Evaluation". I had to help in development of a UI for a python CLI program that could automatically evaluate coding questions. My team and I started with making the wireframes of the different webpages that were needed. Then, the team was divided into 2 subgroups, front end and back end. I was in front end and my task was to develop a page where teachers could upload questions along with sample input and output. I made the UI from scratch using HTML, CSS and Bootstrap. The webpage is responsive and has cool UI effects like navbar hover effects. I also communicated with the backend team so that the data entered in the webpage can be stored in a database. I also maintained the project's Gitlab repo.

PS-I experience: PS1 has been a great learning experience for me. I got to know how the industry works. I met new people and learnt how to work together as a team.

Learning Outcome: My technical learnings were that I learnt new languages and frameworks like

1. HTML
2. CSS
3. Bootstrap
4. JavaScript and node.js
5. ExpressJS
6. MongoDB
7. GIT

Other key learnings included learning how to be professional in meetings, Collaboration Skills, Effective Communication Skills, Sticking to deadlines, Time Management, Project Planning skills (planning a project blueprint before execution).

Since Swecha is an NPO, I also got to know how an NPO functions.

Name: AKSHAT SINGHAL .(2019B2A40936G)

Student Write-up

Short Summary of work done: In swecha I worked on a project Fake news detector with a team of 18 members , We developed a web extension for detecting fake news and create a better and trustworthy internet , It is a combination of ML and web development , I worked on web development part in creating the web extension

PS-I experience: PS1 experience was good for me , I learned a lot of new skills , and most importantly I learned how to communicate , how to present my views in front of people and how to work in a team . These 2 months of PS1 proved out to be very productive for me.

Learning Outcome: In PS1 , I learned lots of new skills and languages such as Python , Django , JavaScript and how to create and unload Web extensions , how to create and manage databases and most important soft skills such as speaking confidently , presenting my views .

Name: HRITAV SINGH SOLANKI .(2019B2A41049P)

Student Write-up

Short Summary of work done: Front end development and UI development , using bootstrap , html , css (online blood bank and Auto Eval)

PS-I experience: Experience was good , mentors were supportive gave realistic deadlines and respected skills of each of us

Learning Outcome: I learned open source contribution , to make wireframes , another project in frontend development

Name: DUVVURI SEETHAPATHI SRINIVASA ROHIT(2019B2AA1448H)

Student Write-up

Short Summary of work done: I was allotted a project which deals with Machine Learning as major portion. The title of the project is "Pothole Detection". The backbone of the project is the Machine Learning model which we use to classify potholes in the pictures available to us in the dataset. Well developed libraries in python like tensorflow, sklearn and keras are being used to construct the model. After a pothole is detected, matplotlib is used to construct a box around it to highlight the region. The model can handle multiple pothole detections in the same image. User interaction is solely through the planned web application which will both act as the node for new images to add to the dataset as well as the site for our final map populated with all pothole locations. The underlying structure is developed with HTML + CSS as is standard. JavaScript and NodeJS are used for server management. Finally, mongoDB is used for database management. The Machine Learning model used was a CNN (Convolutional Neural Network), trained using Keras. The model takes an input image into the convolution layer. Each image is then passed through a series of convolution layers with filters (Kernels) to classify the object with probabilistic values, ranging from 0 to 1. In this we actually improved the accuracy of the prediction.

PS-I experience: Its really a excellent experience to work for PS-1. We will be understanding about a company's functioning and also how the concepts we learnt come to the application area. Its for the first time(most of the people) we will be working for a company and we will come to an understanding to satisfy company's needs standing in a comfortable and flexible zone. I definitely recommend this programs to my juniors so that they come to know its major advantages and benefits.

Learning Outcome: I learnt Python and even explored many of the data science portions while doing the project. I even got to know about many of Machine learning applications to the present world. Also understood the difference between Machine Learning and Web development.

Name: MARAMREDDY PRANAY TEJA REDDY .(2019B3A20341H)

Student Write-up

Short Summary of work done: The project allotted to me was auto equi evaluation tool for code submissions. It is a tool to automatically evaluate student code submissions. Teachers can log in and upload questions to the online database, consecutively students would be able to see the question through student login. Once submitted by the student, it can automatically mark the student code and would award marks to the student. Previously, the auto equivalence project was written as a CLI tool. It had all the required functions written in Python. We were required to make a web application for this tool so that students and teachers can log in through that portal and use that CLI tool as a web application. My work was backend work to work on a teacher's question upload page

PS-I experience: The PS 1 station allotted to me was (Electrono Solutions) .The overall experience was good, The mentors were supportive and coordinative in all aspects I was satisfied with the station allotted to me. Orientation was well organized and helped me understand the structure of the organization. Instructor allotted to us was very helpful cleared our doubts time to time. Overall I recommend this station strongly to my juniors.

Learning Outcome: I learnt Java script, node and express.js for working on it

Name: Yash Jajoo(2019B3A30405P)

Student Write-up

Short Summary of work done: Our project was building an e-commerce bidding website directly connecting farmers to their customers. I was a part of the back-end team, we set up a database to store user, bid and product information using MongoDB. We wrote code in Node.js. We also did some research in API and blockchain building.

PS-I experience:

Learning Outcome: I learnt some languages and softwares that would get the work done, having a push helped. I also learnt how to interact with the client and manage work in the team to get it done efficiently.

Name: TUSHAR KABRA .(2019B3AA0528G)

Student Write-up

Short Summary of work done: The work involved two projects. The first was the front-end part of an already created Online-Blood bank. The second project was an Auto-Evaluation tool. Involved a lot of knowledge about backend and wasn't completed properly due to the fact that it was assigned too late and the first project was completely front-end.

PS-I experience:

Learning Outcome: I learnt about HTML CSS JS and NodeJS. Made some webpages on my own.

Name: PRIKSHIT .(2019B3AA0657G)

Student Write-up

Short Summary of work done: I am part of the team working on frontend of the Swecha voice website to in co-operate an additional feature using React, typescript and CSS to collect user data for training a voice module.

PS-I experience: It was a good experience as we got to learn a lot. our mentors guided us and regular training sessions were held through the internship.

Learning Outcome: I started with learning Web-Development, HTML, CSS, Bootstrap, Javascript. I also got a chance to learn Reactjs, material UI, their real life applications.

Name: GARGI GUPTA .(2019B3AA1326H)

Student Write-up

Short Summary of work done: The project allotted was : Live Streaming Tech. We were trying to shift the entire live.swecha.org (Swecha's live streaming website) from Django to Drupal. Drupal is a free and open-source web content management framework written in PHP and distributed under the GNU General Public License. we tried to resolve bugs and add new features to the live streaming site. I got used to the Agile SDLC methodology and understanding the difference between the SDLC and waterfall method of working as a group on a project., I understood the version control software - git and GitLab-and comfortable with the git commands. We were shifting a Django website to Drupal. We needed to develop a signup and registration page, then a form to collect information about the live stream and link that data to the live stream page, all in Drupal. The expected output was to be done with the template of the entire live stream website in Drupal.

PS-I experience: In the first part of the internship, Swecha focused on teaching us about the free software movement. They have conducted live sessions almost every day, introducing us to many new topics. Project allocation took place much later, and we were assigned mentors a month after the start of the internship, but after that, things took off. Our mentors were very involved in the project and helped us along the way. Also, Interacted and worked together with my team members and learnt soft and leadership skills. Overall the experience was great.

Learning Outcome: Swecha conducted live sessions almost every day since the internship's inception. All these live sessions introduced us to many new things. They include the Agile software development cycle, introduction to machine learning and deep learning,free software movement and free software alternatives, surveillance capitalism, visual programming tools like Gutenberg, web extensions, Dark patterns, web architecture and web API. On the sidelines, we learnt HTML, CSS and JavaScript basics. We learnt basic Django and Drupal.

Name: ABHINAV GOYAL .(2019B4A80815G)

Student Write-up

Short Summary of work done: I am part of the team working on front end of the Swecha voice website to in co-operate an additional feature using React, typescript and CSS to collect user data for training a voice module.

PS-I experience: It was a good experience as we got to learn a lot. our mentors guided us and regular training sessions were held through the internship.

Learning Outcome: I started with learning Web-Development, HTML, CSS, Bootstrap, javascript. I also got a chance to learn Reactjs, material UI, their real life applications.

Name: AYUSH KUMAR(2019B4TS1266P)

Student Write-up

Short Summary of work done: Worked as team lead with a team responsible for developing a free-software alternative[Web application] of clubhouse/twitter spaces.

PS-I experience: I'm grateful to get an experience of working with a team to deliver a product for a client, the mentors at Swecha have been really supportive and helpful in every aspect.

Learning Outcome: Coordinating with the team and improving my presentation skills are 2 of the major learning outcomes I must say.

Name: YARLAGADDA PRAJAY .(2019B5A40794H)

Student Write-up

Short Summary of work done: Web dev related work , CMS work

PS-I experience: It was a good experience for me , the work that they alloted was intern oriented and learning oriented

Learning Outcome: Learnt about how the industry works and project timelines work

Name: ANAND GOUR CHINTALURI .(2019B5PS1496H)

Student Write-up

Short Summary of work done: The project was on full stack web development where my role was backend development where i built a cloud database and communication software for the database q

PS-I experience:

Learning Outcome: I learnt the basics of mongodb and a little bit of pymongo based python programming

Name: NISHANT SHARMA .(2019A2PS0661P)

Student Write-up

Short Summary of work done: Designing a responsive website for ride sharing and developing a free software alternative to Uber. Also developing a CRM tool which can help the organization to manage events and track participants across different events.

PS-I experience: It was good, resourceful. Employees, mentors and Client were very supportive and friendly. Got exposure to corporate lifestyle along with newly acquired skills relating to the field of computer science.
In a sentence: "It's amazing". It boosted my technical skills, presentation skills, communication skills, and knowledge about the domain I am working on.

Learning Outcome: Team work, Development of free software, testing of free software, WebDevelopment.

Name: TOODI JATHIN KRUSHINATH REDDY .(2019A2PS0759P)

Student Write-up

Short Summary of work done: Initially we gained knowledge on free software movement and few free software tools. We have designed a web page for our team on Gutenberg and a demo web page in djago. Finally we have shifted the live stream project to drupal base from django

PS-I experience: It was really fun doing it. We have gained knowledge on how actually the companies work and adding to that we also learned some tools that are useful to build a web application. We have live session where they taught us a lot and our mentors were very supportive.

Learning Outcome: Learnt to work on Gutenberg, django, drupal and also came to know about the free software movement, free software tools.

Name: AAYUSH .(2019A2PS0830P)

Student Write-up

Short Summary of work done: Since the student were given liberty to choose between the different projects, I choose to work on a ML project. I worked on developing the human machine interface of the mobile autonomous cart that we were developing. I also worked on making a python script that could plot the path that is travelled by the cart using the matplotlib, numpy and pandas libraries.

PS-I experience: It was a fun and learning experience. I got to interact with students from across the campuses, sharing and building amazing project works.

Learning Outcome: During the course of PS, I learned how to implement different libraries of python like numpy, matplotlib, pandas. I also learned how to work in a team which would help in making me industry ready.

Name: ANIKA GARG .(2019A2PS0949P)

Student Write-up

Short Summary of work done: We had to build a web application from scratch to automatically evaluate student code submissions. Teachers can log in and upload questions to the online database, consecutively students would be able to see the question through student login. Once submitted by the student, it can automatically mark the student code and would award marks to the student.

PS-I experience: It was an interesting experience so far. We started the project from scratch and developed our skills from making wireframes for the user interface to storing the data collected and linking the frontend to backend of the project. Teaming up with students from different campuses helped us widen our public relations, develop team skills and improve our communication skills as well.

Learning Outcome: Participating in daily deliverables, meetings and showcase gatherings, gave us a glimpse of how it is going to be like, working in a tech world. This project has proved to be a milestone in learning new skills and getting a real-time experience. Being new to backend was a bit challenging part which helped me gain significant knowledge about the databases and API calls.

Name: SHASHANK SAMAR .(2019A2PS1428H)

Student Write-up

Short Summary of work done: Our practice school started off with some classes and demos on free software movement. We came across certain truths behind the giant tech groups like Google, Microsoft. We were taught the importance of open-source, non-proprietary free software and were strongly encouraged to use free and open-source alternative software to almost everything on our electronic devices, from basic messaging applications to the operating system software.

After almost 1 month, we were allotted our projects and our roles. I was assigned the Live streaming and conferencing project. I was made the team leader, courtesy of my 10 team members. During the initial days, after getting the project, the objectives were a little vague. They seemed a little off topic from our project title. Our first task as a team was building a Gutenberg page about our project. But 2-3 weeks after the project allotment, the project mentor contacted me, and asked me to gather all the team members to discuss the further plan of action. In the first meet with our industry mentor and client, we were familiarized by the software architecture of the project and were given a task to create individual Django projects. Upon completing that, we were told that the whole website base had to be changed from Django to Drupal, a content management system. In between all this, we had to follow the Agile SDLC method and the version control system through the git software. At the end, we were able to accomplish the major part of our project as a team, and hence, I consider this internship a fulfilling one.

PS-I experience: My PS-1 experience was a quite fruitful one. I got to learn many things. The industry mentors and the institute faculty were quite responsive and sweet to talk to. This experience also inculcated a sense of responsibility within me.

Learning Outcome: I learnt about the free software movement and understood about open-source, non-proprietary, free software. My Django knowledge base got stronger. I learnt about a user-friendly tool to make websites called Drupal, a content management

system. I learnt quite a lot of git commands and got an idea about how things work in the software industry.

I learnt what it takes to be a good team leader and bring spirit and energy to the team.

Name: SIMHADRI SURYA KIRAN .(2019A7PS0014H)

Student Write-up

Short Summary of work done: We have build a website that supports farmers to register their goods in these website and normal people to bid them and purchase them. We have used HTML, CSS, JS, MongoDB for our project

PS-I experience: I had a good learning outcome from my PS Project. I got experience with web development. PS helped me in improving my communication skills. It gave me a good team experience. Company that we worked for conducted many seminars to make us aware of free softwares , SLDC, etc. The organization mentor explained us the project and the framework to be used

Learning Outcome: As a part of web development we have learnt HTML, CSS, JS, MongoDB. Our organization made us aware of building of web extensions. Our mentor organized daily meets which improved my presentation and communication skills.

Name: CHIRAG DAGA .(2019A7PS0082G)

Student Write-up

Short Summary of work done: Worked on the Front-end of the Swecha Voice website to incorporate an additional feature using React, TypeScript, and CSS to collect user data for training a voice module.

PS-I experience:

Learning Outcome: Learned about React, TypeScript and explored the field of Web Development.

Name: SRUTHI ELAPROLU .(2019A8PS0394H)

Student Write-up

Short Summary of work done: We have built a 3 layered convolution neural network for our model and for that we have loaded a pothole dataset collected from kaggle with 614 images and trained it online using Google Collab. The three layers are- Convolution layer which is used to extract various features from the input images.

Pooling layer is used to decrease the size of convolved feature maps to reduce the computational cost.

Fully Connected layer consists of weights and biases along with neurons and is used to connect the neurons between 2 layers.

Our model has a training accuracy of 97.62% and a validation accuracy of 85.93%(much higher than the existing model). Web app and dashboard for pothole detection in collaboration with the ML team

PS-I experience: After studying various courses for two years, I was really looking forward to working with a team towards practical applications and real-world experience, offering my knowledge and skills while simultaneously learning and improving my competency. This was an opportunity for me to gain exposure to different possibilities, get hands-on experience of how things work in an office environment, and increase my productivity. I developed strong interpersonal skills and connected with a diverse set of people. This helped me in figuring out my career interests through a mutually beneficial relationship.

Learning Outcome: We understood the importance of Open-source and how effective FSMI is.

Swеча has helped us realize how dark patterns exist and how to be aware of them.

A dark pattern is a type of user interface that appears to have been carefully crafted to trick users into doing things that are not in their interest and is usually at their expense.

We have understood that many social media platforms use dark patterns and Privacy Zuckering is a real problem that needs to be addressed.

So, in our application we have made sure no such tools are used or any proprietary services are promoted. We have used Drupal and its free software modules to implement our applications features. We have switched to Debian or Ubuntu which promote the Free Software Movement. We have switched from the native IDE's to Web based open source IDE such as Lime Text editor and the terminal from Debian/Ubuntu.

Name: GUJAR VEDANT MILIND .(2019B1A80957G)

Student Write-up

Short Summary of work done: Initially we were given Swecha dashboard login Id's and we were told to complete courses and do tasks on the daily basis. Later we were given options for choosing our project, after forming groups our first task as a group was to form a Gutenberg page for the project. My Project was "auto-detection of potholes with ML" ,the group was again subdivide into two sub-group that were a) ML model team and b) API team. Work for ML model team was to run a ML model and analyze it to make further improvement. The Auto-detection of Pothole team has merged with Open 311 dashboard team for making a fully functional dashboard for the citizen to report the potholes on the road for locating and maintenance of potholes, while with other feature like broken streetlight and many other as well. The ML model team used a pothole detection model from GitHub(<https://github.com/shubhank-saxena/Pothole-Detection>), trained the model with data set as big as 542 image and as a result the training accuracy of the model is 97.62% and the validation accuracy of the model is 85.93%.

PS-I experience: PS is something very new experience to us, but our PS 1 at swecha was a very good experience. Overall the course planning was very good, in addition to that the courses were also really easy to understand. The mentors and the coordinator for the Swecha were really helpful and supportive. Any difficulty experienced by us was cleared right away.

Learning Outcome: I got a lot to learn from this PS at swecha. The Most important of all was team work, as the project we worked on was a group project so it was really a very good experience of how a group of people cooperate towards a single target.The mentors were also very helpful and cooperative this gave us a chance to experience how work on a certain project is done in a company. Besides this I also got to learn a lot about technical stuff like Machine learning, free and open software, etc. Overall the learning outcome from this PS at Swecha was very positive and really helpful for our future plans.

Name: BULUSU VENKATA KRISHNA SAI ADITYA(2019B2A21543H)

Student Write-up

Short Summary of work done: It was a good PS station i was alloted a good team of students got a bit of expireince in teamwork

PS-I experience: I have done online PS in Swecha Hyderabad, it was a good PS Station. I got my project after a month of PS, i have done my project its main motive was to help farmers sell their crop.

Project name: Farmers cooperative. I have contributed a my work to the project with my team

Learning Outcome: Communication skill and subject(IT)

Name: SHARDUL RAHUL JOSHI(2019B2A31014P)

Student Write-up

Short Summary of work done: The project allotted was titled "Automatic Programs Evaluation". The project dealt with designing the UI of a LMS, that conducts quizzes for courses in Computer Science domain. A software, called Klee had already been designed by the client. The software evaluates coding questions (C language) and compares the answers with a single golden solution uploaded by the instructor. Our job as a team was to design the UI for the platform for the instructors and students to access. The work was divided into frontend and backend, with myself working on the frontend. The tech stack included: HTML, CSS, JS, Bootstrap. We designed the login page that toggles between the instructor and student. First, the teacher's page was designed, that allows them to upload, edit questions and upload the golden solutions. Then, the Student's page was

designed that allowed the students to write the code to the question and toggle between questions. The Students can then submit/upload the answers in a .c file.

PS-I experience: The experience overall was intriguing. Initially, we had live sessions on their LMS that taught us about different concepts. Later projects were allotted based on preferences. The mentors were available 24/7 and ready to answer to any query anytime. Due to an online mode, most of the communication was achieved through online platforms like Big Button, Telegram. It was truly a busy experience and worth investing time over.

Learning Outcome: The project I took up was related to Web development, of which I had no great knowledge about. This actually pushed me to learn about WebD, both frontend and backend. Also, during the PS we had the opportunity to learn about numerous topics related to the software development like Agile methodology, Machine Learning, Data Surveillance, Data Visualization etc.

Name: ABHINAV ASHOK.(2019B3A31334H)

Student Write-up

Short Summary of work done: The Live Streaming Website project was based upon changing the web framework of the website from Django to drupal to enhance the scalability and flexibility of the website and provide a massive scale of implementations to the project.

PS-I experience: It was good, and the industry mentors were helpful. In the beginning, we were taught about Agile methodology and a brief introduction to ML, Shell Programming and Django. Later we focused on our domain of internship and learnt HTML, CSS, JS and Django in-depth. Overall I have developed skills in web development and gained experience in how an actual company works.

Learning Outcome: Learnt HTML, CSS, JS, Django, Drupal and Agile SDLC, Web API

Name: CHITVAN AGRAWAL .(2019B3A70559G)

Student Write-up

Short Summary of work done: The project allotted to me was fake news detection. Fake news is one of the major problems these days in our society. We helped in building a interface that would detect whether the news is fake or not and conclude it likewise. The interface uses preidentified dataset with the help of which we can detect whether the test news is matching or mismatching.

PS-I experience: Enjoyed very much. Learned new things. It was overall good experience

Learning Outcome: I learned a lot from making web pages to coding various sessions helped me gain knowledge about vast topics

Name: ABHISHEK UPADHYAY .(2019B4A20692P)

Student Write-up

Short Summary of work done: Designed a responsive website for ride sharing and developing a free software alternative to Uber. Also developed a CRM tool which can help the organization to manage events and track participants across different events.

PS-I experience: It was good, resourceful. Employees, mentors and Client were very supportive and friendly. Got exposure to corporate lifestyle along with newly acquired skills relating to the field of computer science. In a sentence: "It's amazing".It boosted my technical skills, presentation skills, communication skills, and knowledge about the domain I am working on.

Learning Outcome: Team work, Development of free software, testing of free software, Web Development.

Name: AASHUTOSH PANDEY .(2019B4A70663G)

Student Write-up

Short Summary of work done: The project which I was allotted was Fake News Detection. The task which the whole group of students were given was to make a fake news detection model using ml and web development which can tell whether the news is fake or not fake or the news is not in the database. Broadly, the team was subdivided into 3 sub teams – web development, data engineering, machine learning team. I was part of the web development team. We were assigned the task of creating a web extension and also a webpage to manage the fake news detection model. I got to work on creating a web extension and also the front end of the website. Also the whole team did some testing part for the model running it on different news from different websites. We were easily able to collaborate our work using git-lab.

PS-I experience: It was a great experience and I got to learn a lot working with industry mentors. Everybody was very helpful including the faculty in charge to make it a smooth industry experience.

Learning Outcome: Along with learning a lot of soft skills like teamwork, communication skills, time management I got introduced to technical skills like html, css, javascript, json and also a little bit of backend.

Name: AYUSHI KAUL .(2019B5A30810G)

Student Write-up

Short Summary of work done: We worked on a Fake news detector and our objective was to build a chrome extension to find whether a news article is fake or not.

PS-I experience: We were allowed to choose any projects that interested us and were divided into multiple cohorts. Every cohort had to work towards their own tasks, once a week we had to give our progress reports to our mentors and we were assigned tasks of how we can proceed ahead with the project. At first we all looked into various ML algorithms and read a few papers which might help us to come up with efficient algorithms that could be used.

Learning Outcome: I learned about various ML algorithms, Web Scraping using various libraries like Scrapy and BeautifulSoup and using them to write codes to scrape websites to find article to run through our algorithm.

Name: NITIN RANA .(2019B5A80557P)

Student Write-up

Short Summary of work done: We worked on Automatic Programs Evaluation project which was a web development based project. We had to write it in JavaScript from scratch. We made a login portal, teacher and student page for the web app.

For teacher's page, we made a form where teacher can submit their coding questions with other inputs. For student's page, a form was made so that students can write their solutions. Everything has been stored in online database.

PS-I experience: It was nice experience with our station. It was the kind of project that I wanted to get. Station's faculty and mentor was so supportive every time. Everyday stand-up meetings were one of the new things we did.

Learning Outcome: 1) Got to learn advanced GIT.
2) Got to work on open source project and learned the importance of free-software.
3) Collaboration with other students helped us to improve our communication skills.
4) Web development skills got nurtured.

PS-I station: Swecha Machine Learning , Gachibowli

Student

Name: PARTH SHARMA .(2019A2PS0851P)

Student Write-up

Short Summary of work done: We had to Work on Swecha voice website, a clone of Mozilla voice. Our task was to remove its login option and instead present a form that took data from the user which was then sent to backend development for storage and further use. Hence Our Team (11 members) was assigned for Anonymous Data Collection which would then be used for Swecha's Developmental Voice Assistant.

PS-I experience: We were briefed on what we were supposed to do in the upcoming weeks. Regular quizzes and GDs ensured we had enough knowledge about the nature of work we were supposed to do. Our PS instructor's able guidance helped us to complete the project on time.

Learning Outcome: PS-1 was an eye opener as it gave me hands-on experience of the Corporate World while simultaneously developing my soft skills as well. I got to experience how client-Provider system works as our project had a client whom we had to discuss things with. We also learnt to interact more with our batchmates for increased efficiency in the project.

Name: SUMIT KUMAR CHOUDHARY .(2019A3PS0335G)

Student Write-up

Short Summary of work done: I actually did 2 projects, 1 before midsem and 1 post midsem. Before midsem I worked on Ride Sharing Cooperative where we had to design a website similar to Uber/Ola where users can ride on sharing basis.We completed the user and admin registration portal, sign in and sign out api. Post Midsem we were allotted Swecha CRM project where we had to explore and test softwares like Mobilizon and Open Social and check if it met the client requirement.

PS-I experience: I think it would have better if we had been allowed only 1 project to deal with. As it would have allowed us to complete the entire project. And also the mentor was quite supportive and would answer our all the queries

Learning Outcome: Testing out softwares was relatively new for me. So it gave me great deal of experience in finding out right software satisfying client requirement.

Name: PRATEEK AGARWAL .(2019A3PS0469H)

Student Write-up

Short Summary of work done: My project was titled “Big Blue Button Scaling and Load Balancing, Live stream Project (redesign)”. BigBlueButton is a free software web conferencing system for Linux servers. Its intended use is online learning. BigBlueButton is an affiliate member of the Open-Source Initiative. This application is already in use by many users. Our focus would be on scaling and load balancing and we will also focus on redesigning of a live stream. We started our work with creation of a team webpage using Gutenberg. We were a Team of 10 members and we divided ourselves into smaller groups, our group had 3 members. Our group worked on live stream page. Our first task was to create a demo project on Django to get a better understanding of it. We needed to change the base of this project from Django to Drupal. So, we deployed the local setup and finally using the platform, we created the web form of the admin page of Live streaming project.

PS-I experience: We had the opportunity to learn a few new technologies and it was an overall alright experience.

Learning Outcome: I learnt django and drupal for my project.

Name: VEDANT VIJAY DALIMKAR .(2019A4PS0209G)

Student Write-up

Short Summary of work done: The project we were given was to build a fake news detector. I was a part of the machine learning team and our objective was to implement some new features using ML to improve the detection. The features which our team implemented were:-

1. Extraction of text from an image containing news. This text can be then passed as input to the fake news detection model.
2. Implemented a feature where the program extracts text from a news video using OpenCV in Python. This text/news can be then passed as input to the fake news detection model and determine its legitimacy.
3. Implemented a feature so that the user can input a piece of news in the choice of his language. This sentence will be then converted to an English sentence using the neural machine translation model implemented by us. The fake news model will then determine the legitimacy of the news.

PS-I experience: Doing my PS-I as Swecha introduced me to the open source culture. Surprisingly, the online nature of the internship was in no way a hinderance to our learning and we could work efficiently and with great teamwork by regularly organizing online video meetings.

Learning Outcome: I learnt a lot about Deep Learning, Recurrent Neural Networks, Seq2Seq models and their practical application. The tools used to implement the features we made were Python, OpenCV. Learnt to use Python, OpenCV,Pytesseract to implement the features. We mainly used the TensorFlow framework to implement our neural network models in Python.

Name: YAV TOMAR .(2019A7PS0013G)

Student Write-up

Short Summary of work done: Free software movement has been increasing rapidly. The use of open source software over proprietary software has been preferred increasingly by the client. Swecha is one of the India's leader in free software movement.

The project allotted to me by swecha is mobile autonomous cart for agriculture. The project aims to build a Mobile autonomous cart for agriculture that is able to accurately identify the objects with both self-guided and Human (on ground and remote) guided capability. The project has scope in agriculture to reduce the workload of farmers by automating the manual labor by the use of cart so that they can focus on more important issues such as maximizing the crop yield. So the basic principles that will be used in our project is machine learning and computer vision. Machine learning is the study of computer algorithms that improve automatically through experience and use of data. Computer vision is a field of artificial intelligence (AI) that enables computers and systems to derive meaningful information from digital images, videos and other visual inputs — and take actions or make recommendations based on that information. The project uses computer vision and machine learning to help identify objects in video input and help navigate the cart safely.

PS-I experience: It was a very nice experience. It was very chill and insightful.

Learning Outcome: I learnt a lot about free software movement. I also learnt about machine learning and computer vision.

Name: BANDARU SAI MANIDEEP .(2019A7PS0016H)

Student Write-up

Short Summary of work done: Starting days of my PS were totally spent on learning what required and The Station had few live sessions to guide through. The Next Half is spent in working on a project which is guided by the swecha mentors. My project was to Create a Live Streaming Interface for the Organisation in Drupal.

PS-I experience: It was good , My professor guided me through tough and thick and helped us to complete the PS in flying colours . The experience with swecha is also nice and the mentors really guided us through the project easily. The projects were also very profound in the usage of technologies and helped us to learn more new things .

Learning Outcome: I leaned how to work in a team , how to work for a corporate company , how to manage time , and most importantly learned many new technologies which will help me in my future .

Name: VUNDAVALLI HARSHA VARDHAN CHOWDARY(2019A7PS0044H)

Student Write-up

Short Summary of work done: the project title is farmer's co-operative. we are group of twelve members. farmer's co-operative is a project based on web development. we divided into 4 groups(one for front-end, another for back-end, one for block chains and other for testing). and the description of project is: For the most part farmers doesn't get the benefit for their developed items in the market too our nation is creating in all fields yet needed horticulture sector,even however farmers are submitting suicides.So we are intrigued to help spine of our country(farmers) by giving site to farmers to sell their farming items at Minimum Supporting Price (MSP) by straightforwardly connecting with the client

PS-I experience: PS-1 is one of best experience for me. because i learnt how to work in a company in second year. and the work is filled with enjoyment. I learnt how to behave with company members, and with clients. PS-1 seminars are so interesting.

Learning Outcome: html,css,js

Name: METHUKU SHEETHAL REDDY .(2019A7PS0159H)

Student Write-up

Short Summary of work done: We developed a Voice Recognition model for telugu language. My part was to develop the text corpus. We took book Vikasita as our source and by introducing few constraints to the sentences by writing custom functions in python

like taking sentences in between 5-10 words (maintaining a decent length) and removing all the abbreviations and few other.

We did this to collect properly organized sentences. After collecting we stored the final sentences in the database which is further used to match while user is speaking.

PS-I experience: Working with Swecha was a fulfilling experience. They organized lot of talks by inviting various professionals from various fields in IT industry for first few weeks to give us proper insights on the system. Then we were divided into teams and projects were allocated. They assigned each team a moderator and a mentor to monitor and guide our work.

They were always there when ever we were stuck and needed help. I learnt lot of things about free software. Overall it was a rewarding experience.

Learning Outcome: I became familiar with few python libraries and learnt to work in a team. My soft skills were developed.

Name: [OMKAR MAHESH GARAD .\(2019A7PS1010G\)](#)

Student Write-up

Short Summary of work done: I had to make a fake news detector using ML and DL models and NLP techniques and then deploy this product as a web extension.

PS-I experience: I got to learn a lot and it was enjoyable for my first hands-on experience working with many people on a project

Learning Outcome: I learnt how to train different ML and DL models and learn about OCR and Computer Vision. I also got to collaborate with different team members and learned how to write clean code.

Name: SHIV KIRON GHOSAL .(2019A7PS1027G)

Student Write-up

Short Summary of work done: 1. We extracted sentences from a given Telugu novel and filtered them based on given constraints.
2. I made and trained a neural network to detect fake news by looking at the headline.

PS-I experience: It was a good experience. I got to learn how open source software is developed. I also learnt the basics of NLP by contributing to a project.

Learning Outcome: I got to learn how open source software is developed. I also learnt the basics of NLP by contributing to a project.

Name: RISHABH DASH(2019A8PS0170P)

Student Write-up

Short Summary of work done: First was designing a webpage which searched for COVID centers near the user's location and returned a sorted list based on various parameters. second was designing an entire set of webpages constituting a website which would allow teachers to hold labs for students, where students could upload their code for evaluation. The code would then be run through a homebrew autoevaluator function which required KLEE and Docker on the server side to function. The results of which would then be summited to the instructor/teacher, who could chose to share the grading with the students, The students could also check their unevaluated submitted answers for cross references.

PS-I experience: The station was a non-profit organization which promoted the development of free software and was affiliated with the free-software movement of India (fsmi). The organization was very open to suggestions and flexible on which projects we wanted to work and contribute to. The main project we were a part of had a detailed plan, and we were free to contribute to side projects in any capacity as we pleased/could.

Learning Outcome: Learnt nuances of front end development and web designing, along with standard backend for JavaScript.

Name: SOUMYA UPADHYAY .(2019A8PS0520G)

Student Write-up

Short Summary of work done: We created an Voice API. They conducted sessions in which we got an idea about our project and how tech-giants have invaded our privacy. We also got to know about free software movement.

PS-I experience: It was good.

Learning Outcome: I learned about API and different languages which we used.

Name: S HARIHARAN .(2019AAPS0211G)

Student Write-up

Short Summary of work done: AUTO-DETECTION OF POTHOLES USING ML.

Poor road conditions, such as potholes, are a nuisance to society, which would annoy passengers, damage vehicles, and even cause accidents. Thus, detecting potholes is an important step toward pavement maintenance and rehabilitation to improve road conditions. Potholes have different shapes, scales, shadows, and illumination effects, and highly complicated backgrounds can be involved.

PS-I experience: It was a great learning experience

Learning Outcome: Anaconda,numpy,python,openCV,Keras,Tensorflow

Name: ADVIKA S.(2019AAPS0225H)

Student Write-up

Short Summary of work done: I was initially in ML team for the project 'Fake news detection'. And tried out few models with a sample data set to know which model was giving the best accuracy and then build on it with increased database. Later on I worked on the data scraping team for the same project. I scraped out Deccan Chronicle news website to filter out the title, text, keywords and URL of the articles.

PS-I experience: It was really helpful in terms of learning. It gave the exposure that one needs in college and the experience of how an organization works on field.

Learning Outcome: I have learnt a lot about the work done in software programming and how to integrate studied theory onto real life working environment.

Name: SANYA GARG.(2019AAPS0268G)

Student Write-up

Short Summary of work done: The aim of my project was to build a mobile cart with guided vision that can accurately identify the objects with both self-guided and Human guided capability using principles of Machine Learning. We have to built this cart for the use of agriculture. This project is under Swecha, Gachibowli. Swecha is a nonprofit organization which works for the society under the free software movement. The main objectives of the organization are to take forward free software and its ideological implications to all corners of our country from the developed domains to the underprivileged and To create awareness among computer users in the use of free software. The cart is aimed to help the average poor Indian farmer. It was developed with low-cost resources using the open source method of software development. The cart

uses inputs in the video form from a LiDAR 3D camera, which has to be processed by the software.

PS-I experience: It was a great learning experience.

Learning Outcome: Machine learning, IoT, MQTT Protocol

Name: SREEKAR VENKATA NUTULAPATI.(2019AAPS1217H)

Student Write-up

Short Summary of work done: Swecha is a No Profit Organization. Before I was assigned a project there were sessions on basic concepts of git, GitLab, machine learning, package managers and open software. Students were divided into teams based on projects. I was assigned to work on Swecha Voice API project The current hosted project is an instance of Mozilla voice. There were some big updates which were necessary to be done since Mozilla voice used proprietary technologies and using these technologies is against principles of Swecha. My task was to update the project to latest dependencies, work on s3 proxy implementation so as to upload the spoken audio files to local file system instead of s3 and upload these files in .wav format instead of .mp3. For this project we extensively worked with docker, MySQL, S3 Proxy and Node JS. We used GitLab to share the code and make changes to the repository.

PS-I experience: Overall work experience at Swecha was good.

Learning Outcome: I learnt to work with a team, how to use technologies like docker and GitLab and on what open source is and why is it necessary ?

Name: VINAY VERMA.(2019AAPS1335H)

Student Write-up

Short Summary of work done: We worked on the project title- "Fake News Detection". Aim was to build a web extension to alert the user about the fake news in the current webpage.

PS-I experience: PS-1 was an exciting experience, daily stand ups, meetings and deadlines gives you a sense of what it's like being in the actual industry. You can learn a lot during these 2 months.

Learning Outcome: I got to see how a complete project is built, the sub-processes and parallel division of work. In terms of technology, I used some amazing python libraries and touched upon the nuances of machine learning models.

Name: AMAN BANSAL .(2019B1A41025P)

Student Write-up

Short Summary of work done: We were given the task to develop an Machine Learning model which can be used to detect Potholes present on the streets. Most of our work includes using Computer vision techniques for model development, then we also developed an API using FLASK in python language for the model deployment on a user-friendly web framework.

PS-I experience: It was a good experience, PS-1 introduced me to the community free and open source software and I got to learn why we should contribute to it and how can I contribute to it.

Learning Outcome: I learned about various deep learning techniques used for image classification, Also learned about FLASK, REST APIs etc. and this learning helped me to complete my PS-1 project.

Name: TUSHARÂ .(2019B2A40219P)

Student Write-up

Short Summary of work done: Myb project was Swecha Voice Model. We were assigned to work on S3 proxy implementation.

PS-I experience:

Learning Outcome: Learned Team Work, Coordinating with industry mentors, working culture of company.

Name: VAIBHAV SHUKLA .(2019B2A41549H)

Student Write-up

Short Summary of work done: In the first part of the internship, Swecha focused on teaching us about the free software movement, and they have conducted live sessions almost everyday introducing us to many new topics. Swecha has provided us with amazing mentors and a team for making the workflow smooth. Free software is revolutionizing the software industry. They are not just for the individual user's sake. It promotes social solidarity and represents society through sharing and cooperation. Since our activities are progressively digitized, free software is becoming an even more essential part of our culture and life activities.

PS-I experience: The experience was pretty good, as we speak and we are lucky to have been a part of it thanks to BITS Pilani, Mentors and Professor for guiding us throughout. I am grateful to be a part of this experience.

Learning Outcome: Open source softwares, about ML, deep learning, Big Blue button, Gitlab and many more subtopics

Name: VARUN SUNIL SHETTY .(2019B3AA0547G)

Student Write-up

Short Summary of work done: For the pre-midsem part, the project allotted to me was Pothole Auto-Detection using ML. For this project, I had to find out the map utilities that were being used by Leaflet, an open-source JavaScript library used to build web mapping applications, and come up with a way to integrate it, along with OpenStreetMap, with our project in order to increase the accuracy of our model by expanding the existing training dataset.

For the post-midsem part, I was re-allotted to the Existing Datasets team for the Open-311 project wherein we were expected to find out the datasets from official government websites, which would be used to train the ML model, not only for the Pothole Detection Project but also for the Open-311 Project thereby assisting the Open-311 team. As a part of this team, we came up with datasets of broken streetlights, overflowing drainages, potholes, non-functioning traffic signals, and drinking water stands in the area.

PS-I experience: The Practice School-1 was a new and exciting experience for me. I got to learn many new things about the organisation. Being my first industry exposure, this experience helped me a lot to get practical knowledge. Overall it was a beautiful experience to be a part of the organisation like Swecha.

Learning Outcome: I got to learn many new things during the PS-1 duration. In order to get better understanding of the project I had done a few online courses on Introduction to Machine Learning, Introduction to Pandas, revised the basic Python language knowledge I had and also learnt the basic syntax to create a Markdown(.md) file apart from attending the informative lecture sessions which were frequently organised by Swecha. I also got to know about Machine Learning and various Machine Learning Algorithms like Decision Tree, Random Forest Regressor and Neural Networks.

Name: AKSHAT MANISH GARG(2019B4A40695P)

Student Write-up

Short Summary of work done: Worked on 2 WebDev projects; Placement Management System and Audio Spaces Solution (Alternative to Clubhouse Twitter Spaces), our project got changed in the middle because of some demand from the client side. So in total around 2 weeks were spent in understanding the codebase of each project, after that we worked on the UI of the project and started implementing the required features.

PS-I experience: The station wants everything to be open-source and we are not permitted to make a Document in Google Doc or a PPT in Google Slides, and needed to document everything on GitLab. The station uses their own open-source Video Conferencing WebApp, which lags a bit and hence a problem in communication. In the starting we are asked to attend some lectures which is out of project scope.

Learning Outcome: Just basic WebDev and got to know more about open-source. PS-1 helped me understand the importance of team work and communication which are essential for the project to be a success.

Name: [ARYAMAN JEENDGAR .\(2019B5AA0767H\)](#)

Student Write-up

Short Summary of work done: I worked on the project: "Fake News Detection" at Swecha. We were tasked with building an entire functioning, user-friendly application that was able to classify a given piece of user-input as fake-news or correct, so, this included writing a front-end for the website, building a backend for it, building a web extension for it, coming up with an NLP model for it, writing scripts for scraping data from news websites (and all the nuances that accompany that) and finally, hooking all of it up to a database that supports fast indexing and search.

I was a part of the sub-team that wrote scripts for extracting data from news websites and wrote code for interfacing the entire project with the database, as far as the choice of the DB is concerned, I opted to use Apache Solr, because it supported using an inverted index which is the current industry standard. I wrote several scripts for scraping several news websites, the process was challenging because most news websites block scrapers almost immediately, hence I had to continuously learn and choose more nuanced methods for being able to get the required data. I was also responsible for setting up the entire database and having it interface smoothly with the rest of the components of the application.

PS-I experience:

Learning Outcome: Basic NLP, Intermediate WebScraping using Python, Basics of Information Retrieval, Basics of noSQL databases

Name: ARYAMAN JEENDGAR .(2019B5AA0767H)

Student Write-up

Short Summary of work done : The project I worked on was Fake News Detection. We were tasked with building a user-friendly application from the ground up that could classify news items, in the Indian context (this is significant because no such news dataset exists for the same, hence we had to create a data set from scratch).

We were divided into three teams, I made contributions to the team that created the NLP model and wrote code for creating the dataset and setting up the database for the project (I decided to use Apache Solr as it supports fast indexing). I learnt advanced web scraping techniques to be able to scrape news websites, and since we wanted a large amount of data to be extracted, my code had to be optimized and robust to changes that could occur in the website with time. I learnt some basic DevOps for scheduling the scripts on the backend for automated scraping.

PS-I experience: It was an extraordinarily meaningful learning experience for me, I learnt a lot of useful skills throughout the project and got to network with industry professionals during my internship. Due to the online mode, there were some administrative issues, but after they were resolved, the experience was a wholly positive one.

Learning Outcome: Fundamentals of NLP, basic Linguistics, WebScraping using python with BeautifulSoup and Selenium

PS-I station: Swiggy - Software Development , Bangalore

Student

Name: DWIJ DIPAL MEHTA .(2019A7PS0122P)

Student Write-up

Short Summary of work done: I worked on the UI of an internal website of Swiggy where the team I was assigned to was tasked with automatic cleaning of layout. I developed the UI within the pre-existing web portal such that an authorized user can clear cache whenever deemed necessary. Initially engineers had to run a separate script on the server to clear cache but now you just need to login to the web portal and click on the clear cache button. Furthermore, I also worked on generating artificial load on servers for testing purpose.

PS-I experience: PS-1 was a great learning experience for me. I learnt a lot about how a large team functions and how tasks are divided internally. I connected and communicated with several swiggy engineers in weekly informal meets. On connecting with various engineers, I was also able to learn about the tasks assigned to them and how they managed to complete before the deadline. The engineers were always very enthusiastic and were always eager to help me and review my code.

Learning Outcome: I learnt a lot about the popular react.js and goLang technical stack. I learnt how to write unit tests in react.js and how to debug the automatic build failed errors on bitbucket. In the past 2 months, I learnt a lot about software development and best practices implemented by big companies such as swiggy.

Name: RAHUL B.(2019A7PS0134P)

Student Write-up

Short Summary of work done: The project was to create a Java framework to compare query execution performance between two databases by fetching query history along with it's metadata from one database and scheduling the queries as a DAG based on start-time end-time and executing them in a target database. The framework then collects query wise execution details (like execution time) and overall details like total execution time and displays it to the user.

PS-I experience: The experience was good as it gave me an opportunity to learn a lot.

Learning Outcome: I learned about the principles of software engineering. I learned JDBC and how to connect and execute queries on various database systems using JDBC.

Name: SANSKAR JHAJHARIA .(2019A7PS0148P)

Student Write-up

Short Summary of work done: The project dealt with working on frontend/backend integration to deploy and manage Complex Event Processing. We were working on an already developed subsystem of the company that was responsible for raising security alerts based on the occurrence of a particular event(s). The time period for a PS-1 isn't enough for the complete integration of the same. Most of the time it was dedicated towards learning the code base and trying to analyse and optimise the same. I was responsible for designing and running some pattern recognition queries on the database on the live stream of data.

PS-I experience: Overall the experience was good enough. I got to learn a lot about the way the industry really functions. For an industry like Swiggy which works on such highly secured data and for which the security of its customers is integral, it was understandable that the data was only selectively shared. Even though the 6 weeks of industry exposure didn't require us much to implement per se, but learning wise it was satisfactory. I would like to appreciate the fact that Swiggy uses a number of open source softwares that enabled me to learn concepts which can be applied to any field or industry I work for in the later stages.

Learning Outcome: Hard Skills: I got to learn GoLang which is heavily used in the industry today. Apart from this, I was exposed to KAFKA, REDIS and FLINK among various other data processing and live streaming softwares. It also enabled me to revise on my concepts of XML and SQL. An experience in working in JAVA was beneficial for the same.

Soft Skills: Though an online modality reduces the one-on-one interaction with people, however at the same time it enabled to push my own boundaries and reach out to the mentor on Slack / Meet.

Name: JEEVAN JYOT SINGH .(2019A7PS0172H)

Student Write-up

Short Summary of work done: During the initial few weeks of my PS, I worked on the analyzing the performance of Instamart's (Swiggy) mobile page on the basis on Core Web Vitals and then tried to enhance the performance.

During the latter portion of my PS, I was assigned to work on implementing a Serviceability metric which would keep track of the serviceable Instamart stores and would display this information on a metrics dashboard.

PS-I experience: My PS experience was great. I learned a lot about the working of real-time working of Big Corporate Companies, the coding practices followed, the organizational structure etc. My mentor was very helpful and was willing to guide me.

Learning Outcome: I got to learn a lot about the various advanced and hybrid technologies used in the code base of Swiggy. Swiggy uses microservices architecture. The repository I was working with was in Java. I also got to learn about gRPC calls to communicate between various microservices. I also learned about Redis database and Kafka framework for streaming data.

Name: VEDANSH SRIVASTAVA .(2019A7PS0323H)

Student Write-up

Short Summary of work done: ➡➡Swiggy has been encountering many users who upload images from the web to claim a refund basis the quality of food delivered.

➤The agent that reviews it offline to process refunds based on their basic checks decides that the images are genuine that eventually prove to be uploaded from the internet in certain cases on a later investigation which amounts to a considerable loss for the company.

➤I worked on a prototype to fetch similar images from the web using several reverse image search APIs like TinEye and Google Reverse Image API. If there is a match found on the web, the system can reject the user's refund request. Simultaneously, I also built a program which can use image-vectorization and processing using Python libraries to determine if an image is blank.

PS-I experience: I got to know about Swiggy and the company's work environment. I also obtained real-time experience by learning the efficient working mechanisms and coordination at a company. I got an opportunity to brush up my skills on various technologies and put them into practice. I also came to know about the importance of an efficient fraud detection system for better company growth.

Learning Outcome: ➤The key motive of my project was to flag the fraudulent images (either blank or web-images) provided to the system by users, demanding a refund. As an outcome, Swiggy will be able to flag potentially abusive claims and transactions.

➤On a personal level, I gained a significant knowledge of real-time work, coding practices followed, and the organizational structure, etc. of large companies.

Name: [KSHITIJ NAYYAR .\(2019A8PS0420H\)](#)

Student Write-up

Short Summary of work done: The project involved building more accurate Map data to be used for Delivery Services. To establish this, I was required to use a free editable map called OpenStreetMap. Further, I used the Graphhopper routing library to extract the usage of Tags in OpenStreetMap. The project also required the debugging of a Maven project of the Graphhopper Source Code. The Tag data was compiled and used for building Road Data for Maps.

PS-I experience: The Practice School – 1 has been very fruitful and enriching. I learnt a lot of new skills, but the most valued was the skill of collaborating, working, and interacting in a team. I have experienced the methodology that is followed in the domain

of Software Development. The Industry exposure offered will greatly help set a foundation for our careers ahead.

Learning Outcome: I gained knowledge about Java and Maven projects. I also learned about the best practices that should be followed while handling a large piece of code in IntelliJ Idea.

Name: RISHABH GARG .(2019AAPS0489G)

Student Write-up

Short Summary of work done: Did some basic porting of Shuttle based developer documents to a web view manager like Sphinx. Converted HTML to RST docs and deployed them to Amazon S3. But the work was not at all related to Software Development (which was mentioned in the PSMS website).

PS-I experience:

Learning Outcome: Marginally increased my knowledge about python libraries and shell scripts.

Name: SNEHAL JUNEJA .(2019B2A70994P)

Student Write-up

Short Summary of work done: After learning the fundamentals of HTML, CSS, JavaScript and ReactJS and building several small applications to strengthen our skills, we integrated the Cleanup workflow in Swiggy's PLOps Dashboard, an internal dashboard of the organization using Ant Design (a popular React UI library). Once deployed, this workflow will help users save a lot of time and maintain the PLOps dashboard more efficiently.

PS-I experience: The mentorship and guidance extended by my mentor at Swiggy and PS-1 faculty was excellent in all spheres. The program helped me to gain a tremendous amount of professional experience in the domain of software development. Overall, it was a great experience.

Learning Outcome: I learnt the fundamentals of front-end development which included learning HTML, CSS and JavaScript. I also learnt the fundamentals of ReactJS, a JavaScript library and got comfortable with building small applications. The PS-I program also helped me improve my communication and presentation skills.

Name: JAI KHATRI.(2019B3A70543G)

Student Write-up

Short Summary of work done: The domain of my project was Data Analysis. The objective of my project was to develop a model which can detect the anomaly in the usage cost of Amazon Web Services used by the company. Whenever any anomaly was detected, an automated mail was sent to the concerned department, stating the information about the anomaly. Python programming language was used to write the codes. Several python libraries such as pandas, numpy, seaborn were also used.

PS-I experience: It was a great learning experience. It was really enriching to see the culture and structure of such a renowned company. The people at Swiggy are friendly and supportive. When I needed assistance, the mentor assigned to me was there to help me.

Learning Outcome: It helped me to enhance my Python skills. I also learnt various python libraries such as Pandas, Matplotlib, Numpy, Seaborn, etc. Also learnt how to use various AWS Services such as DynamoDB, AWS Lambda, AWS Cloudwatch, etc

Name: Krish Nishith Vora(2019B3A70819P)

Student Write-up

Short Summary of work done: Me, along with my teammate, added a clean-up functionality to Swiggy's internal PLOps Dashboard, using Ant-Design, JavaScript and ReactJS.

PS-I experience: It was a good experience. Our industry mentor was extremely helpful, and aided us throughout our learning phase. Learnt a lot about front-end web development.

Learning Outcome: Learnt the fundamentals of HTML, CSS, JS, and ReactJS. Built several small applications with the skills learnt. Integrated these skills to create the Cleanup workflow in Swiggy's PLOps Dashboard, an internal dashboard of the organization using Ant Design. Once deployed, this workflow will help users save a lot of time and maintain the PLOps dashboard more efficiently.

Name: SARTHAK GUPTA .(2019B4A70464P)

Student Write-up

Short Summary of work done: I was asked to design a user interface to send shuttle tips to the users in the form of mail. I used Google Forms for text approval mails with Form Approvals add-on which was customisable and will also send different mails to the manager and rest by hiding certain important details that one wants to only be known to the manager. For image approval mails, I used Microsoft Power Automate by creating instant cloud flow and using image HTML tags for directly previewing the image in the mail rather than as an attachment.

PS-I experience: It was an enriching experience. It was my first opportunity to get first hand experience on how industries operates and how to work under a given deadline.

Learning Outcome: Got familiar with working mechanism of add-ons and how they can be used. Became well versed to Microsoft Workflow and building advanced approval workflows using lists in Microsoft SharePoint.

PS-I station: Synchrony International - Data Analytics , Hyderabad

Student

Name: SAHITHI REDDY ANNADI .(2019A7PS1208H)

Student Write-up

Short Summary of work done: We were given a project on 16th July which was aimed at the getting us familiar with anaconda environment. I had to analyze IPL sports data, I also had to present whitepaper report on blockchain.

PS-I experience: We had a lot of SME sessions on hadoop ,anaconda,tableau,digital engineering etc and leadership sessions.

Learning Outcome: I learnt about corporate culture and how to conduct myself in a professional environment. Introduced to anaconda environment.

Name: MEDISHETTY ASHRITHA .(2019B3A70472H)

Student Write-up

Short Summary of work done: We met with team leads from different verticals from it department of synchrony. They gave us a brief overview of what tools they use, how they use, what are some important aspects to learn in corporate culture. Also we have done a

short project using anaconda enterprise. We scraped data from Amazon and analyzed in Jupiter notebook using python.

PS-I experience: It was really insightful. We got to learn from so many people in organisation. They have shared their experiences in various aspects. We also got familiar with with current trends in it sector

Learning Outcome: My communication skills improved. My coding skills (python) got better. I have learnt how to write an email.

Name: [INKOLLU SRIVARSHA .\(2019B3A71553H\)](#)

Student Write-up

Short Summary of work done: We had SMEs(given by different departments) on various topics related to data analytics and finance such as hadoop, oracle, agile, tableau, Robotic process automation, Data engineering, credit life cycle, supplier management, anaconda enterprises, jsoc, cyber security ,information security etc.

We were also given a small project(duration : 2 days) at the end related to the pandas library of python:

- i. learnt how to install various packages such as numpy, pandas and matplotlib on Anaconda enterprises.
- ii. learnt how to upload and read csv files
- iii. we were given a data set and asked to perform various operations on it
- iv. Lastly we demonstrated our pandas project and a small white paper presentation on 'Blockchain'(just to get an idea of what it is) to the technical heads of Synchrony

PS-I experience: Overall it was a very good experience. Our mentor was always in contact with us, we had daily standups with her to keep a track of our day to day learning outcomes. She was very supportive and guided us throughout! All our leaders were very helpful and easily accessible in case we had any doubt. The virtual corporate culture at Synchrony was very welcoming!

- It would have been better if they gave a real time project to work on slightly early. We were given a small project just two days before PS - I ended.

Learning Outcome: It was very good. We were introduced to various fields in finance ,especially the data analytics part of it, the various tools and technologies used. Helped get an idea of the functioning of a fintech company.

PS-I station: Takshila Learning- Business intelligence , New Delhi

Student

Name: DEVISETTI ABHIRAM .(2019AAPS0350H)

Student Write-up

Short Summary of work done: In the beginning, I was introduced to the marketing and was exposed to Google Analytics. Further, I was told to talk to freelancers and some companies to know about their services.

PS-I experience: Meetings with company mentors weren't held properly.

Learning Outcome: Overview of company's organization's, basic knowledge on Google Analytics and excel sheet, communication skills.

PS-I station: Telangana e-governance - Software Development , Hyderabad

Student

Name: DHOTE ANURAG HITENDRA .(2019A7PS0147G)

Student Write-up

Short Summary of work done: We had to create a 'Pensioner Photo Update' Mobile/web app for the Telangana Government. The motive was to create a user friendly app to be used by the government officials to update photos of people availing pension as a proof of life. We were a group of four. I worked on the backend of the project for which I extensively used Spring Boot and MySQL.

PS-I experience: It was a good experience. I got to learn about Spring Boot and actually implemented the newly learnt knowledge to create a Spring App.

Learning Outcome: I learned about Spring and Spring Boot frameworks. PS1 also taught me how to work in a professional environment and how to work in a team.

Name: [STUTI PACHORI.\(2019AAPS0268H\)](#)

Student Write-up

Short Summary of work done: Our project was to create a mobile application to keep a track of site visits and document progress on government construction projects for National Highway Authority of India. We have developed the client side application with interactive navigation, detailed views and options to check-in, and check-out of sites. There is also a feature to get the location of the site to be visited to add it to the map. We have used MySQL as the database model after designing the high level database schema with the ER diagram and Relational schema. We have set up the database on phpMyAdmin locally with some dummy data. We have used Xampp to test the project locally before making it live for users. Post the internship duration the application is going to be deployed on Amazon Web Services.

PS-I experience: PS-1 was a great learning experience. I got to know about so many new technologies and also the practical application of the theoretical courses that we do on campus. Doing a real project that can potentially be used by thousands of users is a lifetime experience in itself.

Learning Outcome: I learned the actual steps involved in development of any application. I learned how we first have to decide the tech-stack that is appropriate for the

application and then divide the work amongst the team members. Working in a team is also a great learning outcome that I have now. I learned how complicated the process can get when we try to integrate the parts that have been separately worked on and how to resolve those errors and bugs.

Name: VAIBHAV PRABHU .(2019B3A70593P)

Student Write-up

Short Summary of work done: Our project was to create a mobile application through which treasury officials can sign in and update the photograph of a pensioner just by using the PPO ID which is a unique 12-digit number assigned to every pensioner. I worked on the frontend of the application.

PS-I experience:

Learning Outcome: I learnt many important ES6+ concepts and a lot about asynchronous JavaScript. I also learnt the fundamentals of React and React Native.

PS-I station: TNSTC - Digital Content - Astronomy - App/AR/VR , Chennai

Student

Name: CHAITANYA SHARMA .(2019AAPS0485G)

Student Write-up

Short Summary of work done: We planned on first how the project should look like in the first 2 weeks and then learn necessary languages required to execute it . Then we made the skeletal of the project we wanted to make after which we tried to explore different ways to style our project so as it looks clean and catchy .We tried different styles

and implemented the best one possible. At last we requested the organisation to tell what extra functionalities they wanted and added them.

PS-I experience: It was my first experience working for a organisation, This was a great opportunity given by bits pilani to explore myself into various fields of development. I got to try and learn new languages and implement it on the project. I had a great team which always co operated for helping each other out . This experience would be more better if we could conduct it offline. All in all it was a very fun and educative 2 months which I spent.

Learning Outcome: I learnt how to work under an organisation, how to coordinate with team and complete task before deadlines, and learnt various new languages such as Java Script and animations.

Name: LAKSHIT GOEL .(2019B2A31017P)

Student Write-up

Short Summary of work done: TNSTC - Digital Content - Astronomy - App/AR/VR , Chennai, Offered me a great exposure of working in an Industry as an employ, Although , it was online that's why the complete Industry environment was not available, The company asked our Group to make an standalone Project on Space Visualizer , where I and My Colleagues gave our effort to make the web app

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Learning Outcome: TNSTC - Digital Content - Astronomy - App/AR/VR , Chennai, Offered me a great exposure of working in an Industry as an employ, Although , it was online that's why the complete Industry environment was not available, The company asked our Group to make an standalone Project on Space Visualizer , where I and My Colleagues gave our effort to make the web app

Name: [BAISWARE PRATHAMESH AJAY .\(2019B3A80570P\)](#)

Student Write-up

Short Summary of work done: We developed an application with a friendly user interface to showcase the space explorations through the passage of time. The application would be installed in the Humans in space lab in Periyar science center Chennai. It would help the young minds visiting in the center to gauge information about various space exploration missions of the world. We used various frameworks to aid our application. Our work involved creating the design for the application, curating the content for the same, using various programming languages to implement the application design etc.

PS-I experience: Overall experience of PS-1 was very good. Our instructor was very supportive and helped us at every point when we needed his help. Our station mentors also provided helpful guidelines regarding the project. Proper feedback was also provided to our work time to time.

Learning Outcome: Learning outcome during PS-1 program was quite good. I learnt different programming languages such as HTML, CSS, JavaScript etc during the program. I also got to learn various soft-skills which would aid my professional working in my further career.

Name: [SONAKSHI MISHRA .\(2019B4AA0866H\)](#)

Student Write-up

Short Summary of work done: Our main aim and idea initially was to come up with an application with a friendly user interface to explore space explorations through the passage of time. Our topic of choice, i.e Human Space Exploration, has been a topic of interest for a long time and many great works have been done in the field of space exploration. We used native web applications that would be capable of running on intranet or without the help of external servers. For creating this applications we used languages like Javascript, HTML ,CSS and Figma, and their consequent frameworks like Bootstrap, React and jQuery, which are one of the most widely used frameworks of our time due to their ease of accessibility and usage, as well as the abundance of features they provide in helping an idea to be implemented practically.

We have tried to cover all aspects of an informative visualizer so it is an educative experience for anyone who uses it, and we kept it simple so that a person who is not familiar or does not have to fret over the same can also use it wholly without any technical experience. We have succeeded in creating an interactive, progressive application to suit and fit all operating systems, device types and screen sizes.

PS-I experience: It was a learning experience to work amongst peer, and come in contact with the practical side of application design, using tools used in industry to create a web application that would be put to use in the real world, collaborating with peers, our industry as well as PS mentor to create a product was indeed a memorable and educational.

Learning Outcome: I learned various languages like HTML, CSS, Javascript and their practical application, learned designing an interface with the use of FIGMA, and collaborative tools like GITHUB, the importance of adhering to timelines and problem identification and tackling in a professional environment, and the importance of peer work and brainstorming as well!

Name: [AARYAN AGARWAL .\(2019B5A30713P\)](#)

Student Write-up

Short Summary of work done: We were asked to create any type of application for their multiple galleries. We chose to make a web app related to human exploration of space.

PS-I experience:

Learning Outcome: I learned how to work in teams, basics of web development.

Name: [ABDUL JAWAD KHAN .\(2019B5A30825G\)](#)

Student Write-up

Short Summary of work done: Made a Progressive Web App which would be run for their display exhibits in the Science Museum. The app works as a visualiser by displaying a timeline of major space-related events which happened in the past. The app uses HTML, CSS, Javascript and JSON.

PS-I experience: The experience was very fulfilling and educative. Got to learn new ways and technologies of developing applications, making project reports and giving presentations and seminars.

Learning Outcome: Learnt languages like HTML, CSS and Javascript. Learn to make animations using Javascript and deliver information from a JSON file using it.

Name: [VATSALA TRIPATHI .\(2019B5AA0739G\)](#)

Student Write-up

Short Summary of work done: There were two projects. Humans in Space- The AstroQuiz was my project. The other one was Humans in Space- The Visualiser. We built a web development project- two quizzes (one on astronomy the other on maths) that would be installed in the TNSTC galleries for visitors. Our quizzes have three levels- beginner, intermediate and sets of questions for both of them. The salient features were- a live score counter, option to end the quiz midway or to take it till all 10 questions have been attempted. Upon choosing an option, the user is shown a popup that contains whether their answer is correct or not, along with an explanation + a picture related to the correct option. The final popup has the user's score and a remark. The user can then choose to go back to the home page or reattempt it. We built this quiz from scratch and submitted the final thing to the authorities.

PS-I experience: My PS experience was personally quite rewarding. The decision of choosing what web development project was to be done was ours and our group chose the quiz. Even though it wasn't a very ambitious project, since we were all newbies to web development, it was sufficient for us to learn more. We followed a udemy course in the initial few weeks and then implemented our knowledge into our project by hit and trial. I was familiar with a bit of web dev before this experience but now that I have ventured

more into it, I know that it's something that interests me and would want to pursue it further. It was a time well-spent.

Learning Outcome: My primary learning outcome was the development of skills in the files of web and app development- leaning basics of HTML, CSS and JavaScript. Other benefits were the development of a team spirit and experience in working with deadlines. We were asked to present our work at various instances so presentation skills were an important outcome too.

PS-I station: Urjanet - Data Analytics, Chennai

Student

Name: PRAKHAR TRIPATHI .(2019A2PS0914P)

Student Write-up

Short Summary of work done: We were asked to create two automated dashboards for the Urjanet team. I was part of SDV(Scheduled Delivery Vertical). One dashboard consisted of taking response from google forms and displaying it in a organized manner in excel sheet and creating dynamic graphs from the given data. Other one included taking data from different excel sheets and displaying it in a dashboard.

PS-I experience: It was somewhat positive.

Learning Outcome: Mastery in Microsoft Excel. I can create any type of project on Excel now. Also Learnt VBA it is a very basic language but I now have its knowledge. Learnt about corporate world how things work if you are under a certain team.

Name: RAGHAV DHANDA .(2019A3PS0233P)

Student Write-up

Short Summary of work done: I was a part of a group of three students at Urjanet, Chennai and we were placed under the Scheduled Delivery team. We had to broadly perform two tasks during our time at Urjanet. The company dealt with user data called bills. An error in a bill was referred to as a ticket. So we had to reduce the number of repetitive errors in the database by analyzing those errors through Excel. Also, we were asked to do the regression analysis of abnormal bills in the company's database. These abnormal bills cause a lot of trouble to the company and we were asked to predict their next expected date of posting from the previous data given to us. So, our work was mostly performed on Excel.

PS-I experience:

Learning Outcome: During my 50 days at Urjanet, I learnt how to use MS Excel well. Got to know about the corporate setting and the responsibilities associated with working in one. Also, got to know more about regression.

Name: SHUBH MANSINGHKA .(2019B3A30496H)

Student Write-up

Short Summary of work done: I had to perform cost analysis for the company and use the same to build a cost per customer model. It involved identifying the parameters to quantify the efforts put by each employee from each horizontal/vertical team to serve a customer. I connected with all the team leads in the organization to understand their work and quantify them to reach the best cost estimate of their work and efforts put in for each customer.

PS-I experience: My PS-1 experience helped me understand real corporate atmosphere though in an online mode. My project involved understanding the company's organization structure and I got the chance to connect with all the horizontal and vertical team leads. My project wasn't very tech heavy but I got to learn a few concepts about team structures and soft skills useful for every domain.

Learning Outcome: Got to learn how to manage personal projects with corporate work. Time management and punctuality was taken very seriously at my station and it

developed my personality as well. Learnt how to manage personal stuff that had to be taken care of parallely with the project.

Name: NISHIL JAIN .(2019B5A40825P)

Student Write-up

Short Summary of work done: My task was to automate the collection of analysis data. The script would fetch required files and URLs from the Urjanet portal and deliver them for further analysis. The task helped them save around 2-3hrs/week.

PS-I experience: It was nice experience, The team was very welcoming and assigned important and meaningful tasks to us. My mentors used to have regular weekly meets to discuss the progress and to explain me the details of the tasks that had to be done.

Learning Outcome: I got a fair knowledge about Python and its libraries. I also made good connections with my mentors and got to see the functioning of a corporate structure closely.

PS-I station: Urjanet - Software Development , Chennai

Student

Name: ANSHUL PRATYUSH MEHTA .(2019A7PS0105G)

Student Write-up

Short Summary of work done: As a software development intern, I developed a command line analysis tool for urjanet employees (Tech leads specifically) to help them gain insights on various aspects of monthly data generated by Urjanet's automated

services. The project was made to be a standalone cross-platform tool using python and its libraries such as pandas, numpy, matplotlib to name a few. The flow of development was smooth and structured, with proper prototyping, researching and help from my mentor, I was able to deliver the tool in time and was able to provide them scripts to setup the runtime environment on any machine so that any later developers can add functionalities to it. The entire project was later pushed to the master branch on BitBucket after being reviewed by the team.

PS-I experience: I had my PS-1 in Urjanet (Chennai) as a software development intern. Urjanet is a global utility data provider and has almost every of its services automated. My job was to develop a tool to help employees get insights on this regularly produced data. This was a very new and unique experience for me. It gave me a real world industry experience and I discovered a link between knowledge and its application by applying the knowledge and skills I possessed in a real life scenario. I also learned a few new skills through my project, got to experience how it feels to work in an industry where you have to constantly work on new requirements and keep communicating with your colleagues. Overall it was a wonderful exposure to industry in a field I'll be joining in a couple of years.

Learning Outcome: I picked up a lot of new technical skills from my project at urjanet. I became proficient in python programming language, got to know and work on different libraries like pandas, argparse, openpyxl etc. I also learnt about how to research, prototype and structure a development process. Working under a real corporate environment helped me learn how to communicate with colleagues, what platforms/forms of communication they use, how to collaborate and brainstorming in a team.

Name: AMISH BHAT .(2019A7PS0140P)

Student Write-up

Short Summary of work done: I developed a standalone project called the Template Health Checker. It is an end-to-end application handling the complete process starting from downloading of data automatically from the data storage software called Kibana to deriving insights from the data and scheduling the downloading process. I developed a text-based command line tool for deriving useful insights from the data and exporting it into excel files for its further consumption.

The downloading of data was automated using Puppeteer with the help of an internal option for downloading data present in Kibana. This task was scheduled using Cron jobs

so that data can be downloaded periodically without having to run the puppeteer script manually every time. The newly downloaded data had to be merged with the main data file. This task and the main task of deriving insights from the data was done using Pandas.

PS-I experience: The title of our position was a bit misleading as the title was Software Development but the main work was that of data analysis and web automation. Otherwise it was a great experience overall. The mentor was extremely helpful and was always available to clear any doubts and provide suggestions. They let me choose languages and frameworks of my choice and gave me enough freedom to do the tasks at my pace. We had daily meetings at 10:00 am sharp where we discussed the day's tasks and yesterday's accomplishments or shortfalls as the case may be. The HR department was quite helpful and helped me get started with the company's internal portals.

Learning Outcome: I used Puppeteer, pandas and some other libraries of python. The main learning outcome, though, was learning to apply programming concepts already learnt in real world problems which are not very ideal and hence you have to deal with them. I also learnt inter-personal skills and delivering under deadlines.

PS-I station: Urjanet- Quality assurance , Chennai

Student

Name: ABHAY PRAKASH .(2019A7PS0058P)

Student Write-up

Short Summary of work done: There are various tickets raised every day. But due to some error, there are lots of duplicacies among tickets which creates problem of redundancy, takes extra time and resources. With the help of Python and Pandas, we tagged duplicate tickets to the original one and also found out whether a ticket is a partial, full, or not a duplicate at all.

PS-I experience: It was a great experience to work here during my PS, and also the people here were very helpful to us.

Learning Outcome: Learnt about Python, Pandas, and also got exposure to industrial experience and work hierarchy.

Name: PARWAIZ MOBEEN MAHZAR .(2019A7PS0093P)

Student Write-up

Short Summary of work done: Used pandas module in python to find the tickets which had same set of errors. The tickets were tagged with the ticket numbers of original ticket. Further the tickets were checked whether it was a partial or complete duplicate

PS-I experience: The experience was fine. Every task was evenly divided throughout the duration of PS

Learning Outcome: Learned pandas. Learned how to debug programs. Soft skills were greatly improved with respect to conveying my ideas, thoughts and difficulties .

PS-I station: UST Global - Machine Learning , Trivandrum

Student

Name: TARESH BATRA(2019A3PS0388G)

Student Write-up

Short Summary of work done: Our project at UST was to work on Abstractive Text Summarization. We researched a lot of state-of-the-art models and found one that perfectly suited our business use-case of creating minutes of meetings. We partnered with our fellow batch-mates at UST. Their project was to create a robust speech-to-text model. We created a pipeline, where the audio recording is fed to the application, a

transcript is generated and then using it, a summary is returned as the output. We even created a website for our project.

PS-I experience: PS-1 has been a very rewarding experience. We worked under Infinity Labs at UST. Our mentor was very helpful and friendly. He helped us navigate this complex topic by providing us with apt resources and setting checkpoints.

Learning Outcome: I started my PS-1 knowing the basics of Deep Learning and NLP. From just the basics to now having implemented a full-fledged state-of-the-art model and fine-tuning it to suit our use-case has been a great learning experience.

Name: [Asish Juttu\(2019A7PS0039P\)](#)

Student Write-up

Short Summary of work done: We were asked to give fields in which we would like to work in and I had opted for face recognition. Our project involved developing a face recognition model incorporated with an anti-spoofing layer. Face recognition is prone to presentation attacks, such as using photographs, flat paper, and masks. Our aim was to develop an Anti-Spoofing Facial Recognition system to enhance security against these attacks. The project involved Deep Pixel-wise Binary Supervision, PyTorch and other computer vision techniques.

PS-I experience: It was a very unique experience. The remote nature of the work made communication challenging. The mentor was helpful and approachable and that really helped us work better, even on aspects of the projects that we were initially unfamiliar with.

Learning Outcome: It did help me expand my knowledge about deep learning, computer vision and the workflow in an IT company. The remote work limited the ways in which our mentor could help us out, so he aided us mainly through resource exchange and google meets for doubts.

Name: SAIYAM JOGANI .(2019A7PS0097G)

Student Write-up

Short Summary of work done: Working on a Face Anti-Spoofing layer to be built upon a Face Recognition model, based upon CNN-based DeepLearning model DeePixBiS

PS-I experience: The PS-1 experience was of learning and guidance. Most of the effort had to be put from my own side, if I want to learn something. But along the way of learning process, got help and guidance, as well as valuable feedbacks and resources from the mentor to progress in the field in the future.

Learning Outcome: Learnt many new skills and frameworks, in the field of DeepLearning. Learnt about OpenCV, PyTorch frameworks, as well as got an idea about Computer Vision. Also understood how to build projects with team members.

Name: AKASH S REVANKAR .(2019A7PS0294P)

Student Write-up

Short Summary of work done: I worked in the Speech Recognition team on an Automatic Minutes-of-Meet Generator. We fine-tuned a pre-trained DeepSpeech model for the Indian English Accent and achieved a word accuracy of 80% on the Indic TTS voice DB (Test Set) from IITM Speech Lab which was a significant improvement from their model which had a word accuracy of 52.6% on the same. In the end, I developed a web application for the project where the audio input is fed to the application (either by recording live or uploading a clip), a transcript is generated and then using it, a summary is returned as the output.

PS-I experience: Working with UST Global over the past two months was a great learning experience. I got a glimpse of how the corporate world worked. The interaction with the mentors could have been more frequent but nevertheless they the input they provided was quite encouraging and motivated me to challenge myself.

Learning Outcome: I got to learn a lot about not only core ML skills but also important soft skills. I learnt to develop web apps using Flask framework as well.

Name: ISHAN KOTHARI .(2019B3A70578G)

Student Write-up

Short Summary of work done: We had built an image Captioning model (an algorithm which generates captions on providing images as input) using deep learning techniques like CNN and LSTMs. This project used a combination of Computer vision and NLP and thus was an exciting one to work on.

PS-I experience: The eight weeks at UST were nice, we had a smooth communication with the team at UST and even the mentor was pretty helpful. However, we were not allotted an ongoing project of the company, and thus the experience would have been a lot more better if the PS would have been held offline and if we would have been allotted one of company's ongoing project related to machine learning.

Learning Outcome: I got and understanding about deep learning models, CNN, pre trained models like ResNet, LSTMs and beam search, which were used to make the image Captioning model.

Name: KHARE NEEL YASHODHAN .(2019B4A70620G)

Student Write-up

Short Summary of work done: We built a model which could generate captions for images using LSTMs and CNN . It was a combination of Computer Vision and NLP . We learnt about different pre trained networks used in Deep learning and how they can be

applied . The Station mentor was extremely helpful and provided us with all the materials that were required to complete the project .

PS-I experience: Experience was really good as the mentors from the company provided us with all the resources required for the project . I had 0 knowledge of deep learning before the practice school and I learnt a lot over the course of 2 months about how deep learning models work and what are the latest models used in industry for image captioning . Overall , a great experience

Learning Outcome: Learnt about various deep learning models and how to apply this theoretical knowledge for a practical problem like image captioning

Name: ABHIJITH M B .(2019B5A70688P)

Student Write-up

Short Summary of work done: The objective was to make a nlp based text summariser and research about GPTs. After learning basics and researching on possible applications, we arrived at the business use case to make a Minutes-of-Meet summariser. We , along with the speech recognition team (also intern from bits) made a pipeline which take audio input (either from microphone or upload file) then convert it into text transcript and then summarises it. Finally we were able to deploy the algorithm into a web app by integrating it with flask.

PS-I experience: It was really good. The mentor was a bitsian alumini and helped us throughout the internship. The company is also very nice , since they provided a very nice professional atmostphere. Learning outcome was good, and we had enough time to complete the tasks we were given.

Learning Outcome: Learned how to preprocess data for feeding it to a NLP model. Learned how to pretrain and fine train a nlp model. Read documentation of keras libraray and towards end even got to work with web development for deploying our work.

PS-I station: UST Global - Machine Learning/DSP/AI , Trivandrum

Student

Name: KANAK AGARWAL .(2019A7PS0087G)

Student Write-up

Short Summary of work done: I worked on Sentimental Analysis of financial stock through social media platform. I used various libraries of python to create a model for analysis of sentiment fetched by twitter api and then display the same on a website (made using ReactJs).

PS-I experience: Overall PS-I experience was quite good. We at UST Global were asked to choose a topic related to our domain ,on our own. We presented few ideas and out of them they gave their suggestions on each and then a project was decided. Our mentor kept weekly meetings where he took update of our project and suggested resources if we were stuck at something and gave suggestions if something better could be done.

Learning Outcome: I was new to Data Science. So with help of this project i was able to explore data science and work related to it.

Name: CHAITANYA MATHUR .(2019A8PS0512G)

Student Write-up

Short Summary of work done: We created an application to analyse the sentiment associated with a financial stock by using the latest tweets being obtained from the Twitter API. We created a backend to get tweets from the Twitter API and analyse them by marking each tweet as positive or negative using a NLP library. We then sent that data to to the fronted made in ReactJS where it visualised the results and compared the outputs with actual stock prices being obtained from the Yahoo finance API. On the frontend the user could have searched for a stock and then would have recieved relevant graphs for the same.

PS-I experience: I had a good experience working at my PS station. I got the opportunity to learn about how an organisation works, gained a lot of knowledge through the guidance of mentors and the project provided me to explore a completely new domain based on NLP and Machine learning. The mentor was a BITSian and helped us throughout our PS1.

Learning Outcome: I learnt a lot about NLP and Machine Learning and got to know about the mathematics behind it. It also helped me level up my ReactJS skills. Other than technical skills I also developed my intrapersonal skills and got to learn about how a company functions.

Name: ANIMESH SHUKLA .(2019AAPS0263H)

Student Write-up

Short Summary of work done: We had to build a recommender system from scratch using python. The work also involved some data analysis.

PS-I experience: I was new to the field of Data Science but was able to cope up due to constant support of the PS1 mentor.

Learning Outcome: Since I was completely new to the field of Data Science i learned a lot of skills during the PS1.

Name: BHAVYA PATEL .(2019B3A30534P)

Student Write-up

Short Summary of work done: The company allotted to us by PS Division was UST Global. The project allotted to us lied in the field of Data Science. Our mentor for this project was Mr. Biswajit Mahapatra. We worked under their Guidance on a project “Movie Recommendation System: Netflix”. The dataset for our recommendation system was in the form of .csv files stored in multiple files namely- IMDb Movies.csv, IMDb ratings.csv, Netflix_titles.csv, Books.csv. We had to merge these files & we completed project on Python Notebooks. 3 Important concepts that were involved in building the recommender system are: Vectors, TF-IDF, Cosine Similarity. So with the help of these concepts, we built a content based recommendation system for Netflix which recommends movies to user based on the multiple descriptions like Title, Cast, Director, Plot, Listed in which might be helpful for UST to attract new customers in this OTT field like Netflix etc. with the help of our project.

PS-I experience: The experience with the company was overall nice. The onboarding part was very nice with the company. About the project, one needs to have his/her own on dataset on which he/she will have to work. Any Doubts and Query also got cleared in the weekly meetings with the company mentors. My experience with Faculty Mentor was very good. Though we understand seeing the situation due to this COVID-19, the experience which I could have been on company would have been more better than work from home.

Learning Outcome: I learned many things in my time at UST. I learnt Many Python Libraries like: NumPy, Pandas, Seaborn, Matplotlib.pyplot, and Scikit-learn. I also got to learn Math involved in Content Based Recommendation System, Graph Plotting in Python, Report Writing Skills, Statistics Knowledge, Public Speaking, Group Communication, Idea Pitching Ability while working in the Group at the company as well as for the academic requirement of the PS-I.

PS-I station: UST Global - Research/Blockchain , Trivandrum

Student

Name: RONAK VISHNOI.(2019A3PS0190P)

Student Write-up

Short Summary of work done: Created a decentralized Ethereum blockchain-based marketplace for NFT based art form wherein any artist can list their art pieces for selling through an auction or by simple buying at preset price of the seller. Potential buyers can either participate in the simultaneous multiple-round auction system(as proposed by Paul Milgrom and Robert Wilson) or simply purchase the art NFT from the marketplace. The objective of having a multi-round auction system instead of a normal English auction is to preserve both buyer and seller interests. Other auction types generally suffer from the problem of "Winner's Curse" wherein they are unable to properly value the item and end up overpaying. This in the long run reduces the interest among the buyers and thus, harms the artists who see lesser participation in the future auctions. Ensuring that the bids are blind during the bidding process is a key aspect of the auction process. The project thus involves writing the necessary smart contracts and developing the web application enabling the minting, listing and auctioning of the NFTs.

PS-I experience: The industry mentor we had was very supportive and guided me throughout the project. We had almost daily meets updating him about our progress. We had the complete liberty to select the project we want to do during our PS. During the starting few weeks, we had to familiarize ourselves with the underlying concepts of blockchain. We went through the BITCOIN and ETHEREUM Whitepaper, learnt the necessary programming languages, tools and frameworks required for the project. Then we moved on to the development side of things. Overall, it was a good experience(though would have been even better if it was not WFH).

Learning Outcome:

1. Solidity Programming language
2. Truffle Framework and Ganache
3. IPFS for storing the NFTs
4. Node.JS and YARN Package Manager

Name: MALIWAL YASH LALIT .(2019B3A70269G)

Student Write-up

Short Summary of work done: Our project involved creating an NFT marketplace for artists, and implementing a Simultaneous Multi-Round Auction system for their sale. None of us were familiar with the nuances of Blockchain and Blockchain development so the first part of PS-1 involved researching and understanding the theory of how Blockchain

works, with a primary focus on the Ethereum Blockchain. I explored several resources, including reading the Ethereum Whitepaper written by Vitalik Buterin.

After familiarising myself with how Blockchain works, I started learning Solidity, which is the main language used for writing Smart Contracts in Blockchain development. I was responsible for developing the auction smart contract and so, I needed to be proficient with key concepts and data structures in Solidity. I learnt how to deploy Smart Contracts on Remix IDE and also test them using the Truffle framework and the Ganache Personal Blockchain. I spent a lot of time reading the documentation of Solidity and Truffle to learn how to write the relevant code for our application.

PS-I experience: PS - 1 was an insightful experience overall. I acquired several skills over the course of the project, both in terms of technical skills as well as soft skills. When it comes to soft skills, my teamwork and communication skills were enhanced in the process of collaborating with the three other members of my team. We learnt about each other's coding styles and distributed the parts of the project accordingly.

As far as technical skills go, this was my first time working on developing a project and I was introduced to the various stages of project development. I learnt more about programming languages and their real-world applications.

The UST team was very supportive, with daily meetings every morning. Our mentor would take the time out to help us whenever we were stuck for a long time. They did their best to ensure that we do not lose out in any way due to the remote nature of PS - 1 this year.

Learning Outcome: As mentioned before, I developed several skills throughout PS - 1. Working on Blockchain development introduced me to several new concepts - the workings of Blockchain, programming in Solidity, the workings of Smart Contracts and how to test them using the Truffle framework. There are several other technical skills I have acquired over the course of the project, which have built my confidence to work on building Blockchain projects in the future as well. I learnt about auction theory and read up on several kinds of auction systems as well, examining each method's pros and cons. The internship provided me with the chance to think about real-world problems and develop the mindset to develop potential solutions.

Name: ANIKET SHAHA .(2019B3A70463G)

Student Write-up

Short Summary of work done: The aim of our project was to create a decentralized marketplace for NFTs where any artist is free to place their art for sale, or mint their own NFTs, and potential bidders can bid for items they want through a simultaneous multi-round auction (SMRA) which will prevent the "Winner's curse" phenomenon. The entire system is placed on Ethereum blockchain. We develop a web application where sellers can put their art tokens for auction and specify a minimum price for their item. My main work was centred around making the smart contract and the front end interactive part for the auction system. Our aim was also to provide a secured and private system where the bids will be hidden, and, thus, cannot be used to the disadvantage of any bidder. We first gathered the required knowledge of blockchain and its development through small projects before working on the final project. We will be continuing to work on this project even after the internship to develop updates in it.

PS-1 experience: I got to learn loads about working in a team environment, and communicating everyday with our teammates and mentors. I learnt how to discuss ideas and how to put forth the ideas to get other's comments. The mentors were very supportive. They helped us whenever we were stuck in learning or implementing something. Learning about the very new blockchain technology was difficult because of few resources, but with the help of my teammates, I was able to learn smoothly. Overall, although remote, the PS-1 experience was an amazing one with more things to learn than I initially presumed.

Learning Outcome: Blockchain basics and intermediary knowledge – We learnt about how blockchain functions under the hood, the architecture of Ethereum blockchain network, mining, and all the fields where blockchain can be used to improve security and safety of users.

Solidity – We got an in-depth understanding of Solidity by first making a simple smart contract, and then the SMRA contract system. Smart contracts are great for ensuring that transactions can occur without failure. We also write the NFT smart contract in solidity.

Truffle and Ganache - We learnt how to test smart contracts and conduct local transactions smoothly in our system using Truffle Suite and Ganache local server.

React.JS – The client side of the application was built on React.JS, so we learnt how to build the front end.

Team-work and coordination – Due to the remote nature of the internship we learnt how to efficiently communicate with our team members while we work on similar or different parts of the project.

PS-I station: VComply - Data Analytics , Kolkata

Student

Name: OSHO JAIN .(2019A2PS0922P)

Student Write-up

Short Summary of work done: My team work was related to mainly AWS (AMAZON WEB SERVICES)

PS-I experience: IT was a great experience ,where i learned many things including time management, communication skills and more.

Learning Outcome: i learned a lot about AWS, presentation skill ,time managment etc

Name: SHETH TANAY VIPUL .(2019A4PS0487G)

Student Write-up

Short Summary of work done: - Continuous Deployment using AWS
-making REST API using API Gateway with push get delete and add features
- Deployment of APIs
- AWS Lambda Authorizer

PS-I experience: Role was data analytics , project was AWS cloud and quiz were on Angular and Node JS .

Learning Outcome: AWS Services in detail, MongoDB, teamwork, corporate environment

Name: MEHUL GULATI .(2019A7PS0046P)

Student Write-up

Short Summary of work done: Learnt continuous deployment mechanism for product development using AWS Cloudformation.Used the AWS Architecture to deploy modules using the serverless framework.We deployed the lambda function using AWS CLI and created endpoints using API Gateway

PS-I experience: Overall it was good experience at Vcomply as the mentors were all helpful in solving our doubts and helping us learn all the services.One shortcoming was that the project listed on the choice portal and the one actually given to us were not the same

Learning Outcome: Learnt to work as a team and coordinate among other students who were part of the station.i also learnt about a variety of different AWS services and how they can be used to perform various tasks

Name: HEMANT SINGH SISODIYA .(2019A7PS0070P)

Student Write-up

Short Summary of work done: We have worked on AWS. We have learned about DevOps, various services of the AWS and implemented them with the help of the serverless framework

PS-I experience: In PS--1 we get to know about the working of an organisation.

Learning Outcome: Learned about soft skills ,presentation, writing report etc.

Name: PARAB CHINMAY ABAJI.(2019B4A70708G)

Student Write-up

Short Summary of work done: I have learnt about the process of continuous deployment using AWS CloudFormation. I have been able to explore the different services provided by AWS. Using AWS Lambda and its layers, I have been able to add code and create functions. I also learnt how to use AWS CLI (Command Line Interface). I used the AWS architecture to deploy modules using a serverless framework. In order to use AWS Lambda, I had to learn node.js as well. I have deployed the lambda function using CLI and created the endpoint using the AWS API Gateway . I have also learnt how to use AWS Lambda Authentication, a feature of API Gateway that helps to control access to the API using lambda functions. I learnt about the different stages of API deployment and how having different stages helps streamline the process of development. For the final part of the project I also learnt about canaries and how they are used to monitor changes to the API.

PS-I experience: It was a fine experience. Although my project field was different from the one I had applied for, the mentors from the company and university ensured that I was able to catch up with the new topic. The research material given by the mentor helped a lot as well.

Learning Outcome: The project helped me to learn new concepts and exposed me to the vast world of AWS services. I learnt concepts and at the same time learnt how to apply them. This project has helped me learn new concepts and has taught me how to learn and implement new ideas on the go. It has also helped to enhance my communication skills in a team .

PS-I station: VComply - Mobile Applications , Kolkata

Student

Name: ADITI GOYAL .(2019A2PS0696P)

Student Write-up

Short Summary of work done: My project was to create mobile application using flutter for the company VComply in order to use company's services apart from their website. The app consisted of the following features- log in , sign up pages with AWS authentication, a set of other screens as per company's specifications.

PS-I experience: Overall it was a nice experience as I got to learn a lot of things in both technical and soft skills aspect.

Learning Outcome: I got to learn about different tools like flutter, dart, firebase, AWS amplify etc. as the app was build on these only. Also, got to learn how to collaborate on a project with other people.

Name: HARSH BUTANI .(2019A7PS0022P)

Student Write-up

Short Summary of work done: Our project(5 of us) was to develop an Android/ iOS mobile application catering to the company's needs. We developed a Flutter application for the same. We developed template and other screens. The authentication was done using AWS Amplify. The project is in development, and will be continue to be worked upon.

PS-I experience: During the first week, we were asked to study NodeJS and Angular. The project was allotted after conducting a short test based on our learning about the aforementioned topics. Since the project involved mobile application development, the first few weeks were spent in learning Flutter and Dart concepts. Initially, we were asked to implement simple login/ registration. After completing it, we were given some additional functionalities, where we had to develop additional screens and implement authentication using AWS Amplify.

Learning Outcome: It was a good learning experience. Learned new technologies and tools like Flutter, Dart and Git. Developed soft skills as well. Also learned to collaborate in a team.

Name: KANNEGANTI LAKSHMI DEEPIKA .(2019A8PS0643H)

Student Write-up

Short Summary of work done: BASIC OVERVIEW OF THE PROJECT:-

Our project was to develop an Android/ iOS mobile application for VComply using flutter; to be able to access the company's services apart from their website.

WORK DONE:-

We have developed a basic mobile application for VComply which allows the user to Login or register based on their email and password, and directs them to the Welcome screen on successful register/login. Additional functionalities have been provided like an OTP verification, forgot password option, option to select for the type of service, a checklist screen, etc .We have also tested the application on emulators of different sizes to check for the responsiveness of the pages.

The following were delivered:

- 1) Splash screen- When the user opens the app, an animated launch screen is visible
- 2) Sign In
- 3) Sign Up
- 4) Forgot password option, login using social accounts
- 5) Welcome screen
- 6) Options screen
- 7) Template library pages.

In the process we have used the softwares like Flutter, dart, Git and GitHub, VS code and android studio, our work includes both frontend and backend.

PS-I experience: Through the tasks that I have performed till now, I have learned in great detail about how to use tools like Flutter, Dart, AWS Amplify, GitHub etc. in order to make a functioning mobile application.

Through all the professional meets we had with working employees, I got the knowledge of how the professional meets are conducted and the importance of efficient interpersonal communication.

I also learned how important efficient time management is while working in a professional environment and also learned to collaborate in a team.

The knowledge that I have gained through the time spent with VComply till now has definitely helped in preparing for the future challenges that will come in my professional career.

Learning Outcome: learning outcomes: Flutter, dart. and i got hands on experience in using the tools like AWS Amplify, GitHub, VS code and android studio.

Name: ARUSHI GOEL .(2019B2A31011P)

Student Write-up

Short Summary of work done: Our project was to develop an Android/iOS mobile application for VComply using flutter; to be able to access the company's services apart from their website. We have used our knowledge of flutter and dart. We have made use of Visual Studio Code as our primary text editor and Android Studio for the emulator to test the functioning of the app. The app consists of Splash screen, Sign In, Sign Up, welcome, options, and Template screens with authorization using AWS Amplify. We have made use of different flutter packages in order to make the app interactive. The team collaborated on the project with the help of Git and GitHub.

My individual contribution to the project-

1. Created UI for a sign-in screen that takes in email and password from the user and also provides an option of creating a new account.
2. Created frontend and backend for the Welcome page. This is the screen where the user redirects when he logs in or gets registered. The email id used by the user at the time of login is displayed below. On clicking the 'Get Started' button, the user will be directed to the next page which is the Options Page
3. Created frontend and backend for options page. This screen is displayed to let the user specify the reason for using the app. It redirects to the next screen(checklist screen) and displays content related to the selected option.
4. Both Welcome and Options Page is responsive in nature

PS-I experience: The overall PS experience was very good. I learned about new technologies like Flutter, Dart, Github, etc. The experience gained during the PS helped me improve my communication skills. More importantly, it taught me how to work in a team and collaborate towards a project collectively. I am thankful to our PS-1 faculty and company officials for guiding us.

Learning Outcome: Through the tasks that we have performed, we have learned in great detail about how to use tools like Flutter, Dart,Git/Github and using text editors like VS

Code and Android Studio, in order to make a functioning mobile application. It helped me improve my soft skills like communication skills, team work, etc.

PS-I station: VComply - Mobile Applications/NLP , Kolkata

Student

Name: SHAH CHINMAY JITENDRA .(2019A7PS0032P)

Student Write-up

Short Summary of work done: Our project was related to automating documentation generation for VComply APIs. Precisely speaking, the problem statement was: "To generate documentation for VComply APIs from AWS API Gateway, which is compliant with Open API Specification and implement and automate Swagger UI for the generated documentation." Open API Specification is a standard for documenting APIs such that it is both human as well as machine readable. The first task was to find ways to extract OAS document from the AWS API Gateway (both manually, and from within a script). The next task in the project involved generating a Swagger UI for the given documentation. Swagger UI is an engine which reads in OAS document and produces a static, interactive documentation for the APIs. The task was to accomplish building of Swagger UI for our APIs first manually, then automate the process as manual update method would be cumbersome. The few hurdles faced in the project were: 1. OAS document was not available as an open URL. We needed to access it from within an application specially built for that. 2. Automating the building of Swagger UI meant we could not work with the engine and had to again use other frameworks/libraries to do that. 3. Automating for a single API worked fine, but to integrate multiple APIs the method was undocumented. The two months in PS 1 were this utilized in understanding deeper concepts and resolving these hurdles.

PS-I experience: My PS 1 experience was at par with my expectations. I got to interact with professionals from the industry, have weekly scheduled meetings and work along some real world projects. I got to understand the many other development procedures that go on in a organization, besides making websites/applications

Learning Outcome: I got to learn various new technologies and concepts. To list a few, I got to learn about the documentation process of the industry and the standards being used. I learnt about Swagger and OAS and some other automation tools which make our

lives easier. I also got to work with various cloud based technologies like AWS and Serverless Framework. I also had the chance to make Nodejs application and using few awesome NPM libraries like AWS-SDK, Swagger-UI-Dist, etc. which helped a lot in production of the documentation UI.

Name: SHAH AAGAM MANISH .(2019A7PS1320H)

Student Write-up

Short Summary of work done: The team worked on the project titled: “Open API Specification and Swagger UI Implementation for AWS API Gateway”. The project involved generating documentation for VComply APIs, which is OpenAPI Specification (OAS) compliant and implementing (and automating) Swagger UI for this documentation. We made use of the Serverless framework to automate the process of Swagger UI generation each time we deploy our working stack on AWS. A serverless.yml is maintained which when deployed on AWS through Serverless, would generate the API gateway with the endpoints we provide. Since API gateway provides us a way to export the APIs in the API gateway in an OpenAPI document, we leveraged this fact. Once the API gateway is up and running, all we did was to generate the OpenAPI document from this API gateway. The OpenAPI document is then exported, parsed into a spec file and fed into the Swagger engine. This would generate the Swagger UI documentation for our API gateway. The Swagger UI documentation would be hosted on S3 as a static website and every time one redeploys the stack, the website is built and redeployed on S3, which gives us an ever-updated Swagger UI documentation for our APIs.

The technologies and services incorporated in our project were Node.js, Serverless framework, AWS(Cognito for user authentication, CloudFront for hosting, S3, API Gateway) and NPM.

PS-I experience: PS-1 experience was an enriching one. I spent most of my time learning new technologies, frameworks and languages.

Learning Outcome:

1. Implemented a test(dummy) API on AWS, fetched the API specification from the API Gateway to leverage an interactive web UI.
2. Gained understanding about AWS (Amazon Cognito, CloudFront, API Gateway, S3, etc) and AWS SDK.
3. Got acquainted with serverless framework which automates the entire process of uploading APIs on AWS and an interactive Swagger website, on the output.
4. Learned Node.js runtime environment, NPM and the application of both in our project.

5. Learned Swagger and tried documenting some dummy APIs through SwaggerHub (non-automated).
 6. Integrated Amazon Cognito with the interactive website for adding a layer of authentication.
 7. Incorporated Amazon CloudFront Distribution for website hosting.
 8. The front-end of the website was majorly managed through webpack, which auto-generated the necessary files and rendered the website.
- Apart from this, I also imbibed some soft skills, how an organization works and co-ordination among the team members.

Name: MAMIDI RATNA PRANEETH .(2019B3A70490H)

Student Write-up

Short Summary of work done: Our work was to implement Open api specification and swagger UI for amazon aws gateway and specifically for the VComply API's ie to Update VComply documentation to make Apis compliant with OpenApi. and also to Update Api inputs and outputs to make them consistent and to Update documentation so as to make the Apis more readable for both developers and consumers.

PS-I experience: It was a very good and amazing experience.I Learned how to create documentation for API's and also my presentation skills improved a lot.I Also got used to working as a team and also about the company meetings and this experience will be very much useful for me in the future.

Learning Outcome: API's , Swagger UI , Open API Specification , Amazon web services , AWS API Gateway , Amazon Cognito , Serverless Framework

PS-I station: VComply - Software Development , Kolkata

Student

Name: [AYUSH AGRAWAL .\(2019A7PS0038P\)](#)

Student Write-up

Short Summary of work done: The first stage was to create API using the serverless API managing service provided by AWS Lambda and the API Gateway. In the AWS Lambda console there are options to create and manage Lambda Functions which help in managing the actions performed when a user visits the API endpoint. Finally we get a fully functional serverless API made using AWS Lambda and API Gateway. The second stage starts with setting up a canary for the Test API endpoint created, in AWS cloudwatch console. There are many predefined settings that can be used to set up a basic canary. Now when we have a working canary we can set alarms that will trigger on certain conditions provided. An alarm can be set by editing the canary or in the alarms section. We can provide the email address and the SNS topic during configuring the alarm to notify us about the condition set to trigger the alarm.

PS-I experience: Constant updates were taken from both industry and faculty mentor. Both of them were really helpful throughout the PS-1 tenure.

Learning Outcome: Learnt about various AWS services such as AWS canaries, AWS lambda functions, AWS CLI, AWS SNS. Through this project, we have been able to explore the field of DevOps, an entirely different field of Software Development, aloof from other domains, like web development and machine learning. More significantly, we have experienced the nuances of working in a team, in the field of Information Technology. In doing so, we have imbibed several soft skills needed to flourish in any sector.

Name: [DHRUV MAHAJAN .\(2019A7PS0043P\)](#)

Student Write-up

Short Summary of work done: Made canaries for 20 critical vcomply API's using AWS cloudwatch synthetics.

PS-I experience: The PS-1 experience was something new for me as it was my first time working in industry. I learned new technologies like AWS, nodeJS during the time there and saw how people in industry work.

Learning Outcome: AWS Cloudwatch Synthetics, NodeJs, Lambda API creation

Name: SHAH AAYUSH KEVAL .(2019A7PS0137H)

Student Write-up

Short Summary of work done: The project title was Product Monitoring and Canaries Implementation using AWS CloudWatch Synthetics. As proof of learning, we had to build a Test API using AWS Lambda and API Gateway and then, add canaries for Test API using AWS CloudWatch which would do the following:

1. Run Canaries every 5 minutes for those APIs in the Beta environment.
2. Create a CloudWatch Dashboard to show details for Canaries.
3. Create Alarms if Canaries fail.
4. Alarm should send an email to an email Id.

PS-I experience: PS-I was a great learning curve for me. Apart from Technical skills, I learned about professional communication during the meetings with the company mentors. I communicated with many people during this phase. The Group Discussions were also helpful. I learned some editorial skills through report writing.

Learning Outcome:

I explored the field of DevOps, an entirely different field of Software Development. Within DevOps, I have learnt the use of AWS CloudWatch Synthetics, a very useful tool used to monitor, troubleshoot, and alarm containerized applications and microservices. Moreover, I got the opportunity to explore AWS Lambda and build custom APIs using API Gateway service. Using these custom APIs I was able to build an API monitoring dashboard along with Alarms for notifying the failure of APIs which would send an email notification using the Amazon Simple Notification Service. I have experienced the nuances of working in a team, in the field of Information Technology. In doing so, I have imbibed several soft skills needed to flourish in future.

Name: VINAYAK TYAGI.(2019B2A31008P)

Student Write-up

Short Summary of work done: All of the work revolved around AWS console and in specific its CloudWatch feature. Work involved creating 'canaries' for test APIs, and setting up alarms to notify us if something went wrong.

PS-I experience: Working on a new technology is always exciting. But how software development connected to AWS CloudWatch is something I'm still confused with.

Learning Outcome: Learned a few new technologies and most importantly learned how to work with a team in a corporate environment.

Name: VINAYAK TYAGI.(2019B2A31008P)

Student Write-up

Short Summary of work done: Working on AWS Cloudwatch to monitor APIs

PS-I experience: It was an informative and enriching experience

Learning Outcome: Learnt how to work with teams in a corporate environment, also learnt about new technologies.

Name: ANIMESH BHARGAVA.(2019B3A70545P)

Student Write-up

Short Summary of work done: The work done involved building canaries using AWS CloudWatch to monitor APIs and an Alarm system that would send an email notification whenever the API failed. This would enable the development team to become aware of bugs in the API before they would get to the consumers. We also had to create a Dashboard that would display the working of the canary and alarm in the form of statistical data.

To complete the work, all the group members had to build custom APIs using AWS Lambda and API Gateway service. The created APIs were then deployed and for each API, one canary was created. After that, using Amazon Simple Notification Service (SNS), an alarm was created that would monitor the given API and trigger only when a certain condition would meet (i.e., the threshold condition, which in our case was 80% success rate for 1 data point every 5 minutes). The canary would run every 5 minutes and the alarm, once triggered, would send an email to the user. A dashboard that would display the success rate of the API, number of times the Alarm got triggered, etc., was also created for various Canaries using AWS CloudWatch Synthetics.

PS-I experience: My PS-1 experience was an quite fruitful. It was an enriching experience in terms of working in a team, for a multinational company, on the other hand, though, due to the online nature of the program, the experience was limited in many ways. After the orientation by the faculty mentor, an onboarding session was organised by the company, VComply, and that session was followed by multiple weekly meetings with the Project mentor on the project assigned.

Being a member of the software development group, I was introduced to the field of DevOps and got familiarised with Amazon Web Services, which was a new experience to all the group members. The industry mentors were very supportive throughout the program and always emphasised on keeping learning as the top priority.

Even though I could not work in the company office physically, I did learn a lot about teamwork through the program. Thus, my PS-1 experience, which taught me several important skills, was overall a pleasant and rewarding one.

Learning Outcome: Through the project, I learned the basics of DevOps and the fundamentals of AWS. I got introduced to various AWS tools like CloudWatch, Lambda, Amazon API Gateway, Amazon SNS and developed a basic understanding of how to use them in a project.

I also learnt the vital skills of teamwork, delegating responsibility and effective communication with both peers and seniors in an organisation. These skills are important in any industry, at any level.

PS-I station: Village book builders- IT networking , USA

Student

Name: DEO AKSHAT VINAYAK .(2019A7PS0090G)

Student Write-up

Short Summary of work done: We worked on customizing open-source & proprietary software including a Google Meet bot. Further we discovered ways to remotely manage hundreds of computers using SSH and Powershell. We leveraged 3rd party APIs such as Microsoft Azure for speech translation to bridge language barriers. We also looked at hosting and deploying our solution on Ubuntu Servers using Docker and Kubernetes.

PS-I experience: It was great, the VBB mentors were readily available on slack always and we had regular meetings to discuss our progress. We never felt too pressured and actually enjoyed the work we did there. The fact that we were also helping a cause made things even more likeable

Learning Outcome: We learnt how to remotely access computers online. We learnt to find open source solutions and used 3rd party APIs for our translation backend. We also found ways to write scripts to automate the bot.

Name: DHRUV RAUTHAN .(2019A7PS0095G)

Student Write-up

Short Summary of work done: We worked on customizing open-source & proprietary software including a Google Meet bot Further we discovered ways to remotely manage hundreds of computers using SSH and Powershell. We leveraged 3rd party APIs such as Microsoft Azure for speech translation to bridge language barriers

PS-I experience: It was a great learning experience as we learnt both technical and soft skills from the internship. We had weekly progress meetings to keep our mentors updated

with our work and they were readily available on Slack throughout to help us with our doubts.

Learning Outcome: We learnt to find open source solutions and used 3rd party APIs for our translation backend. We also found ways to write scripts to automate the bot

Name: SWASTIK MANTRY .(2019B1A71019P)

Student Write-up

Short Summary of work done: Researching about Remote Access to multiple systems, Finding solutions to Organizations' problems and implementing them; 1. Scripting and automating a bot to record GMeet based on Calendar events using python modules, a bit of Google Cloud Platform, APIs, bash scripting, 2. Testing the deployment of the bot on ubuntu server through VMs 3. Working with Google Apps Script

PS-I experience: Initially, we had more of researching and googling about the various possible solutions for certain problems. After a few weeks, we started coding and testing those solutions and further developed on them to suit our problem case and organization's need. My experience was good as I felt that I was working for a good cause and had provided something to the community. Trying to solve problems that actually gave me satisfaction.

Learning Outcome: I had learned various things through out my project at VBB :

1. Documentation
2. Researching about the problem through various perspective and application point of view
3. Working with Google Cloud Platform for authentication of APIs, using Service Accounts
4. Using Google Apps Scripts to employ scripts on G Suite Docs
5. Writing Bash Scripts and automating using "at" and cronjobs command-line utility
6. Working with python modules such as subprocess, os and using API such as gspread

Name: ROHAN GOYAL .(2019B3A70441G)

Student Write-up

Short Summary of work done: The main idea behind the project was to customize open-source and proprietary software, remotely manage hundreds of computers, set up servers, leverage 3rd party cognitive APIs, and build solutions to bridge language barriers and Internet accessibility. We worked upon customizing Google Meets with bots and browser plugins to provide additional features for virtual mentoring. We also worked on building an extension for live translation of Google Meet.

PS-I experience: It was overall a great experience. I got to learn a lot, both technically as well as professionally. We had the opportunity to interact with many employees at the organisation as well, including their CEO.

Learning Outcome: Team work and learning new technologies were amongst the most important learning outcomes. Some of the technical stuff we learned here were working with Computer Networks, Linux servers, WebRTC, OAuth and REST APIs. We improved upon our communication skills and presentation skills as well.

PS-I station: Village book builders- Operations automation , USA

Student

Name: SIDDHARTH SUBODH BARNWAL .(2019A7PS0114G)

Student Write-up

Short Summary of work done: VBB is a non-profit organization which aims at constructing libraries in remote places around the world that do not have access to quality education. The students are taught remotely through meetings held over the computers available in the libraries, and they connect with their mentors. Unfortunately, the villages usually lack internet and have to be set up with wireless routers which have low bandwidths and slow speeds. Accordingly, our job was to come up with solutions for the issues caused by the bad internet and the lack of technical knowledge among the residents of the villages.

Since the residents aren't familiar with computers, even basic tasks such as installing programs will be difficult for the headmaster, even with instructions. We explored remote access applications which could be set up easily so that the library computers could be operated by the members of VBB remotely and carry out maintenance and troubleshooting.

For our second task, we figured out a way to record and transcribe the meetings held over Google Meet. It would make the sessions easy to access even after the meetings are over and would help to also track the progress made by the students.

Lastly, since most students in the libraries aren't English speakers, we figured out a way to carry out audio translation to make sure the communication between the mentors and the students isn't lost due to the language barrier.

PS-I experience: My PS-1 experience was extremely educational. It was an opportunity for me to work with a team in a professional environment. Working with a non-profit organization was a very different experience since it gave me a different perspective of a company with the only goal to help the community.

Learning Outcome: As part of PS-1, I got to explore and learned how to work with open-source code. It allowed me to work with technologies like automated bots and JavaScript for the first time. Apart from the technical side, I also learned how to work with a team on a project and other skills required in a professional setting.

Name: ABHISHEK MISHRA .(2019A7PS0119P)

Student Write-up

Short Summary of work done: I was part of the Operation Automation team where we primarily worked on these things :

- a) Simplifying ways to access a Windows OS with zero support from the client side, in simpler words trying to automate the procedure of gaining remote access to the Windows client PC.
- b) Creating a bot or a similar tool to record every bit of google meet(which include audio,video and closed captions) automatically without any manual input even on a regular google account.
- c) Creating an extension to facilitate audio translation from one language to another using Microsoft's speech translation API.

PS-I experience: Very pleasant in short. The instructor in-charge was a BITS alumni so he knew what to expect and how to go about it. The transition to a work environment was pretty smooth. Since the organisation is a Non-profit org it is very judicious in how it works which means they had planned about PS-1 interns very well and also were very receptive to us throughout our duration. The task given to us were also meaningful, though they overestimated our capabilities initially and hence initially we were expected to do a lot more than we eventually did, probably we did only 70% of our initially planned tasks but I believe this miscalculation happened due to this being their first attempt at the PS-1 program. I highly recommend this station to anyone with even 8.5 - 9 cg since the PS is extremely good and also work is also genuine. We were also given an option of asking for additional exciting tasks if we were able to do our current ones earlier which was also good.

Learning Outcome: Learned a lot about how an organisation works, the culture, the tools in use. We had weekly presentations to represent our past week's work which made us accountable and also developed our communication skills. In terms of hard skills we learned about IT networking and various Frontend and Backend tools, not to forget the working of API as well.

Name: RUDRA PRATAP SINGH CHOUHAN .(2019A7PS0164G)

Student Write-up

Short Summary of work done: I was a part of operation automation team. We made Google meet bot which will auto record everything on the meet from the video to the closed captions everything, a browser extension which does Live audio translation on any platform like Google meet or skype etc.

PS-I experience: It was a nice experience. I got to learn about so many new things especially from the mentors of the organisation and the discussion rounds we had with our bits mentor.

Learning Outcome: I learnt following things-

1. To work in an industry
2. To work as a team
3. A lot of programming and brainstorming

Name: HARSH GOYAL .(2019A7PS0167H)

Student Write-up

Short Summary of work done: We have to find the ways to automate the things like recording of google meet by creating a bot and we have to make a audio to audio translator for the gmeet in which user can speak in a language and in realtime it gets speech translated in another language. we have to deploy it by making a chrome extension.

PS-I experience: It was a great learning experience, we learned how to work in a team and how to tackle a problem. We get to interact with the professionals from the organization which gives us the idea about how things work in real world.

Learning Outcome: I learned many things like team handling, work under pressure, the importance of deadlines,how to showcase our work properly, how to give seminars and make reports for our work.

PS-I station: Village Book Builders,Mapleton, UT, USA-Backend Development , USA

Student

Name: TANMAY RAJENDRA PATIL(2019A7PS0054G)

Student Write-up

Short Summary of work done: Set up and hosted a Digital Library Management System, to digitise and automate tasks related to a library. It includes a digital noticeboard, issue/return and search features.

PS-I experience: Good overall. Excellent support from Village Book Builders mentors for learning resources, feedback, etc. Hands on experience for backend web development.

Learning Outcome: Creating REST-ful APIs with Django and Django rest framework. Collaboration on open source projects using Git and GitHub

Name: [KANISHK TUSHAR KAMAT\(2019A7PS0123G\)](#)

Student Write-up

Short Summary of work done: We had to work on developing a Library Management System (LMS) for the Village Book Builders organization, which was a non-profit organization which builds libraries and provide mentorship program for underprivileged children in a few underdeveloped parts of the world like LatAm, Africa and Nepal. The LMS was supposed to be deployed in all of the libraries built and maintained by VBB. We used Django Rest API for the backend and some basic HTML, CSS and Bootstrap on the frontend. We added all the essential functionalities like registering a new user, registering a new book, searching a book, maintaining an interface for the issue and return of book and login/register user as well as adding advanced features like maintaining a notice board and an automatic-email verification feature. For this, we had to build models, viewsets and serializers for user, book, bookinstance, noticeboard and admin. We also used HTML to add structure to our LMS by adding forms, buttons and tables to the frontend. We used CSS as well to stylize the various components on the LMS interface. When we were done with the final touchups for the LMS, we hosted our final project on Heroku using GitHub.

PS-I experience: I had an overall very fun and informative PS-1 session. I was able to learn all the essential and fundamental concepts of Web Development as well as got a hands-on practical experience to work in a corporate environment. At VBB, they followed an open-ended learning policy, so we had the independence to learn at our own rates and become thorough with essential concepts of Django Rest API. We started with learning the basics of both Django and React.js and were given the necessary tutorial links. Later, we were supposed to develop on our understanding of Django Rest and finally were allotted the Library Management System project. Finally we hosted our project on Heroku using GitHub.

Learning Outcome: Backend Concepts

Django,Django Rest, MySQL
Frontend Concepts
ES5,React.js,HTML,CSS,Bootstrap
Other Concepts
GitHub,Git Commands,Heroku

Name: MANAS AGARWAL .(2019B4A70198G)

Student Write-up

Short Summary of work done: We were assigned to build Library Management System web application for the organisation. It consisted of features such as user login, register new book, register new student, noticeboard, issue and return book, email subscription to users and much more. It was build to help students as well as librarian to maintain the functionalities of a library.

PS-I experience: It was good experience working for an organisation. It helped me to increase by communication skills and team work, also made me learnt various technical skills such as HTML, Css, Django, etc. Overall, it helped to explore web development field.

Learning Outcome: I learnt Django, Django REST framework, Hosting websites on Heroku, Git, GitHub, frontend languages like HTML, Css.

PS-I station: Village Book Builders,Mapleton, UT, USA-Front End Development , USA

Student

Name: NIVESH DUPPALAPUDI .(2019A7PS0018H)

Student Write-up

Short Summary of work done: We as a team of 5 made the basic part of the admin panel of village book builders portal using react and redux. We also made a crud view of mentor's profile of the mentors who are working in village book builders.

PS-I experience: We were asked to learn react, redux , django integration with react and some other libraries in the initial stage of PS1. Then we made some individual projects to enhance our skills on react and redux. Then we were allotted the main project in the final week of PS1.

Learning Outcome: I learnt Javascript, React and Redux.

Name: [Aryan Tyagi\(2019A7PS0136G\)](#)

Student Write-up

Short Summary of work done: Release of new UI/UX features

PS-I experience:
Great organization

Learning Outcome: - gained proficiency in Javascript, React and Redux
- worked in tandem with open source developers, learning how to write industry-grade code

Name: [AVIRAL KUMAR GOEL\(2019A7PS0166G\)](#)

Student Write-up

Short Summary of work done: My work was related to Web development. Tech stack used is React and Django. Worked on the integrating the CRUD views for the future admin portal to manage mentors.

PS-I experience: The station is good. Mentors are approachable.

Learning Outcome: Learning outcome was React, Redux and integration with Django backend models.

Name: [ABDUL MANAF .\(2019B3A70351P\)](#)

Student Write-up

Short Summary of work done: Collaborated and built the frontend for the admin portal and mentor profile page for VBB.

PS-I experience: It's rewarding to see one's code in production.

Learning Outcome: Learned Asynchronous JS, React, Redux, and associated frontend technologies like webpack, eslint, npm and bootstrap.

Name: [SHREYAS ATHREYA .\(2019B3A70494G\)](#)

Student Write-up

Short Summary of work done: We learnt the basics of HTML, CSS and Javascript in the initial weeks. We then picked up React, Redux, Django and a basic fullstack

integration of these. Our project is focused on creating a mentor profile page for the organisation website, and developing the admin portal.

PS-I experience: It was a decent learning experience. I learned to work together in teams and understand the communication channels and methods of a professional organization.

Learning Outcome: I learnt the basics of HTML, CSS , JavaScript, React and Redux. I also learnt how organisations develop fullstacks and work on their code professionally. I consequently learnt the tools used as well.

PS-I station: Village Book Builders,Mapleton, UT, USA-Web Analytics and Optimization , USA

Student

Name: ASHUTOSH TRIPATHY .(2019A7PS0020H)

Student Write-up

Short Summary of work done: This project includes WordPress performance optimization, launching data-driven marketing campaigns and designing conversion funnels for each action item in the user story. The overarching objective is to open new sources of data for analysis, visualization & actionable insights.

Geolocation Based Redirection- The process of automatically redirecting a website visitor by their geolocation (country, state or city). It works by detecting the visitor's location from their IP address by matching it against a database of IPs and locations. Two major calls for action on the website - sign up to be a Mentor & sign up for expedition trips. The organization needs more Mentors from outside US, either to fill mentorship slots not convenient in US time zone and/or to find bilingual mentors (Spanish). On the other hand, expedition trips are mainly targeting people residing in US.

Web Server Logs- Need for accessing server logs for our custom data dashboards. Testing by installing metabase.com on an Ubuntu server with Apache or nginx (credentials shared over slack). Connecting the same tool to Oracle DB and the organization's nginx server.

PS-I experience: In the orientation, all of us, the students, the university mentors and the company mentors, introduced ourselves. As part of the onboarding, we were explained in length as to how Village Book Builders operated, the company's vision and the part that the interns would play in it. Since the company uses React, Redux for the frontend and Django for the backend, in the following days, we were given extensive resources and were required to learn both. Learning how geolocation tracking works between Browsers & Web Servers, Finding out what all can be logged/tracked by nginx & Apache web servers, Going through Java Script code of Google Analytics and finding how it is being blocked by Firefox, Brave etc. and also researching into Google's Federated Learning of Cohorts (FLoC) as a replacement for cookie-based tracking and looking into how & why is WordPress blocking this move are some of the examples of learning tasks that were given. One of the tasks required us to redirect users to different web pages (on the same website) based upon their location. We were asked to provide separate scripts for both the backend and frontend part for the geolocation problem statement. In accordance with the LAMP architecture I provided scripts for the backend using Apache and PHP. For the frontend part I primarily used JavaScript, the geo-plugin tools and geolocation API to achieve the same result. We need to access server logs for our custom data dashboards. We were required to test by installing metabase.com on an Ubuntu server with Apache or nginx. To have an oracle database accessible in the NGINX server we were provided an oracle wallet with login credentials to access the same. To connect to the Autonomous Database through an HTTPS proxy, I had to update the tnsnames.ora file in the wallet zip file. After adding the HTTP proxy hostname(https_proxy) and port (https_proxy_port) to the connection string, I replaced the values with my HTTPS proxy information. The concepts I had to look up were JDBC Thin Connections and Wallets, SSL Connection to Oracle DB using JDBC, TLSv1.2, JKS or Oracle Wallets, Oracle Secure Sockets Layer and Amazon Relational Database Service.

Learning Outcome: Gaining working knowledge of web analytics, dynamic targeting of content, descriptive statistics & data visualization. Dynamically nudging users towards different conversion funnels based upon predefined user characteristics. Cross referencing data from siloed applications & logs to build custom dashboards.

Name: ISHITA KHICHAR .(2019B3A70417G)

Student Write-up

Short Summary of work done: I learnt Javascript in the first week and started learning the basics of React and Django. I worked with several productivity tools such as Clockify, Slack and Notion. I became familiar Apache and Nginx. I read up on how Brave and Firefox work with Google Analytics, Google FLoC, and location tracking. I also installed a virtual machine and installed Linux in it. Next, I learnt RDBMS and practiced basic SQL queries. I attended various Data Science meetings, where there was discussion on various interesting projects related to machine learning. I learnt data visualization. The rest of the internship was spent understanding and implementing advanced SQL queries, and debugging some SQL code.

PS-I experience: I learnt many new technologies such as Apache, Nginx and Metabase. I learnt DBMS from scratch and went from that to understanding and implementing advanced SQL queries. It was a very good experience to learn how teams collaborate and what it is like to work with real life databases. It was very satisfying to do work that contributed to a non profit organization and made a difference. My mentors were of immense help and the professor in charge was always there to help out with any problems whatsoever. All of this has been a very fulfilling experience and I feel grateful to all the people involved.

Learning Outcome: I learned Javascript, React and basic frontend concepts, Django and basic backend concepts. I learned the fundamentals of Linux & Web Servers (Nginx, Apache) and about internet tracking and prevention concepts. I became familiar with using SQL and business Intelligence software (Metabase). I grew comfortable with working with a DBMS.

PS-I station: VoiceQube - Software Development , Bangalore

Student

Name: PATEL ANIKET RAJESHKUMAR(2019A7PS0030G)

Student Write-up

Short Summary of work done: I was a part of team of 4 people. We were allotted project based on our interest. All four of us were interested in working with nodeJS and backend stuff. We were allotted task to create microservice architecture for StoryQube website.

We created 7 microservices for each different tasks/features. Created API Gateway and deployed complete backend on AWS.

PS-I experience: Overall PS experience for me was very good and above expectations. I learnt a lot of new stuffs related to backend. As I was previously somewhat experienced with nodeJS it was easy for me to learn new things. The mentor was very helpful and approachable.

Learning Outcome: My backend concepts got brushed + I learnt a lot about microservice architecture.

Name: SHIVANSH SARBHAI .(2019A7PS0060G)

Student Write-up

Short Summary of work done: Project was to develop an Alexa Skill which will serve as an interactive story for kids of age 3- 6 years . While working on this project, we realized that Alexa skills development includes all the aspects of product development ranging from understanding conversation flow and writing creative scripts to code them and testing on the Alexa developer console.

PS-I experience: It was a nice experience where I got to learn new skills

Learning Outcome: Developing an Alexa Skill using NodeJS , Alexa Developers console using the Alexa skills kit framework

Name: AMAN JHAM .(2019A7PS0071H)

Student Write-up

Short Summary of work done: Development of voice-based game/skill for Alexa. We used node.js for back-end and Alexa developer console for building the voice interaction model.

PS-I experience: The experience was very good. The mentor kept a close eye on our progress and assisted us in accomplishing our goal.

Learning Outcome: PS-1 had been a great opportunity for me to improve my technical as well as soft skills. I learned Node.js and Alexa skills development. The project also helped me to enhance my javascript skills. PS-1 demands good communication skills, presentation skills, and teamwork and this helped me refine these skills.

Name: YUVRAJ SINGH RAGHUVANSHI .(2019A7PS0080P)

Student Write-up

Short Summary of work done: We designed loosely coupled services also known as microservices which interact with each other through the help of REST API. The microservices required for the project include user, auth, payment , purchase, catalogue, catalogue update and communication services. The backend for these services was written using MERN Stack and deployment was done using AWS. We also used API gateway pattern so that the clients of the Microservices-based application could access the individual services through a single entry point.

PS-I experience: It was a great experience. We learned valuable lessons from the instructor and colleagues working there.

Learning Outcome: Microservices architecture, AWS, Backend development using NodeJS, express, MongoDB

Name: Aditya Pratap Singh Tomar(2019A7PS0127H)

Student Write-up

Short Summary of work done: I was involved in the backend development team for the application of StoryQube - a VoiceQube initiative. Our main aim was to redevelop its application into microservices architecture, from its existing application in a monolithic architecture. For this, we had to first learn and understand the different code architectures. This led us to find the differences between them, which further led us to analyse our existing codebase, classifying the application into various different microservices we'd be needing. As we progressed, we started developing these microservices - auth service, payment/purchase service etc in NodeJS. All of these employed the use of numerous packages and APIs. In the end, we were required to deploy this on an AWS EC2 instance, implementing an API Gateway for which we used AWS Lambda.

PS-I experience: It was a wonderful experience. We had great freedom with our timelines and learning curves. The founder was very understanding, and dynamism and fluidity within the organisation were some of the key values appreciated by him. Helped us understand how a team of people actually work together when delivering a project in real-world scenarios. Interacted and learnt a lot of non-technical knowledge too.

Learning Outcome: The major learnings include the know-how of backend development, using Node and its Express framework. Since we were involved in the stages of building it from scratch up until its deployment, we also got to learn about various developer tools. This was alongside learning about MongoDB Atlas, Postman and AWS.

Name: MAYANK JAIN .(2019A7PS0141P)

Student Write-up

Short Summary of work done: For my PS-1, I worked on building an end-to-end system for enabling interactive voice games (like Alexa skills) on mobile devices. My team built the entire system from ground up as Alexa can't be used directly. We also made multiple demo games to test the feasibility of the system. I made a demo personality bot game having people's personalities, and the users can ask questions to these bots, hence in a way, having a "conversation" with the real person. We used Rasa open source for handling

all NLU related operations, and the game models were served by an API built using Flask. It can also be extended for many games easily. We used a variety of AWS services for hosting the application. Furthermore, speech to text(STT) was also integrated in the app which provided a seamless experience without any delays. The demo games worked well and our system can now be directly integrated with the main app of the company. I also worked on an Internal tool for automating the training and deployment of new game models.

PS-I experience: It was a great experience as I got to learn many new technologies and hands on experience while building this project from scratch. The PS faculty and the project mentor from the company were very supportive throughout. The remote PS experience can be described as self-study with guidance. The mentors provided the project requirements and general direction to be taken while the technical requirements for implementation we had to acquire on our own giving a feeling of freelancing.

Learning Outcome: Gained knowledge on the different aspects of the industry and what it has to offer us. Got acquainted with various new technologies like Rasa, Flask, React Native, Bash, Docker and AWS services while building this end-to-end system.

Name: SANKET BHATT .(2019A7PS0147H)

Student Write-up

Short Summary of work done: Developing interactive stories as Alexa Skills from a point of ideation and scriptwriting to deployment, testing, coding and production.

PS-I experience: We were divided into 17 teams + a core team which each worked on an independent story from start to finish. The initial process involved ideating and coming up with games with a sufficient number of designable interactive elements. Secondly, it involved writing the entire script that would be subsequently produced and coded up. Simultaneously, we tested the interactive elements on Alexa Skills Kit using Node.js. Following a editing process where the interactive elements were revised - the scripts were sent to be coded up using Alexa Skills Kit. In this way - we managed to convert 17 ideas into working Alexa Games and stories that could be reworked and produced to add into the company's repository.

In the core team, we oversaw the process of all 17 teams and were part of the development process of each of the 17 teams. Post our PS - the stories were sent to be officially produced (using voice actors) and will be deployed on the StoryQube platform.

Learning Outcome: Soft skills, project management, Alexa Skills development, Interactive Voice Design

Name: SAHAJ GUPTA .(2019A7PS0148H)

Student Write-up

Short Summary of work done: I made a game known as Baby Momo.

In this game there is a baby known as baby momo, he cries everytime he listen a sound so the user need to identify the sound and then tell baby momo stop crying and tell him that this is a sound of XYZ thing. Our target audience was 3-6 years old. And our game is made on voice user interface and can be deployed on Alexa.

PS-I experience: My PS-1 experience was smooth. Our company gave us a person who could help us out when we were in trouble. My mentor used to motivate and check what I learned. So in a nutshell my experience was good.

Learning Outcome: Alexa Skills, Lambda, Developer Console, AWS, CloudWatch, Peer Learning, Script Writing and S3 bucket

Name: GHONGADI KSHITIJ PRAMOD .(2019A7PS0155G)

Student Write-up

Short Summary of work done: The project aims to design and develop a user-friendly interactive voice-based gameplay with immersive content using Alexa Skills. This

included developing the plot and storyline based on the problem statement given to us. Following this, we had to design the detailed workflow as well as the game script. The Phase-I of the project focused on the creative aspect of the voice-based game. This included designing the detailed game script based on the problem statement, with engaging user interaction. This script has to go under scrutiny to advance to Phase-II. The Phase-II of the project focused on actual development, i.e., turning the game script into an Alexa Skill. This is done in two parts, building the Lambda Function (coding the driving logic) and interfacing it to the frontend interaction model. The frameworks used are Alexa Skills Kit, Amazon Developer Console, AWS Lambda, Node.js.

PS-I experience: The experience working at Voice Qube was reasonably good. The work culture at Voice Qube was more towards the autonomous side, wherein I felt that I was working and learning for myself rather than just meeting deadlines. I felt a sense of ownership over my work.

We could not complete the development of the entire gameplay, the script being a 44-page long script, had to go under rigorous scrutiny to keep the game script tight and immersive at the same time. As a result, we had to focus more on the creative part of the game development. We were told that our script was probably the longest, story-driven, and content-heavy with immersive and complex games.

Learning Outcome: My tenure at Voice Qube helped me learn the nuances of Voice-Based Game Development. Looking at the technical aspect, I learned to work with Alexa Skills Kit and Node.js.

Name: SARANSH GOEL .(2019A7PS0988P)

Student Write-up

Short Summary of work done: Development of Alexa skill for a voice qube platform named storyqube, storyqube is a online interactive stories and games streaming platform. Our work was to develop a interactive story or a game using VUI interaction model. There were 17 groups each working on a different story. My group was sq17, we were two in our group we are making a atlas type game but on various categories. The catch here is that as it is a interaction model so there should be a back story of game to make it relevant as in our game a egoistic AI challenges user to play this game. Our project contains two main phases first one is to develop a script for the game and second one is to develop a Alexa skill for it using aws lambda function

PS-I experience: I had a wonderful experience there as a intern. Firstly due to the excited environment of startup and eagerness to do something new and interesting and so much space to put our ideas before them. A good working experience with a well designed system of core teams and development teams which leads to a smooth work flow. Provide a proper guidance to develop the skill and weekly meetings to show our progress and it also helped us to maintain a consistency in work. Got to learn a lot about Alexa skill as well as aws lambda

Learning Outcome:

learn how to develop a good script for a story along with a flow chart.
Learn about JavaScript and nodejs
Learn to develop a good Alexa skill with ask sdk module of nodejs
Learn about the functioning of aws lambda

Name: A RAHUL .(2019A7PS1312H)

Student Write-up

Short Summary of work done: I was a part of company's Story Qube unit. My team was assigned to create an interactive voice application that can host a quiz and examine the correctness of the answers given the reference answer. The game consists of different levels based on Numbers, Alphabets and Animals and certain conditions to pass each level. We used Alexa SDK documentation for reference.

PS-I experience: Overall experience of PS-1 was very good. Our PS station head was very friendly with us which helped us very much. The project given to us was informative and interesting.

Learning Outcome: I learnt about Alexa skill development and how to use VUI.

Name: SHASHWAT SHARMA .(2019B3A70277G)

Student Write-up

Short Summary of work done: VoiceQube aims at becoming the Netflix of audio stories, games, and immersive stories for the users. To fulfill their aims, they needed to make a website that looks like Netflix and provides all the services provided by Netflix to their users. We at VoiceQube were allotted the task of building different microservices for their website. We decided to build mainly six microservices, i.e., Authorization service, Catalog service, Catalog Update service, User service, Payment service & customer support services. We were also allotted the task at the later stage of PS to build an all-in-one load balancer, web server, content cache, and API gateway to complete the model for the website.

PS-I experience: I had a very good experience working at my PS station. I was part of the Full Stack 1 team at the station, but our work mainly involved BACKEND for the website. I was happy to work for the backend of the website as I already knew FRONTEND. My PS-I experience can be divided into three parts – the first one being learning new languages and tutorials. I learned Node.js, Express.js, MongoDB, Mongoose, which helped me to become a MERN stack developer. The second being building different microservices for the VoiceQube website - Authorization service, Catalog service, Catalog Update service, User service, Payment service & customer support services. The third part being making an all-in-one load balancer, web server, content cache, and API gateway to complete the model for the website. Finally, I would advise juniors that if you want to work hard in the summer breaks to polish your skills in web development, go for the Web developer role in the VoiceQube. You will learn a lot in the field, provided you work hard. Work culture could be somewhat hectic for web developer role but there are some roles in sq teams which involves making stories for the website.

Learning Outcome: I learned a lot of stuff here. I first studied languages like Node.js, Express.js, MongoDB, Mongoose and completed the languages to become a MERN stack developer. I learned NIGNX, developing AWS instance EC 2, stripe & Git commands. I also got to know using postman for testing the APIs and preparing the API documentation for the different microservices. Apart from the core project, I learned things, from how an organization functions to how teams coordinate on projects. The PS also improved my communications skills, attention to detail and soft skills.

Name: HITAIISHI DESAI .(2019B3A70602H)

Student Write-up

Short Summary of work done: We were tasked with creating an Alexa skill, which was supposed to be an interactive game that taught manners to young children. Our work involved ideation of the skill, story development and dialogue writing, as well as actually developing the skill using Alexa Skills Kit in conjunction with AWS Lambda.

PS-I experience: While the initial stages of story development were drab in terms of the level of difficulty of the work as well as the learnings, the skill development part was fast paced and fun. That is where majority of my learning happened. The station mentor, was extremely encouraging and was very prompt with responses to doubts.

Learning Outcome: Learnt how to make stories sound not boring when written in second person, and learnt how to strike a balance between narration and user engagement. Also learnt how to develop an Alexa skill from scratch.

Name: SRAJAN GUPTA .(2019B3A70612G)

Student Write-up

Short Summary of work done: We worked on a script of a voice interactive game for Alexa. Then we implemented the script into Alexa skill by building the front end voice interface and back end lambda function.

PS-I experience: It was nice work experience without much pressure.

Learning Outcome: building Alexa skills, node framework.

Name: SHASHWAT ANAND .(2019B3A70718H)

Student Write-up

Short Summary of work done: I developed the front end features for the web app using react and chakra ui

PS-I experience: We as a team of 3 was responsible for developing the front end features for their new product's website.

Learning Outcome: React, GitHub, Chakra UI, JavaScript, VS code, Few npm packages

Name: SAKSHAM BANSAL .(2019B4A70737G)

Student Write-up

Short Summary of work done: We were divided into teams of two and were asked to create a voice interactive game using Alexa Skills. We were given a problem statement and were asked to write an interactive story with all the necessary dialogues, suitable for a particular age group and then later code it up using Amazon developer console and AWS Lambda function.

PS-I experience: It was a really good learning experience for me. I learnt about a lot of new technologies and had to adapt to them. It was fun and enlightening.

Learning Outcome: Technical skills: Learnt different languages like JavaScript, NodeJS, etc. Learnt AWS Lambda services, about Alexa developer console, etc.
Personal skills: Time management, taking responsibility, team work, learnt a lot about how companies work and how projects are built in a real world.

Name: SHREYA BANERJEE .(2019B5A71019H)

Student Write-up

Short Summary of work done: I made a single user interactive game on Alexa. We made the Alexa skill from scratch without using any template. We first made characters, plotlines and flowchart of events. We also introduced branching in the game so that the user's decisions affect the course of the game. We used Alexa skills kit for making the interaction model . We used AWS Lambda and S3 bucket for the backend system.

PS-I experience: I had a really great experience. We were divided into teams for working on a particular game. Our team leads were very helpful. We had workshops organised by the organisation to help us get started with the Alexa console. We also had industrial experts as mentors. There were regular meets with the cofounder himself where we learnt how to pitch our ideas, get our doubts cleared and learn from others.

Learning Outcome: I gained a lot of industrial experience since I got to see how an organisation actually works. I learnt Node.js and explored ALexa Skills Kit, ALexa Presentation Language, AWS Lambda, S3 bucket and all about Voice assistance. I also learnt how to give a pitch and present my ideas.

Name: KASINA SATWIK .(2019A7PS0011H)

Student Write-up

Short Summary of work done: We were to design an interactive story game using Alexa skill kit. We needed to write the script and develop it into an interactive voice game.

PS-I experience: I really enjoyed my PS here. We had flexible working hours and experts also present to ask our doubts regarding the development. There was not too much pressure on me to complete my work. This PS also helped me to consider a new field to be in.

Learning Outcome: I studied Node.js for the work needed to be done. But the most important thing that I learnt was Alexa skill kit. It has many functionalities and easy to use. I also got to know the working culture in the software world.

Name: ANIRUDDHA RAMESH TRIVEDI .(2019A7PS0073P)

Student Write-up

Short Summary of work done: We were distributed in the groups of 3 each where each group had to make a different Alexa Skill. First we made the exact dialogue script for the game .When the final script was ready we coded up the appropriate intents required and the respective responses on amazon and also tested the game on Amazon developer console for Alexa and later hosted the backend on AWS Lambda.

PS-I experience: We got to learn concept of Alexa Skills and how to make them using Alexa skills Kit , AWS Lambda and make a game which will actually be used by the Station after final modifications. The concept of Alexa Skills and the development of the skills that we learnt while working on this project helped us push further and get a flavour of current technologies.

Learning Outcome: During our PS1 we learnt about Alexa Skills, Node.js, AWS lambda, which helped us gain an in-demand, industry skill and opened opportunities for developing and contributing to other projects.

Name: SARTHAK MANOJ ADE .(2019A7PS0079P)

Student Write-up

Short Summary of work done: VoiceQube is one of the leading startups in India working in the field of VUI(Voice User Interface) design and development. The PS cohort was

given the responsibility to develop Alexa Skills which function as Apps in Amazon's Alexa environment parlance. The work involves a combination of use of Amazon Developer Console for Interaction Model Design (sort of front-end for a Alexa App) and use of Alexa Skills Kit SDK for development of Cloud hosted skill backend. The design and use case of skills was also in our hands, so actually the work required a combination of Creative and Analytical skills.

PS-I experience: The experience at PS-1 has opened me to the world of work culture in a Fast moving startup, whilst also giving me insights from time to time of how a startup works efficiently through observing the work of its founder.

Learning Outcome: In a Technical Skills point of view - Voice UI design & development strategies, NodeJS, AWS

In terms of Other skills - Time management, team-work and effective collaboration, creative ideation, presentation and pitching of ideas

Name: AMOGH RAMANI BHARADWAJ .(2019A7PS0086H)

Student Write-up

Short Summary of work done: I was part of the frontend development team of 3 for developing VoiceQube's website - Storyqube, using React JS. I made the two main webpages whose designs were inspired by Netflix.

PS-I experience: The station was very enthusiastic from the get-go and we began the journey 1 week before the scheduled start-date, much to my immeasurable excitement. We submitted a list of changes to the site design given to us. I was thrilled to see that the perfection of the design deemed the changes unnecessary.

We were given no resources to help us with building the site which, reassuringly, goes to show that the mentor has a lot of trust in our skills. Further, my work was made fun and challenging by not receiving constructive criticism. This improved my ability to discern what is right and wrong.

The experience was a fantastic reflection of what a true work experience is; the pressure, anxiety and hard work. It was eye-opening.

The weekly meets held by the station were also heavily engaging.

Overall, it was truly a great experience. Thank you.

Learning Outcome: This project allowed me to elevate my proficiency in React JS and UI design. I also learnt how to present and structure my work in an efficient manner. The interactions with the various personnel heightened my mental toughness.

Name: YASH SHAH .(2019A7PS0102H)

Student Write-up

Short Summary of work done: We had to make an alexa skill. We learnt content creation and nodejs to make an immersive story playable

PS-I experience: Being remote it had flexibility about timing and submissions. It was overall fun to develop a playable skill on any voice based device

Learning Outcome: Learnt Nodejs and using alexa developer console

Name: RAJATH V .(2019A7PS0122G)

Student Write-up

Short Summary of work done: We were given a project to develop a Voice based interactive game on Alexa skills. The outline of a story was given to us and we had to develop the plot and then make the Alexa Skill front-end as well as the back-end parts. We had to design intents, utterances and slots in the story as well. The backend part involved coding up handler functions to manage what responses to be sent back with a request handled by Alexa's NLU Model.

PS-I experience: The PS-1 experience was fantastic. The mentors allotted were also very nice and accommodating, and we had proper sessions with the CEO where we were

given constructive feedback from time to time as well. Weekly meets were a fun and engaging experience, and I liked how everyone was able to connect with others despite having to do it online.

Learning Outcome: It was a very informative two months. I did not know anything about how voice based apps work, or how the AWS system runs. These 2 months enabled me to learn how they work, and how to develop applications that can be hosted on AWS Lambda as well.

Name: ADDEPALLI GURU SAI MANIKANTA BHASKAR(2019A7PS0124G)

Student Write-up

Short Summary of work done: For us our Company mentor had given a base story ,a story line for our Alexa skill ,Based on that we had developed script upto 4 to 5 weeks, After the script finalised by our company mentor, they gave us AWS account for creating a skill backend and we had done coding for our skill in last 2-3 weeks.

PS-I experience: I am one of the skill developer of Story Qube ,I had worked with 2 other teammates as a group for our skill development.I learnt how to address our issues to our higher official, how to present 5 days work and progress in short time, How to manage work and complete on time.

Learning Outcome: Voice Based games development in Alexa, Script writing,Node js

Name: R Vedang(2019A7PS0150H)

Student Write-up

Short Summary of work done: We came up with a plot and wrote the script for a story and later made an Alexa Skill from scratch for the same story in Node.js.

PS-I experience: Wrote the script for first 5 weeks and then started the coding work for the Alexa Skill. We were able to complete the project on time.

Learning Outcome: Learnt how Alexa works and how to make an Alexa Skill from scratch

Name: [NAMAN MAHESHWARI .\(2019A7PS0156G\)](#)

Student Write-up

Short Summary of work done: Created an interactive voice based game for Amazon Alexa

PS-I experience: We first had to learn about vui and its limitations and practices , then we worked on a script for our games keeping in mind the limitations and good practices to follow . We worked on the script , created dialogues and tested them . Then we had to learn how to code an alexa skill and convert our script into a game.

Learning Outcome: Learned teamwork , learnt about vui , learnt various technologies such as MongoDB and NodeJS

Name: [ATHARVA AGRAWAL .\(2019A7PS0157G\)](#)

Student Write-up

Short Summary of work done: Made a fully functional Alexa skill based game on AWS console.

PS-I experience: It was nice. The employee were helpful.

Learning Outcome: Learnt node.js, mongodb, aws console.

Name: AASTHA BHARGAVA .(2019A7PS0421G)

Student Write-up

Short Summary of work done: Wrote an interactive story for a game and implemented it as an alexa skill

PS-I experience: It was an enriching experience

Learning Outcome: Learnt how to create alexa skills

Name: MIHIR THALANKI .(2019A7PS1014G)

Student Write-up

Short Summary of work done: During PS-1, I worked in a team of 3 to develop an interactive story based game called 'Swallowed by the Sea'. This is an alexa driven game and therefore is a voice application. A user can play this game on any alexa device. The user is given choices during the story and based on their choices, the storyline changes. The game has a total of 8 branches to the storyline and is developed for the age group of 13+. First we made a flow chart of how the flow of the game should look. Then we wrote a script for the entire story. The script is 40 minutes long. Then we started development. We are using node.js for developing the alexa skill. We are using the Alexa developer kit to develop the game.

PS-I experience: This has been an amazing experience and I have learnt so much. Voice development is a very interesting field and I am happy to have gotten the opportunity to work in such a field. My mentor and PS1 faculty have been of great help and has guided me throughout the project. We had weekly meetings and we were all engaged in our projects. We were asked to constantly provide updates and we received help instantly.

Learning Outcome: Through this experience, I not only improved by technical skill set, but I also learnt how to be collaborative. Working in a team is different, and it is important to hone your soft skills and conversational skills when you work with others. I was also given the opportunity to be creative as we had to basically write our own story which is great. I also learnt a lot about the functioning of a startup and the structure of a business.

Name: PALAK H PARIAWALA .(2019A7PS1141P)

Student Write-up

Short Summary of work done: We were put in teams of 2 or 3 and were the given the task of creating an Alexa skill (voice application) for one the company's projects. The skill had to be an interactive and immersive experience for the user. The target users for the skills are children aged 6-13. Each team scripted a dialogue flow and began developing the skill using Node.js. My team worked on making a voice-driven game.

PS-I experience: It was good, we got to learn about developing applications using voice interface through a hands on approach. However most of the PS time was spent in stage 1 which was writing dialogue scripts for the interactions.

Learning Outcome: I learnt about voice user interfaces and how to develop a voice application for Amazon Alexa using Alexa skills kit. I also learnt things about the functioning of the startup and a little about the business model.

Name: Y YASHASWI.(2019A7PS1210H)

Student Write-up

Short Summary of work done: To develop a website for their audio streaming platform, StoryQube. My team was assigned the job of developing the frontend and the integration of it with the backend. We were asked to develop the website using MERN stack (Mongodb, Express, Reactjs and Node). Beyond that we used a library called Chakra UI. We were also asked to implement authentication and make it look like a website similar to popular streaming services like Netflix.

PS-I experience: Most of the work was relatively easy as the team members were experienced in it. But some features required decent amount of work.

Learning Outcome: The project gave us more experience in frontend development (especially React development) and also gave us an insight into backend development

Name: ROHAN KHOSLA.(2019B4A70734G)

Student Write-up

Short Summary of work done: We worked on creating interactive experiences for VoiceQube's subsidiary StoryQube. We were creating interactive Alexa Games. The work involved script writing and development of the script into a playable game using Node.js on the Alexa Development Console.

PS-I experience: The PS-1 Experience was great. It started with us getting an introduction to Alexa Skills and the Alexa Development Console. We were given prompts. My prompt was developing a game about a boy who gets stranded at sea. My teammate and I wrote the script for an interactive game. The script was tested several times in group calls after which we were allowed to develop the game. The development process was incredibly fun since we were able to actually see our creative work (the script) take shape. We had to come up with an architecture for how our game will work. Since the game is an Alexa Skill, there is no video. So, one needs to find novel ways to control the flow of the story. The process of identifying what to use was challenging and fun.

Learning Outcome: I learnt a little bit of Node.js, how to use AWS Lambda and about NLU models. Even learning about the Alexa Development environment was incredibly fun and intuitive and I look forward to create more skills for myself in the future.

PS-I station: WEBiROID Technology & Consultancy Services Pvt. Ltd.Kolkata-Digital Marketing , Kolkata

Student

Name: PRAVEEN RANGAVAJHULA .(2019A4PS0419P)

Student Write-up

Short Summary of work done: Created a product brochure. Gathered information about various products and their manufacturer. Created a database with this information

PS-I experience:

Learning Outcome: Learned to format and create a good brochure

Name: B ADITYA .(2019B2A31399H)

Student Write-up

Short Summary of work done: Work was mainly in field of digital marketing. Hands on experience by marketing actual products by making brochures and finding contract manufacturers.

PS-I experience: Fair experience with supportive faculty .

Learning Outcome: Some basic infographics designing, communication skills.

Name: GARVIT SUKHIJA .(2019B2AB0952P)

Student Write-up

Short Summary of work done: Prepared a brochure by properly studying about Thermometers and Nebulizers. Found the potential contract manufacturers and made database.

PS-I experience: The experience was okay.

Learning Outcome: We learnt about Contract manufacturing and digital marketing

PS-I station: Xarvis Intelligent Systems Lab Pvt Ltd - Tech ,Pune - Software Development , Pune

Student

Name: HARSH JAIN .(2019A3PS0211P)

Student Write-up

Short Summary of work done: Our project was to implement Multitenancy in a spring based application. So, We first had to aquire basics of spring and about multitenancy. So, we had to implement database per tenant approach to multitenancy

PS-I experience: It was a good experience learning about something new. I would be better if it was offline.

Learning Outcome: So, I learnt some new things and about new tools used in development.

Name: PATHAK TUSHAR DHANANJAY .(2019A3PS0416H)

Student Write-up

Short Summary of work done: We added a new class to the domain and repo directory for the new schema created REST APIs and added them to the controller class added, deleted and got tenant info from the table, which was integrated with swagger.

PS-I experience: My mentor was quite helpful in helping me build my approach to the work that needed to be completed each week. The overall PS experience was pleasant, and the Work From Home option did not appear to be a hindrance to learning.

Learning Outcome: We learnt about git and gitlab for the first few days, in which we learnt about version control systems, git branches, Commit, and contributing to projects. In the next two weeks, we learnt about spring, spring data, spring framework, spring boot, spring mvc, AOP, Java Beans, and XML configurations. We also learned docker and MySql in the process, and using MySql to create Databases.

Name: T HARIHARAN .(2019A8PS1329H)

Student Write-up

Short Summary of work done: In the first few weeks we were asked to complete courses on spring and were familiarized with version control system, later on we were

asked to create ReST APIs and were asked to implement different interfaces, were asked to create a liquibase changelog and implement the functionalities which are provided by the table also.

PS-I experience: It was a good experience working, we were given an overview of how enterprise class applications work and how they are implemented in industry, by providing a brief glimpse of spring dependencies and database version control through Liquibase.

Learning Outcome: Learnt about spring, spring boot, mysql, liquibase, Docker, Kubernetes, how ReST APIs work , why multi-tenancy is important and how to implement it.

Name: T HARIHARAN .(2019A8PS1329H)

Student Write-up

Short Summary of work done: In the first few weeks of our work we learned about version control system and spring. We were asked to complete a course within the first two weeks on spring boot spring mvc and spring data. After that we were given many tasks to perform, were asked to create different ReST APIs and created new changelogs in Liquibase.

PS-I experience: It was a good experience and gave a very good idea of how industry works and how enterprise class applications are made.

Learning Outcome: Learnt spring, spring boot, java, mysql, liquibase, keycloak and docker.

Name: SUBHAM PRASAD DASH .(2019B1A31545H)

Student Write-up

Short Summary of work done: The objective of our project was to add multi tenant architecture to a SaaS web application.

In the final outcome we integrated the web-application with multiple tenancy support .The various services we added included, each tenant having multiple users, each user having access to multiple tenants and tenants being able to share data between them.

We understood the request flow, resolved the tenant for each request and made it available whenever requested and then it was all about establishing a connection with the tenant database.

PS-I experience: Due to remote PS we faced some challenges, but overall it was a good experience. The mentors were helpful and provided broad guidance. I had great team members and it was fun working with them all. The group discussions and presentation were rich source of information and also provided an unique experience.

Learning Outcome: Learned about developing enterprise level Java web-application using Spring Framework.

Apart from that we got to know about microservices and their use in today's business environment. We were exposed to the concept of multitenancy, its implication in SaaS architectures like microservices. We also got brief glimpse of spring dependencies and database version control through liquibase.

PS-I station: Xarvis Intelligent Systems Lab Pvt Ltd - Tech ,Pune - UI Development , Pune

Student

Name: VARINDA BANSAL .(2019A3PS0350G)

Student Write-up

Short Summary of work done: In the duration of my PS1, we were mentored everyday to learn front end development to our best.We started with learning all of the skills required

i.e., HTML,CSS,JS,Angular,typescript etc and went on to work on two projects. One was an individual project to create an invoice web page for the company where you can bill your items and create an invoice for the same. The second project was group wise wherein a group of 3-4 people were assigned different tasks. Our task was to help create a gmail login type UI. Our main objective was to create a sign in page , create new account page and manage account page , and to implement a keycloak theme which was highly inspired by Gmail . We learnt concepts such as Angular , debugging , routing , pouchdb etc and we were able to fulfill all the project requirements on time .

PS-I experience: PS-1 has helped me a great deal in learning many new things that I wouldn't have otherwise. We were mentored by people with industry experience and we could turn up to them anytime we needed help. My peers were also very helpful and we would help each other whenever needed. In conclusion , my experience was filled with learnings and opportunities .

Learning Outcome: I have learnt to use many new softwares and programming languages that will help me in my placements . I have also learnt teamwork and to see how a company runs and how projects are to be finished under a timeline made me so much more aware and ready for my further internships/job.

Name: MEHERALLY FAIZAN JEHANGIR .(2019A3PS0354H)

Student Write-up

Short Summary of work done: I had to learn various front end web development languages such as HTML,CSS, TypeScript , adding to that we learnt Angular frame work. Using these we made a Gmail type login page with sign-in and create account features. I learnt how to work as a team and value everyone's opinion.

PS-I experience: PS -1 was really good,and profitable

Learning Outcome: I learnt HTML,CSS,TypeScript languages and Angular frameword.

Name: GARA KOUSHIK .(2019A3PS0371H)

Student Write-up

Short Summary of work done: We have Spent three weeks on our competency building required for our Project. Our Project is mainly On web development and for that we required some skills Thanks to the PS station mentors they Provided enough materials to work upon our skills We have Learned Git, JavaScript, TypeScript, Angular frameworks and also Tailwind CSS and then we went on to our Project that is Implementing Trello Interface It was a challenging Project which worked for almost 5 weeks , we are a team of three members altogether we finished the Project with Combined Efforts.

PS-I experience: It was a Very Good Experience thanks to PS Division for making this Happen and it was indeed an eye opener for me about my strengths and weaknesses.

Learning Outcome: I have Learned Various Skills as a Part Of Our Competency Building. In addition to that I have Learned to be Responsible to my work and the quality of accountability and also I hope I got some better in communication skills.

Name: CHODISETTI RAJESH(2019A7PS0093H)

Student Write-up

Short Summary of work done: In the first two to three weeks, they asked us to learn Git, JavaScript, Typescript, Angular courses by providing some websites. They kept daily scrum meetings where we have to update our progress and we can ask our doubts. We have to do some work on those concepts and push them onto the GitLab Repository. After completion of that work, we had given a task to perform within a day. Later they explained the project work we have to do for the rest of the PS-1. Our project is to implement the interface of Bootstrap Studio with the courses done so far. Again they kept daily meetings with the founder from 7 am to 8 am for our progress in the tasks given. If any doubts are there related to the project work they will be clarified by him at that time.

PS-I experience: It is a good experience with our ps-1. Daily Scrum meetings and adequately exploring new things. Working with the team and pushing and pulling the code. Frankly, it's a nice experience even it is happening virtually.

Learning Outcome:

- 1.How to use Git properly.
- 2.Knowing Angular framework.
- 3.Experiencing the team work.
- 4.Daily scrum meetings.

Name: CHODISETTI RAJESH(2019A7PS0093H)

Student Write-up

Short Summary of work done: We learned some frontend courses like Html, CSS, JavaScript, TypeScript and Angular. We used Git in our project. We were given a test to create a invoice page. Later we were divided into groups and project is allotted to each group. We were given tasks daily and daily scrum meetings were happened.

PS-I experience: It is a good experience during entire PS-1. I came to understand how the work is allocated and how the things will be done in industry.

Learning Outcome: I have learned the frontend courses. I understood the basics of JavaScript, typescript and Angular. I made one project with different people. Collaborating with different people is one of the best learning outcome from my side.

Name: ABHIGYAN DWIVEDI.(2019A7PS0108H)

Student Write-up

Short Summary of work done: I spent the first few weeks for competency building and getting familiar with the frontend development frameworks. A short test project was given to us shortly after this which dealt with some complex UI building. The final project was to build an account-management system by building forms for login/signup with appropriate validation and use this data to authenticate the user by keycloak.

PS-I experience: Overall PS-1 was a fruitful experience for me as I was able to learn completely new web frameworks and now with all the practice I can easily design complex UI for all situations.

The people from the organization were extremely friendly and helpful and they cared a lot for us to get a proper learning experience.

Learning Outcome: Learnt several advanced web frameworks such as Angular, TailwindCSS and PouchDB.

Also learnt project source code management via Git.

Learnt how work flows in a professional environment.

Name: [TEKUMAL SAISAKETH.\(2019A8PS0636G\)](#)

Student Write-up

Short Summary of work done: We implemented bootstrap studio interface which basically makes websites.

PS-I experience: It is good. I learnt a lot of things.

Learning Outcome: Now I am comfortable with web development with Angular.

Name: [VISHESH GUPTA .\(2019B1A81134G\)](#)

Student Write-up

Short Summary of work done: We first created an invoice page through the learnings of angular, javascript, typescript, html and tailwind css. Then my group made a clone of trello website of boards and cards and also additional features of the website. Main work was of angular based project and html css were very essential and the whole work was frontend.

PS-I experience: It was very good experience as the PS mentors were very helpful throughout, regular updates were given and regular checks were done throughout the ps. We learned to work in a professional environment. We had regular meets if we had any doubts and regular updates on what work we have done. The pressure was minimal work was interesting.

Learning Outcome: We learned basic web development through angular, typescript html and css. Now I am able to create dynamic pages and webpages with various models . Creating the trello clone had lot of learnings which comes in work in making many pages.

Name: [SHITOLE OMKAR SANDEEP .\(2019B2A80070G\)](#)

Student Write-up

Short Summary of work done: During my entire PS, we were constantly tracked about our updates in our learning outcomes by our PS station mentors. In initial days, we were told to learn some languages like HTML , CSS(Tailwind CSS in particular) , JAVASCRIPT , TYPESCRIPT and ANGULAR that was needed for my PS work. We then went on to do 2 projects.1st one was a minor project in which we had to make a Invoice page wherein the user may enter some details and total amount would be displayed dynamically. This project was individual and we had used Angular's Services and Two way binding concept(Interpolation too).The 2nd project was major project wherein we were divided in a group of 3-4 peeps and our group had a task of developing Gmail like Sign up, create new account and manage accounts interface. We had also implemented a keycloak like theme at background of our interface. We had made use of Angular's Routing model for switching between different views by just button clicks and Pouchdb database for storing any credentials entered by user so that password ,email , etc. may be

stored(saved).During our entire PS , we learned some major concepts of Angular like Routing , using services , and use of chrome developer tools and Pouchdb.

PS-I experience: PS-1 has helped me a great deal in learning many new things that I wouldn't have otherwise. We were mentored by people with industry experience and we could turn up to them anytime we needed help. My peers were also very helpful and we would help each other whenever needed. We were a group of peeps from different campus , but the kind of support given by everyone was really appreciable. In conclusion , my experience was filled with learnings and opportunities. The CEO of the company was very cooperative and if we were facing any difficulty , we could easily turn up to him.

Learning Outcome: Under the guidance of industry experts along with professors and teaching assistants, I got my way around softwares and processes used in the industry so as to have a good idea about what to expect when working under such conditions. I got to learn about how the meetings and work atmosphere in a professional environment are. I have learnt to use many new softwares and programming languages that will help me throughout . Overall, the learning outcome at Xarvis was very positive.

Name: SHITOLE OMKAR SANDEEP .(2019B2A80070G)

Student Write-up

Short Summary of work done: During my entire PS, we were constantly monitored about our progress by our PS mentors. At first, we were told to learn some languages like HTML, CSS(Tailwind CSS in particular) , JAVASCRIPT, TYPESCRIPT and ANGULAR. We had 2 projects. 1st project was to make an Invoice page which would display the total amount including taxes dynamically. This was to be done individually by everyone and I had used Angular's Service class and Two way binding concept for the same. The 2nd project was a major project which we had to do in a group of 3-4 peeps. Our group had to make a Gmail like Signup, create new account and manage accounts interface. We had made use of Angular's Routing model for switching between different views on button clicks and Pouchdb database for storing user's entered credentials. We had also implemented keycloak like background theme in it.

PS-I experience: PS-1 has helped me a great deal in learning many new things that I wouldn't have otherwise. We were mentored by people with industry experience and we could turn up to them anytime we needed help. My peers were also very helpful and we

would help each other whenever needed. In conclusion , my experience was filled with learnings and opportunities

Learning Outcome: Under the guidance of industry experts along with professors and teaching assistants, I got my way around equipment and processes used in the industry so as to have a good idea about what to expect when working under such conditions. I got to learn about how the meetings and work atmosphere in a professional environment are. I have also learnt to use many new softwares and programming languages that will help me throughout.

Name: DEVANSHU YADAV .(2019B3A31271H)

Student Write-up

Short Summary of work done: Implemented bootstrap studio interface from scratch

PS-I experience: It was a great experience.

We were divided into teams for different projects. Our team had to implement the bootstrap studio interface from scratch using Angular framework and typescript. Industry mentor was very knowledgeable and helped us in our doubts. We faced many challenges and we overcome them by helping each other in our team.

Our project now will be taken over by the company developers and will be developed further for new features. This will then be provided to clients.

Learning Outcome: Learnt so much in web development and how a company works on developing something.

Name: PULKIT GUPTA .(2019B5A30234G)

Student Write-up

Short Summary of work done: There are various roles in the company: non-tech, front-end, backend. Our role is of front-end development. We have been assigned developer roles in building the Trello User Interface. We made an interactive user interface with all the competencies we have built. We learnt many languages like HTML, JAVA SCRIPT, TAILWIND CSS, ANGULAR, GIT etc. It was a great experience under the guidance of our PS instructor and mentors.

PS-I experience: It was decent.

Learning Outcome: Apart Front End development tools such as HTML, JAVA SCRIPT, TAILWIND CSS, ANGULAR, GIT we got ourselves to gain experience at MS Word and MS Powerpoint.

PS-I station: Yashoda Hospitals - Software Development , Hyderabad

Student

Name: GUPTA SHASHANK PRAVEEN(2019A7PS0029G)

Student Write-up

Short Summary of work done: Made ERMS for a department in the hospital. Html/CSS, PHP, MySQL, JS was used .Xampp server was used. First few weeks We learnt about the hospital department's functioning .User requirements for the software. Then we did web design,database designing and then we made the software.

PS-I experience: PS Faculty was very supportive The IT head was helpful.

Learning Outcome: I made my first software .

Name: MUSHUNURI SRIKAR SASHANK .(2019A7PS0160H)

Student Write-up

Short Summary of work done: Developing a software that represent the module of In-patient Indentation Issuing process.

PS-I experience: It was good.

Learning Outcome: Team management , Full stack development

Name: SHREYA GUDA .(2019A7PS1202H)

Student Write-up

Short Summary of work done: We had to make an app for Yashoda Hospitals, which had booking appointment features and a geo-tagging feature.

PS-I experience: We first had a meet with the Yashoda Mentor, and I got lucky because she discussed the functionalities that we needed to have in the app and started learning based on that. After a while we updated her with any extra functionalities we could think of and worked on the app.

Learning Outcome: I learnt react, reactnative, nodejs and javascript to be able to use them in the app. Also tried working with google maps API
