



Information Technology



From the Desk of the Editor

It is my great pleasure to bring forth the 2nd edition of the PS-I Chronicles. This edition features over 1800 articles from PS-I students sharing their experiences during summer 2020.

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

Table of Contents

PS-I station: AFOUR Technologies - ERP Platform (Build & Enhance), Pune	22
Student.....	22
Name: KUSHAGRA LAVANIA .(2018A7PS0216H)	22
Name: GAURANG GUPTA .(2018A7PS0225H).....	22
Name: VAISHNAVEE NAUTIYAL .(2018A7PS0286H).....	23
Name: HIMANSHU TIWARI .(2018A7PS0289P).....	23
Name: SHEEREEN NITINKUMAR THAKKAR .(2018B3A70697G).....	24
PS-I station: Akira Consultancy Pvt. Ltd - IT, Bangalore	25
Student.....	25
Name: SHIVAM KANKAL .(2018A3PS0174H).....	25
Name: KUSHAGRA GUPTA .(2018A7PS0208H)	26
PS-I station: Algo One AI Pvt Ltd, Kolkata	26
Student.....	27
Name: SHASHANK MITTAL .(2018A7PS0127G).....	27
Name: ADITYA JAIN .(2018A7PS0243G).....	27
Name: HARSHIT BANSAL .(2018B5A70601H).....	28
PS-I station: Bharat Electronics Limited, Bangalore.....	29
Student.....	29
Name: BATCHALA SANDEEP .(2018A7PS0190H)	29
Name: KARTIKEY PAPNAI .(2018A7PS0228H)	29
Name: BHARATH N R .(2018A7PS0255P).....	30
Name: VANSI MADAN .(2018B4A70779H)	30
PS-I station: Bhaskaracharya Institute For Space Applications And Geoinformatic, Gandhinagar	31
Student.....	31
Name: TEJUS VIDYADHAR KUSUR .(2018A3PS0531H)	31
Name: PALAASH AGRAWAL .(2018A3PS0565P).....	32
Name: SHAH MEET KETAN .(2018A7PS0158G).....	33
Name: SHIVAM GOYAL .(2018A7PS0167P).....	33
Name: NILESH KUMAR GUPTA .(2018A7PS0233G).....	34

Name: CHIRAG C D(2018A7PS0277P)	34
Name: RUSHABH MUSTHYALA .(2018A7PS0433H)	35
Name: ANUJ YADAV .(2018A8PS0029P)	35
Name: DEEPANSHU GUPTA .(2018A8PS0428P).....	36
Name: MOHD KHIZIR SIDDIQUI .(2018A8PS0439G)	37
Name: RISHABH JAIN .(2018A8PS0695H)	38
Name: ANIRUDHA SHRINIVAS .(2018AAPS0378G)	38
Name: SHUBDEEP MOHAPATRA .(2018B5A70596G).....	38
Name: SHREYA MANISH JAMBAVALIKAR .(2018B5A71089H)	39
PS-I station: BHEL - IT, Visakhapatnam	40
Student.....	40
Name: ARNAV JASROTIA .(2018A3PS0284G).....	40
Name: KONEPALLI BHANU PRAKASH REDDY .(2018A3PS0317P)	41
Name: AKSHAT JAIN .(2018A3PS0332P)	42
Name: NAMAN AGARWAL .(2018A3PS0435P)	43
Name: AYUSHDEEP(2018A3PS0516H)	44
Name: SHREYANSH KR SURANA .(2018A3PS0664H)	45
Name: PRATIK KUMAR BEHERA .(2018A7PS0143G).....	45
Name: AADARSH ASTHANA .(2018A7PS0201P).....	46
Name: Tanya Garg(2018A7PS0215P)	47
Name: SHREYA GUPTA .(2018A7PS0256H).....	47
Name: SREE HARSHA KOPPULA .(2018A7PS0308H)	48
Name: DEBMEET BANERJEE .(2018A7PS0385H).....	49
Name: SHUBHANJAY VARMA .(2018A7PS0631H)	49
Name: NIKHIL JINDAL .(2018A7PS0664G).....	50
Name: SATASIYA AKASH JAYANTIBHAI .(2018A7PS0804G)	50
Name: JHAWAR KARTIK VINOD .(2018B1A80654P).....	51
Name: AKSHAT AGRAWAL .(2018B5A30627G).....	52
Name: NIVED DAMODARAN .(2018B5A71003H).....	53
Name: KALAGA SAKETH .(2018B5A80929P)	53
PS-I station: BIG AIM INFOCOM, Noida	54
Student.....	54

Name: SANYA GARG .(2018A7PS0261G)	54
Name: VATSAYAYN BINAY(2018A7PS0305H)	55
Name: ADITYA MITTAL .(2018A8PS0795P)	56
Name: AMAN JAIN .(2018AAPS0396H).....	56
Name: ABHAY GUPTA .(2018B2A80681P)	57
Name: ISHIKA VASUDEV SINGH PARIHAR .(2018B3AA0738G)	57
Name: AKASH JHA(2018B5A80893G)	58
PS-I station: Centre for Development & Imaging Technology - Web services, Trivandrum	58
Student.....	59
Name: RISHI SAIMSHU REDDY BANDI .(2018A7PS0181H).....	59
Name: DHARAPURAM ADITYA RAMKUMAR .(2018AAPS0336H)	59
Name: KOVVURI SRAVANTHI .(2018AAPS0341H).....	60
Name: MUDIT MATHUR .(2018AAPS0461H)	61
PS-I station: Centre for Development of Advanced computing (C-DAC), Pune	61
Student.....	61
Name: WANDHEKAR SAURABH SANJAY .(2018A7PS0157G)	61
Name: PRANAV GUPTA(2018A7PS0190P)	62
Name: RAHUL GANESH PRABHU .(2018A7PS0193P).....	63
PS-I station: Centre For Development Of Imaging Technology - IT, Trivandrum.....	63
Student.....	63
Name: ADITYA ARYAN .(2018A4PS0855G).....	63
Name: V.P.KIRAN .(2018A7PS0413G)	64
Name: JATIN AGARWAL .(2018B4A70884P)	64
Name: ALWYN JOSE RAJA .(2018B5A30951P)	65
Name: KOTHARI DARSHAN HARISH .(2018B5A70873G).....	65
PS-I station: Centre for Railway Information Systems, New delhi.....	66
Student.....	66
Name: YASH NARANG .(2018A7PS0150G).....	66
Name: Akul Singhal(2018A7PS0193H)	67
Name: MOHUL MAHESHWARI .(2018A7PS0229P)	67
Name: MUDIT CHATURVEDI .(2018A7PS0248H)	68
Name: RAGHAV RAMAN GARG .(2018A7PS0312P)	69

Name: VARUN BALASAHEB BANKAR .(2018B2A70295G)	69
Name: AMAN JAIN .(2018B3A70768G).....	70
Name: AMAN MISHRA .(2018B4A70877P)	71
PS-I station: Clensta International - Manufacturing, New Delhi.....	71
Student.....	71
Name: GOURAV SAHA .(2018B1AA0639G)	71
PS-I station: Clensta International -IT, New Delhi.....	72
Student.....	72
Name: BURKULE SUSHANT ANANTA .(2018B1AA0759H).....	72
PS-I station: CoffeeBeans Consulting LLP, Bengaluru	73
Student.....	73
Name: HARSHVARDHAN JHA(2018A7PS0265H)	73
Name: PHADNIS ATHARVA SHEKHAR .(2018A7PS0541G)	74
Name: ACHYUTH ANAND TADEPALLI .(2018A7PS1117P)	74
Name: MANAN MALANI .(2018B4A70709P).....	75
PS-I station: Convergent Technologies, Gurgaon.....	76
Student.....	76
Name: MANAV P MEHTA .(2018A7PS0164G)	76
Name: ASHUTOSH SHARMA .(2018A7PS0179G)	77
Name: ARSHIT MODI .(2018A7PS0191P)	77
Name: CHETAN GUPTA .(2018A7PS0225G)	78
Name: PALEM MANEESH REDDY GONEGARY .(2018A7PS0462H).....	78
Name: DHRUV ARORA .(2018B4A70651G)	79
Name: DIVYANI SRIVASTAVA .(2018B4A71050H).....	79
PS-I station: Couture AI - ML based, Bangalore	80
Student.....	80
Name: ADITYA SURAJ KRISHNAN .(2018A7PS0098G).....	80
PS-I station: CueMath Education Pvt. Ltd- Creating training content, Bangalore	81
Student.....	81
Name: BHAMINI CHAUHAN(2018A8PS0688H)	81
Name: PARAM A BHATT .(2018A8PS0862H).....	81
Name: RISHABH VAIDYA .(2018AAPS0328G).....	82

Name: UTKARSH UMANG .(2018B2A80826G).....	83
Name: CHETAN GONGLE .(2018B4A40989H)	83
Name: RANGANATH BHASKAR .(2018B5A10720P)	84
PS-I station: CueMath Education Pvt. Ltd- IT, Bangalore	85
Student.....	85
Name: DIVYANSHU AGRAWAL .(2018A7PS0267H).....	85
Name: ARJUN BAIJPAI .(2018A7PS0182G).....	85
PS-I station: E-Connect Solutions Pvt. Ltd - Smart city Governance projects, Udaipur	86
Student.....	86
Name: MEGHAVI GUPTA .(2018A7PS0208G).....	86
Name: PARYUL JAIN .(2018A7PS0279P)	87
Name: SHREYAS SARANGI .(2018A7PS1023G).....	87
PS-I station: Elixar Systems - APP Development, New Delhi.....	88
Student.....	88
Name: SHIVANSHU AYACHI .(2018A8PS0778P).....	88
Name: ABHIJEET SWAIN .(2018B4A70540G)	89
Name: AAKASH .(2018B4A70887P).....	89
PS-I station: Elixar Systems - AR Development, New Delhi	90
Student.....	90
Name: Achyut Dwivedi(2018A4PS0125H)	90
Name: MEHUL CHANDWANI .(2018AAPS0488H)	91
Name: HITARTH SHAJWANI .(2018B1AA0638G).....	91
PS-I station: Elixar Systems - Business Development, New Delhi	92
Student.....	92
Name: ABHIJITH S RAO(2018A8PS0651H)	92
Name: PROTYUSH NAYAK .(2018B2A30681G).....	93
PS-I station: Elixar Systems - Product Development, New Delhi	93
Student.....	93
Name: VIDIT PATEL .(2018B3A70733G)	93
PS-I station: Elixar Systems - Web Development, New Delhi	94
Student.....	94
Name: SIDDHARTH SHARMA(2018A7PS0199G)	94

Name: SAURAV J SHUKLA .(2018B5AA0653G).....	94
PS-I station: Gunadhya Software solutions - Reward Point System, Pune	95
Student.....	95
Name: ADITYA SHARMA .(2018A7PS0315H)	95
PS-I station: Happiest Minds - CoE Analytics, Bangalore	96
Student.....	96
Name: SHIVANG SINGH .(2018A7PS0115H)	96
Name: BHAVYESH DESAI .(2018A7PS0164H).....	96
Name: PRATYUSH BANERJEE .(2018A7PS0312H)	97
Name: PRANAVI MARRIPUDI .(2018A7PS0507H)	97
Name: NIPUN WAHI .(2018A7PS0966H).....	98
Name: GEETI OBEROI .(2018B3A70763P)	98
Name: SAURAV AGARWAL .(2018B3A71011H)	99
PS-I station: Happiest Minds - DBS, Bangalore	100
Student.....	100
Name: YASH RAJ SINGH(2018A7PS0214P).....	100
Name: RUPSA DHAR .(2018A7PS0376H).....	101
Name: AVISHA GUPTA .(2018B3A70105P)	101
PS-I station: Happiest Minds - IMSS, Bangalore.....	103
Student.....	103
Name: MUDIT WADHWA(2018A7PS0330P)	103
Name: MIR AMEEN MOHIDEEN .(2018A7PS0487H).....	104
Name: HARSH DARYANI .(2018B1A70645H).....	105
PS-I station: HCL Technologies, Noida	105
Student.....	105
Name: JASKARAN SINGH BHATIA .(2018A7PS0230G)	105
PS-I station: Heraizen Technologies Pvt. Ltd. - UI Development for college management software, Bangalore	106
Student.....	106
Name: APOORV SINGH .(2018A7PS0136G)	106
Name: SHETTY KARTHIK RAVINDRA(2018A7PS0141H).....	107
Name: BHATT APOORVKUMAR ATULKUMAR(2018A7PS0183G)	108

Name: SUGAM AGRAWAL .(2018A7PS0237G)	108
Name: DUGGINA CHARAN CHOWDARY .(2018A7PS0486H)	109
Name: NALLAMALA SAI CHAITANYA .(2018A7PS0503H).....	110
Name: KATLAGUNTA LIKHITH PRAVEEN .(2018A7PS0545H).....	110
PS-I station: Homi Bhabha Centre For Science Education, Mumbai.....	111
Student.....	111
Name: ABHINAND J PAI .(2018A3PS0786H)	111
Name: ABHINAND J PAI .(2018A3PS0786H)	111
Name: PRINCE AJMERA .(2018A3PS0906H).....	112
Name: DHAMMAPADA MOHAPATRA .(2018A4PS0634H).....	112
Name: ARYESH HARSHAL KOYA .(2018A4PS0637H)	113
Name: ABHISHEK KUMAR(2018A4PS0653H).....	114
Name: UNMESH ROY .(2018A7PS0175P).....	114
Name: HIMANSHU PANDEY .(2018A7PS0196P)	115
Name: GARG PRARABDH NILESH .(2018A7PS0198P)	116
Name: BIR ANMOL SINGH .(2018A7PS0261P).....	116
Name: ANUBHAV SRIVASTAVA .(2018A8PS0030P)	118
Name: ANANYA KHANDELWAL .(2018A8PS0417P)	119
Name: ARSHDEEP SINGH .(2018AAPS0436H).....	120
Name: VODELA AMITH KUMAR .(2018AAPS0530H).....	120
PS-I station: i-exceed Technology Solutions Private Limited, Bangalore.....	121
Student.....	121
Name: MHALGI NINAD SUNIL .(2018A7PS0162G)	121
Name: AYUSH RAJ .(2018B2A70954G).....	122
PS-I station: IIFL, Mumbai	122
Student.....	122
Name: AMAN GUPTA .(2018A7PS0089G).....	122
Name: PARIKH KAIVAL NISHITH .(2018A7PS0176P)	123
Name: ATISHAY JAIN .(2018A7PS0220G).....	124
Name: ATHARVA TRIVEDI .(2018A7PS0228G)	124
Name: ADITYA BHANDARI .(2018A7PS0805G)	125
Name: RICHA CHETAN NAIK .(2018AAPS0267G)	125

Name: DIVIJ NANDAN SHARMA .(2018B3A70751P).....	126
PS-I station: Indian Institute of Remote Sensing, Dehradun.....	127
Student.....	127
Name: SAUMITRA RAI .(2018A2PS0124P)	127
Name: PURU DUTT SHARMA(2018A2PS0714P).....	128
Name: SPARSH AGGARWAL .(2018A3PS0303P)	128
Name: TANMAY ANAND .(2018A3PS0378P).....	129
Name: ACHYUTA KRISHNA V .(2018A7PS0165H).....	130
Name: NAYAN JAIN .(2018A7PS0173P)	130
Name: AYUSH GUPTA .(2018A7PS0203P).....	131
Name: GUNTAAS SINGH .(2018A7PS0269P).....	132
Name: SAMINA SHIRAJ MULANI .(2018A7PS0314P)	133
Name: RITIK GARG .(2018A8PS0457P).....	133
Name: MRIDUL KUMAR RAI(2018AAPS0359H)	134
Name: HARSHIT GOYAL .(2018B2A30110P).....	135
Name: AVIRAL KUMAR TIWARI .(2018B3A70820H)	135
PS-I station: Indian Meteorological Department - Image processing, Pune.....	136
Student.....	136
Name: AYUSH JINDAL .(2018A3PS0348P)	136
Name: AYUSH JINDAL .(2018A3PS0348P)	137
Name: JAY KARHADE .(2018A3PS0852H).....	137
Name: NARVEKAR ATHARVA HEMANT .(2018A3PS1100H).....	138
Name: AMAN AZIZ .(2018A7PS0119G)	139
Name: SHIVAM CHANDAK .(2018A7PS0120G)	139
Name: SIDDHARTH JAGOTA .(2018A7PS0166H).....	140
Name: SAHDEV NUWAL .(2018B3A70900G).....	141
Name: YATHAARTH RAJIV JAMWAL .(2018B4A70862P).....	142
Name: PANT DIVYANSHU RAVINDRA .(2018B5A70912P).....	143
Name: SIDDHANT BARUA .(2018B5A70919P)	144
PS-I station: Indian Meteorological Department - Mechanical Based, Pune.....	144
Student.....	144
Name: HRITIK GUPTA .(2018A4PS0307P)	144

Name: SAMAR .(2018A4PS0618H).....	145
Name: MAHESH SWAMINATHAN .(2018A4PS0982H)	145
Name: MANUL RITESHKUMAR PATEL .(2018B5A40501P).....	146
PS-I station: Infor Global Soln India (Pvt) Ltd, Hyderabad	147
Student.....	147
Name: MILI DILIP DOSHI .(2018A7PS1014G)	147
Name: SHREYAS KERA .(2018A7PS1119P)	148
PS-I station: Jochebed Tech Solutions - ESP WiFi MESH, Hyderabad	149
Student.....	149
Name: SARANSH JINDAL .(2018A7PS0221P).....	149
Name: UTKARSH JAIN .(2018B5A70456H)	149
PS-I station: Jochebed Tech Solutions - Routers, Hyderabad	150
Student.....	150
Name: HARMANJOT KAUR .(2018B1A30779P).....	150
PS-I station: Kizora Software Pvt. Ltd., Nagpur	151
Student.....	151
Name: YASH ARORA .(2018A4PS0002H).....	151
Name: V A S ABHINAV .(2018B1A70979G)	152
Name: KARTIK SHARMA .(2018B3A70789P).....	152
PS-I station: L & T Infotech, Mumbai	153
Student.....	153
Name: DIVYAM BANKIMKUMAR SHAH .(2018A7PS0205G)	153
Name: ARYAN SHARMA .(2018A7PS0245H)	154
Name: GARLAPATI YOGITHA .(2018A7PS0438H).....	155
Name: DACHANI THANOOJA REDDY .(2018A7PS0471H).....	155
Name: ROHAN DANIEL .(2018A7PS0584H).....	156
Name: KUMAR KARTIK .(2018B2A70646P)	157
Name: MEHUL AGRAWAL .(2018B4A70955P)	157
PS-I station: LOGIQ LABS Pvt Ltd (eShipz.com) - Predictive analytics and Blockchain based, Bangalore	158
Student.....	158
Name: RISHIRAJ ACHARYYA .(2018A7PS0168P)	158

Name: AGRAWAL TANISH RAJESHKUMAR .(2018A7PS0202G).....	158
Name: NANDANAVANAM ARCHITH .(2018A7PS0270P).....	159
Name: DEEPANSHU MODY .(2018B1A70949H).....	160
PS-I station: MagTapp Technologies - Backend Development, Mumbai.....	160
Student.....	161
Name: MAYANK SHEORAN .(2018A7PS0114G)	161
Name: JASHANPREET SINGH .(2018A7PS0134G).....	161
Name: DUSHYANT YADAV .(2018A7PS0179P).....	162
Name: Namit Chandwani(2018A7PS0207G).....	162
Name: DHRUV ADLAKHA .(2018A7PS0303H)	163
Name: HARSHIT JAIN(2018B4A70682P).....	164
PS-I station: MagTapp Technologies - Content Writing, Mumbai	164
Student.....	164
Name: AYUSH AARYAN .(2018B5AA0684G).....	164
Name: RAJAT SAINI(2018D2TS1174P)	165
PS-I station: MagTapp Technologies - Digital Marketing, Mumbai	165
Student.....	165
Name: KRISHNA KUMAR ASAWA(2018B3A40747G)	165
Name: NANDABHADRAN B .(2018B4A40930H).....	166
Name: UMANG JAIN .(2018B4A80885P).....	167
PS-I station: MySmartPrice Web Technology - Machine Learning, Hyderabad.....	168
Student.....	168
Name: SUDHANSHU MOHAN KASHYAP .(2018A3PS0319G)	168
Name: KETAN GOYAL(2018A8PS0900H).....	168
PS-I station: MySmartPrice Web Technology - Monitoring Metrics, Hyderabad	169
Student.....	169
Name: BHAVISH PAHWA .(2018A7PS0168H).....	169
Name: SOMESH KUMAR SINGH .(2018A7PS0175G).....	170
Name: SHIVANSH ANAND(2018A8PS0415P)	171
Name: ANANYA JAIN .(2018A8PS0587H).....	171
Name: LAKSHAY TOMAR .(2018B1AA0578H)	172
PS-I station: MySmartPrice Web Technology -Product Research, Hyderabad	172

Student.....	172
Name: MOVVA KARTHIK TEJA .(2018A3PS0532H).....	172
Name: PRASHANT RAMESH JHA .(2018AAPS0332G).....	173
Name: KETAN GUPTA .(2018B2A30892P).....	173
Name: BHUWAN TYAGI .(2018B2AA0844G).....	174
Name: HARSHIT UPADHYAY .(2018B4A30823H)	174
PS-I station: MySmartPrice Web Technology -Whatsapp Automation, Hyderabad.....	175
Student.....	175
Name: LAVANIKA S .(2018B4AA0787H)	175
PS-I station: National Centre For Polar And Ocean Research, Goa.....	176
Student.....	176
Name: HARSHIT AGRAWAL .(2018A8PS0484P)	176
Name: ABIJITH Y L .(2018AAPS0448H)	177
Name: RISHIKA JAIN .(2018B1A70302P)	177
Name: SABHYA KAPUR .(2018B3A70804P)	178
Name: NIHIR AGARWAL .(2018B4A70701P)	179
PS-I station: National Informatics Centre (NIC), New Delhi	179
Student.....	179
Name: PRATIK SANJAY BHIRUD .(2018A7PS0128G)	179
Name: DEVANSH AGGARWAL .(2018A7PS0131G).....	180
Name: SURINDERPAL SINGH VIRK .(2018A7PS0234H)	180
Name: SURINDERPAL SINGH VIRK .(2018A7PS0234H)	181
Name: ROHAN SINHA .(2018A7PS0417H)	181
Name: ROHAN KUMAR .(2018A7PS1013G)	182
Name: POKAR SANKET CHANDULAL .(2018B3A70356H).....	182
Name: MANPREET SINGH TALWAR .(2018B4A70925P)	183
Name: UMANG BARTHWAL(2018B5A70672G)	184
Name: DINANK VASHISTHA .(2018B5A71055H)	184
PS-I station: National Institute of Oceanography, Goa	185
Student.....	185
Name: AVINASH BHAT PATTAJE .(2018AAPS0476H)	185
PS-I station: NECTORR LABS - IT, New Delhi	186

Student.....	186
Name: ASHWIN MATHEW OLAKANGAL .(2018A3PS0544H).....	186
Name: RISHI JAIN .(2018A7PS0103G)	186
Name: ADITYA MISHRA .(2018B1AA0897G)	187
PS-I station: North Eastern Space Applications Centre - AI applications on Satellite & UAV images, Umiam.....	187
Student.....	187
Name: ASHNA SWAIKA .(2018A7PS0027H)	187
Name: MANAS MINNOOR .(2018A7PS0142G)	188
Name: ARCHIT GUPTA(2018B1A70149P).....	189
Name: SIDDHARTH HEMENDRABHAI SHAH .(2018B1A70259G)	190
Name: SOHAN DAS(2018B3A70848H)	190
Name: ATISHAY JAIN .(2018B5A70908G).....	191
Name: VASHI CHAUDHARY .(2018A7PS0243H)	192
Name: SHIVANSH GAHLOT .(2018B3A70736G)	192
Name: MUSHKAN SUREKA .(2018B5A70477H)	193
PS-I station: Parentlane, Bangalore	193
Student.....	193
Name: DHARUV NAGPAL .(2018A7PS0095G)	193
Name: SHREYANS JAIN .(2018A7PS0253P)	194
Name: INDRAJITT VALSARAJ .(2018A7PS1019G)	195
Name: AKSHAY V .(2018B1A70608G)	195
PS-I station: PayPal - Secondary Research, Chennai.....	196
Student.....	196
Name: HARMAN MARSHAL SINGH .(2018B4A70843G).....	196
PS-I station: PayPal - Sectoral study, Chennai.....	197
Student.....	197
Name: PRATYAKSH GUPTA .(2018A4PS1019P).....	197
Name: RAJDERKAR NILAY PRADEEP .(2018B3A70725G)	197
Name: MANU PRIYAM MITTAL .(2018B3A71051H).....	198
PS-I station: Platifi Solutions, Bangalore	199
Student.....	199

Name: HARSHIT GAKHAR .(2018A7PS0182H).....	199
Name: JATIN ARORA .(2018A7PS0551H)	199
Name: LAKSHAY DUA .(2018B3A70735G).....	200
Name: M V SHASHANK .(2018A7PS0734G)	201
PS-I station: Race2Cloud Technologies Pvt. Ltd. - Apps on Zoho Creator, Bangalore	201
Student.....	201
Name: SHIVAM AGARWALLA .(2017A7PS1589H).....	201
Name: ROHIT GARG(2018A7PS0193G)	203
Name: DEVANSHU .(2018A7PS0194P).....	203
Name: AAYUSH MATHUR .(2018A7PS0729G).....	204
PS-I station: Regional Remote Sensing Centre, Jodhpur.....	205
Student.....	205
Name: RACHIT MAYUR SHAH .(2018A3PS0300P)	205
Name: PRATEEK GARG .(2018A3PS0412P)	205
Name: SIDDHARTHA GOSWAMI .(2018A3PS0523H)	206
Name: ABICHAL GHOSH .(2018A7PS0172G).....	208
Name: RATHI PARAG SHYAMSUNDAR .(2018A7PS0231G).....	208
Name: SARTHAK AJMERA(2018A7PS0236G)	210
Name: VAIDYA OMATHARV BHARAT(2018B4A70354G)	210
PS-I station: Self Help Group, Self Employment Department, Government Of West Bengal, Kolkata- Social Sector, Kolkata	211
Student.....	211
Name: SAUMYA HEMANTKUMAR BHATT .(2018A3PS0303G).....	211
Name: PRABHAV SHARMA .(2018A3PS0337H).....	212
Name: ROHIT SINGH .(2018A3PS0498G)	213
Name: SHASHANK MADHUSUDHAN .(2018AAPS0443G)	213
Name: DEEPAN JAIN .(2018B2A20066P).....	213
Name: RITIKA GUPTA(2018B3TS1186P).....	214
Name: ANAGH GUPTA .(2018B4A30696G)	215
Name: Dhruv Vishnu Patidar(2018B4A80012G)	215
Name: Dhruv Vishnu Patidar(2018B4A80012G)	216
Name: HARSH TALWAR .(2018B4A80046G)	216

PS-I station: Silvertouch Technologies - Facial Demographics, Ahmedabad	217
Student.....	217
Name: SHREYANSH JOSHI .(2018A7PS0097G)	217
Name: Jash Shah(2018A8PS0507P)	217
Name: VIKAS SHEORAN .(2018B3A70847H)	218
Name: ASHUTOSH SHARMA .(2018B3A70928P)	219
PS-I station: Silvertouch Technologies - Tender Classification, Ahmedabad	220
Student.....	220
Name: Siddhant Kulkarni(2018A7PS0185H)	220
Name: VATSAL GUPTA .(2018A7PS0198H)	220
Name: THAKUR SHIVANK SINGH .(2018A7PS0439H)	221
Name: VARUN NARAYANAN .(2018A7PS1226H)	221
PS-I station: Silvertouch Technologies -product Recommendation system, Ahmedabad	222
Student.....	222
Name: ANANYA VARMA .(2018A7PS0208P)	222
PS-I station: Starmark Software Pvt.Ltd. - Build an interoperability platform, Bangalore	223
Student.....	223
Name: VINITI JAIN .(2018A7PS0202P)	223
Name: NIELLESS ACHARYA .(2018A7PS0207H).....	224
Name: SHAH JAINAM SATISHKUMAR .(2018A7PS0212P).....	225
PS-I station: Starmark Software Pvt.Ltd. - support ticket classification, Bangalore	225
Student.....	225
Name: NITYA MANGAL .(2018A7PS0216P).....	225
PS-I station: Starmark Software Pvt.Ltd. - Usability Improvement, Bangalore	226
Student.....	226
Name: SRI SATYA ADITYA VITHANALA .(2018A7PS0175H).....	226
Name: SAUBHAGYA SHUKLA .(2018A7PS0535G).....	226
Name: SAUBHAGYA SHUKLA .(2018A7PS0535G).....	227
PS-I station: Starmark Software Pvt. Ltd., - Build an Automated Testing framework, Bangalore	227
Student.....	227
Name: GARIMA SHARMA .(2018A7PS0090G).....	227
Name: ISHA SETHI(2018A7PS1017G)	228

PS-I station: Takshila Learning - IT, New Delhi	228
Student.....	229
Name: RISHAV DAS .(2018A7PS0157P).....	229
Name: SRINATH SWAMINATHAN .(2018A7PS0204P).....	229
Name: RAGHURAMA VARMA GONELA .(2018A7PS1120P)	230
PS-I station: TamilNadu Health System Reforms - Data analysis, Chennai.....	231
Student.....	231
Name: VENKATESHWAR DHARI SINGH .(2018A7PS0246H).....	231
PS-I station: TamilNadu Health System Reforms - IT, Chennai	231
Student.....	231
Name: PRAVEEN SRIDHAR .(2018A7PS0166G)	231
Name: KAZI ABEER REHAMAN .(2018B3A71004H).....	232
PS-I station: TamilNadu Health System Reforms -Economic Analysis/General Maangement, Chennai .	233
Student.....	233
Name: RITWIK HORE .(2018A5PS0499H).....	233
Name: SHOBIT PANDITA .(2018A5PS0967P).....	234
Name: SIDDHI ARORA(2018D2TS1176P)	234
PS-I station: Telangana e-governance, Hyderabad	235
Student.....	235
Name: AAYUSH KUMAR AGARWAL .(2018A8PS0425P).....	235
PS-I station: TIBIL Computer Solutions Pvt.Ltd., Bangalore	236
Student.....	236
Name: NITIN GOPALA KRISHNA SONTINENI(2018A7PS0262H).....	236
Name: VIKRAM S HARITAS .(2018A7PS0302H).....	236
Name: PATE AMEY VINAYAK .(2018A7PS0393P)	237
Name: RISHI GHOSH .(2018B2A40491P).....	238
PS-I station: TNSC - Digital Content - Astronomy, Chennai.....	239
Student.....	239
Name: RAGHAV BHUTRA(2018B5A30941P)	239
PS-I station: TNSC - Digital Content - Bio Technology, Chennai.....	239
Student.....	239
Name: LOKESH MEHRA .(2018A7PS0268H).....	239

Name: SHUBHAM DALVI .(2018A7PS0565G).....	240
Name: MUTHINENI ABIGNA .(2018B1A20747H)	240
Name: NEHA RAJ SRIRAM .(2018B1AB1126P).....	241
PS-I station: TNSC - Digital Content - Geology, Chennai	242
Student.....	242
Name: SIGIREDDI AMAR .(2017A2PS0794P).....	242
PS-I station: TNSC - Digital Content - Nuclear Power, Chennai.....	242
Student.....	242
Name: RATNESH DAWAR .(2018A4PS0629H).....	242
PS-I station: TNSC - Digital Content - Space Research, Chennai	243
Student.....	243
Name: AASHAY GARG .(2018A7PS0004P).....	243
Name: KIRTIKAR ATHARV ASHISH .(2018A7PS0107G).....	244
Name: HARSH BANSAL .(2018B5A40316P).....	244
PS-I station: TNSC - Digital Content - Tools for Innovation Hub, Chennai	245
Student.....	245
Name: SHRUTI ANAND .(2018A7PS0249P)	245
PS-I station: TNSC - Digital Content - Transport Technology Development, Chennai	245
Student.....	246
Name: YASHRAJ SHARMA .(2018A2PS0735P)	246
Name: CHIMMILI SAI SAKETH .(2018A7PS0287H)	246
PS-I station: TNSC - Digital Content - Virology - Covid 19 facts, Chennai.....	247
Student.....	247
Name: AMIT .(2018A5PS0986P).....	247
Name: MANIKYA VARSHNEY .(2018B1A10629P).....	248
Name: NETRATVASHEEL TRIPATHI .(2018B1A20444P).....	248
PS-I station: TNSC - Quantum computing software, Chennai.....	249
Student.....	249
Name: SARTHAK KASAT .(2018B3A70787G).....	249
PS-I station: TNSC - Remote Mouse Operation, Chennai.....	249
Student.....	249
Name: GONDHALEKAR KEYUR BHALCHANDRA(2018A7PS0118G)	249

PS-I station: TNSC - virtual interactive video software, Chennai	250
Student.....	250
Name: ARYAN GUPTA .(2018A7PS0152P).....	250
PS-I station: TNSC -Creating virtual contents, Chennai.....	251
Student.....	251
Name: PIYUSH RANJAN DEB .(2018A7PS0217G)	251
Name: PRAKHAR MISHRA .(2018A7PS0257P).....	251
PS-I station: UST Global - Application of IPFS, Trivandrum.....	252
Student.....	252
Name: SIDDHANT LAKHAIYAR .(2018B5A70583G)	252
PS-I station: UST Global - Blockchain, Trivandrum.....	253
Student.....	253
Name: ASHWIN KIRAN GODBOLE .(2018B5A70423P)	253
Name: AMAN JAIN(2018B5A70868G).....	254
PS-I station: UST Global - Computer Vision & Speech Processing, Trivandrum.....	255
Student.....	255
Name: PRANJAL SINGH CHAUHAN .(2018A7PS0288P).....	255
Name: HRITIK SINGH KUSHWAH .(2018A7PS0323H).....	256
Name: ATHREYA KRISHNAN .(2018B4A70809G)	256
PS-I station: UST Global - Distributed Computing, Trivandrum	257
Student.....	257
Name: SPARSH KASANA(2018A7PS0247P)	257
Name: ARPIT JAIN(2018A7PS0267P).....	258
PS-I station: UST Global - Hybrid Quantum Classical Computation, Trivandrum	258
Student.....	259
Name: MANKRIT SINGH .(2018A7PS0192P)	259
Name: AMEYA AJAY THETE .(2018B5A70885G).....	259
PS-I station: UST Global - NLP, Trivandrum.....	260
Student.....	260
Name: BHAVYAM KAMAL .(2018A7PS0112G)	260
Name: DEEPAK GEORGE DOMINIC .(2018A7PS0244H)	261
PS-I station: UST Global - Quantum Computing, Trivandrum.....	261

Student.....	262
Name: PRANITH S KALLAKURI .(2018A7PS0249H).....	262
Name: RUTHVIK REDDY S(2018B4A70701H)	263
PS-I station: UST Global - Quantum Distribution Network, Trivandrum	263
Student.....	263
Name: THOKALA NITHYA(2018A7PS0242H)	263
Name: NAMIT NEGI(2018B3A70905H)	264
Name: ISHA NILESH GOHEL .(2018B4A70454H)	264
PS-I station: Wipro - Attendance capturing system using GPS location, Bangalore	265
Student.....	265
Name: NANDISH HITENDRA CHHEDA .(2018A7PS0113G)	265
Name: Nalin Deepak(2018A7PS0223P).....	266
Name: Vishesh Badjatya .(2018A7PS0270H)	266
Name: BANG LAKSHYA YOGESHKUMAR(2018B1A70622P).....	267
PS-I station: Wipro - Chatbot development, Bangalore.....	267
Student.....	267
Name: ASHRYA AGRAWAL .(2018A7PS0210P)	267
Name: ANIRUDH G .(2018A7PS0217H).....	268
Name: CHIRAG SINGHAL .(2018A7PS0219P)	269
Name: LAKSHAYA GOEL .(2018B1A70631P)	269
Name: GUPTA AARYAMAN PRAMOD KUMAR .(2018B3A70727G).....	270
Name: KAPADIA SANJEET JAIDEEP .(2018B4A70137P).....	270
Name: SOMIL SINGLA .(2018B4A70854P).....	271
Name: AMAN MAHESHWARI .(2018B4A70906P)	271
PS-I station: Wipro - Data analytics for decision making, Bangalore	272
Student.....	272
Name: ABHINAV SHANKAR .(2018A7PS0105G)	272
Name: ADITYA ANAND BANGALORE .(2018A7PS0265P)	273
Name: SHREYAS R .(2018A7PS0430H)	273
Name: SAMARTH KRISHNA MURTHY .(2018B2A70362P).....	274
Name: LAKSHAY SHARMA(2018B3A70803P).....	275
Name: KATE SHUBHANKAR RAVINDRA .(2018B4A70786G)	275

Name: GEET SAHITYA DULAM .(2018B4A70797H)	277
PS-I station: Wipro - Independent assessment engine, Bangalore.....	277
Student.....	277
Name: AJITH P J .(2018A7PS0040H).....	277
Name: ANIRUDH AGRAWAL .(2018A7PS0099H).....	278
Name: MANU GUPTA .(2018A7PS0316H).....	279
Name: AARYAN GUPTA .(2018B1A70775H).....	279
Name: HARSH JHUNJHUNWALA .(2018B5A70691P)	280
PS-I station: Wipro - Online written examination system using AI and ML, Bangalore.....	281
Student.....	281
Name: PIYUSH MAHESHWARI(2018A7PS0153G)	281
Name: KRITI JETHLIA .(2018A7PS0223H)	282
Name: TARIGOPULA PRANAY .(2018A7PS0237H)	283
Name: MOHAMMAD SAIF .(2018B3A70750P).....	283
Name: MANASA REDDY BOLLAVARAM .(2018B4A70774H)	284
Name: SUYASH CHOUDHARY .(2018B5A70712P)	284

PS-I station: AFOUR Technologies - ERP Platform (Build & Enhance), Pune

Student

Name: KUSHAGRA LAVANIA .(2018A7PS0216H)

Student Write-up

Short Summary of work done : Development of an ERP Dashboard Summary web page containing details of projects done by employees, time devoted to working and leave record- all in one place.

PS-I experience: It was a great learning experience, letting me know how work is done in industry and how to apply my academic knowledge.

Learning Outcome : Learnt many technologies and soft communication skills along with teamwork.

Name: GAURANG GUPTA .(2018A7PS0225H)

Student Write-up

Short Summary of work done : My project was to develop a microservice using kafka in python for the erp portal of the company

The project was very interesting and indulging as it required me to learn new stuff throughout the duration of PS. My work consisted of implementing python libraries, working with databases and creating an api for the same.

PS-I experience: The work was challenging and engaging enough to keep my interest throughout the project. Mentors were extremely helpful and constantly motivated us to think of innovative ways to go forward with our project. I learned more things because of PS than I'd have sitting idle at home.

Learning Outcome : I was able to implement what I learnt and also learnt how to work in a group as a team. I also developed soft skills of writing reports.

Name: VAISHNAVEE NAUTIYAL .(2018A7PS0286H)

Student Write-up

Short Summary of work done : Made ERP mini modules using Kafka, Postgres, FastAPI, which could extract data from one database using producer kafka script and put it into another destination database using consumer script.

PS-I experience: It was a nice experience, Industry mentor was always connected with us, the deadlines were set right and we could finish our assigned tasks on time.

Learning Outcome : I learnt Kafka, connecting postgres databases , using obj files and thread handling in python.

Name: HIMANSHU TIWARI .(2018A7PS0289P)

Student Write-up

Short Summary of work done : Developing ERP mini modules for improving the services in organization using Kafka server and python frameworks.

PS-I experience: It was very amazing and nice experience for me to work on the ERP development part(Back-end) as the whole work and frameworks like Kafka, python, APIs were totally new to me. We worked as a team on a real time project and succeeded in developing the platform for the organization along with developing not only technical skills but also soft skills. PS faculty and project mentor motivates us and provide us proper guidance through Google meets, hangouts along with constructive feedback. Overall, It was a great experience to work on ERP project at AFOUR organization.

Learning Outcome : I had learnt various tools and frameworks which the company are using nowadays for the development project such as Kafka, python-Fast APIs, PostgreSQL, Azure key-vaults, Docker and many other tools for testing and deploying code. The learning not only includes technical skills but also enhancing soft skills through different evaluates like seminar, Group discussion, reports writing.

Name: SHEEREEN NITINKUMAR THAKKAR .(2018B3A70697G)

Student Write-up

Short Summary of work done : The aim of the project was to develop an ERP dashboard summary to automate several services within the organization such as keeping a record of an employee's project, their time sheets and leaves taken, and provide a quick view of statistics. This is accomplished by using a micro services architecture, using technologies and architectures like SpringBoot (Java), FastAPIs (Python), PostgreSQL and Postman for the backend development, HTML, CSS and JavaScript for frontend development.

PS-I experience: PS-1 experience was overall a good experience .Though being a work from home PS, it didn't affect the flow of the PS and evaluation components. The quality of the project given was fine. Also I got to work with wonderful mentor who helped me learn relevant things for the project and guided me throughout the PS-1.

Learning Outcome : I got to learn about many different technologies and software such as Python, PostgreSQL, Git, FastAPI and Postman. This helped me understand the requirement and utility of each one in the project. Apart from this I also got to learn about how the organization functions and team coordinates on different projects.

I also got to learn about many soft skills such as presentation skills, group discussion skills, team work, time management, work ethics, regularity.

PS-I station: Akira Consultancy Pvt. Ltd - IT, Bangalore

Student

Name: SHIVAM KANKAL .(2018A3PS0174H)

Student Write-up

Short Summary of work done : I made a Power BI Dashboard in this 6 week internship. My work was to gather data of numerous companies belonging to different sectors and to plot this data pictorially to observe the trends available. I made a dashboard of companies belonging to different sectors like retail, pharmaceuticals, IT, automotive etc. In the dashboard, I displayed data pictorially in the form of graphs like Closing share price vs time, no of shares, total turnover ratio vs industry etc. After i made this dashboard, I observed the graphs carefully to see the patterns and trends. After this I went on studying the market for the past few years. My motive was to find a reason behind the change in prices during specific months. I studied the market thoroughly and tried to come up with events that might have affected the data of the company. I had a thorough understanding of the events that have an impact on the data and I presented that data to my mentor. My main objective was to come up with a dashboard and a story to explain the dashboard and to present this data to the authorities. Using this data, the company can work on such issues to maximize sales and profits.

PS-I experience: PS-1 experience was great. I got to learn various things in this 6 week internship. I worked on Business Intelligence tool Power BI which was a great experience. Learning new things and applying those things in real projects was the main motive of this internship. Also working with the professionals for the first time was a great experience. I learnt numerous things from my mentor. In short it was a great experience.

Learning Outcome : I learnt about Business Intelligence and how it is useful in today's world. I made a dashboard using Power BI. Building a dashboard using Power BI was the major learning from this internship. I learnt about different visual tools present in

Power BI and how these can be used to display data. Apart from this I also worked on Power BI DAX wherein i learnt about different functions available in power BI which can be used to make expressions and formulas which can further be used for different purposes. I studied about different political, social, economic and many other events in detail and how these had an impact on different industries and companies. My motive was to come up with a story to explain the changes in company's data like fall in share price, Change in turnover ratio etc. These events helped in justifying the changes occurred in the data. In addition to this I also worked on Advanced Microsoft Excel assignment wherein i explored different commands available in excel and how these can be used to make a formula that can sort large dataset.

Name: KUSHAGRA GUPTA .(2018A7PS0208H)

Student Write-up

Short Summary of work done : We went through the whole pipeline of data science from data gathering to data cleaning and analysis. A huge part of our work had been in making aesthetically pleasing reports that were as informative and concise as they were beautiful.

PS-I experience: This PS had been a very useful experience. We learnt a lot of new tools like Power BI and Excel and techniques like RFM analysis. More importantly, we learnt what working in a corporate team is like, where no one is holding our hands and expect us to pull our own weight.

Learning Outcome : I learnt a lot of useful things. There were various tools. Various techniques. Even more than any of this though, I learnt how to work quickly and efficiently instead of chasing perfection.

PS-I station: Algo One AI Pvt Ltd, Kolkata

Student

Name: SHASHANK MITTAL .(2018A7PS0127G)

Student Write-up

Short Summary of work done : The work involved analysis of a particular part of annual reports issued by public firms in Indian Equity Markets using NLP and discriminating between underperforming and outperforming firms. The data collected had to be cleared using OCR and spaCy and NLTK was required for the analysis. The project would give the investment firm a new alternative data for selecting better firms for investment.

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 experience didn't seem to be a barrier in the learning experience.

Learning Outcome : I learnt a lot during my internship including Algorithmic Trading, NLP, OCR and developed soft skills and technical skills through various assignments and evaluative components like seminar, presentations and group discussion.

Name: ADITYA JAIN .(2018A7PS0243G)

Student Write-up

Short Summary of work done : Work was realated to Data Science. Learned about how some measurements are calculated on ledger table with help of pandas which give a lot of useful information about how the company performed and how the asset performed in past. There were many important measures that shows how our model performed over this stock and how we can improve this model to perform better in future stock market. Many people sell their models to big organisations and company and for this they have to speak in language of data. So they show these measures to company to win their trust about particular model and show them the possible profits in future and sell. So this performance measures are really very important so they need to be precise. For this programming is used to manage data and create Data.

PS-I experience: PS - 1 was actually interesting for and I really learned a lot from this PS1. I had good experiences about learning new stuff and communicating with company people

Learning Outcome : I learned many new things from this PS1 like, I am pretty confident and experienced about Pandas library used in python for data analysis and how to create programs that can help visualisation of data.
Also I learned that even a single mistake or misunderstanding could lead to great time loss so effective communication is very important when working with large scale companies.

Name: HARSHIT BANSAL .(2018B5A70601H)

Student Write-up

Short Summary of work done : Ranked mutual funds based on historical TER, NAV and Holdings data. We got data from AMFI India website. We cleaned and analyzed the data.

PS-I experience: It was a good experience overall. Learnt a lot about quantum investment and importance of python libraries for data analysis. Had it been offline PS, it would have been much better.

Learning Outcome : I learnt a lot about quantum trading. Got an exposure to fintech industry. It was our first industrial experience. I also got an opportunity to improve my soft skills.

Technical learning outcomes were ->

- 1).Selenium Webdriver for automating download procedure.
- 2).Python libraries for data analysis.
- 3).Learnt many financial metrics which were useful for ranking mutual funds.

PS-I station: Bharat Electronics Limited, Bangalore

Student

Name: BATCHALA SANDEEP .(2018A7PS0190H)

Student Write-up

Short Summary of work done : My work was to implement Image Inpainting which involves reconstruction of damaged or corrupted images. My team had to implement this with Deep Learning and Neural Networks.

PS-I experience: Online Practice School was a great experience. It was easier to stay connected with my mentors and teammates. The mentor allowed us complete freedom of choice. This enabled us to learn a lot more through research and complete the project our own flair. Finally, the online group discussions and seminars were a new experience and fun too.

Learning Outcome : Apart from the technical aspects of the project like Neural Networks, Deep Learning etc, I learnt how to present a report, work with a team, participate in group discussions and learnt how some of the actual work gets done at my PS station.

Name: KARTIKEY PAPNAI .(2018A7PS0228H)

Student Write-up

Short Summary of work done : Creating a data pipeline using Kafka and spark programming to use in a project to predict natural disasters via the data collected by sensors

PS-I experience: Good

Learning Outcome : Basics of the programs mentioned

Name: BHARATH N R.(2018A7PS0255P)

Student Write-up

Short Summary of work done : The project allotted was IoT based Disaster Management System .Used Hadoop File System to store and analyse trends in Weather variables for prediction.

PS-I experience: The professor was very encouraging and helped us well .There was clear communication with the project guides as well.

Learning Outcome : Learnt how to handle BigData using Hadoop and analysis of variables helped me in better understanding how Bigdata ccan be utilised.

Name: VANSI MADAN .(2018B4A70779H)

Student Write-up

Short Summary of work done : We were assigned a project which was about early warning systems for disasters. It was divided in four parts: connectivity, data storage, analytics and visualization. I worked with the team on connectivity which involved collection of data from IoT devices like Weather Data Sensors/Simulators using OPC-UA protocols and SCADA servers and transmitting the data to the platform. I worked mainly on KEServerEx which deals with collection of data from the connected devices. Also, I learnt and used Python on the go with the help of open source codes and some tutorials.

PS-I experience: It was a great experience working with the team at BEL, Bangalore. The mentors were really patient at the start and gave us ample time to get used to the softwares being used. Also, I experienced how it feels to really work in an organization and the project helped me to explore a completely new domain which I could not have done otherwise.

Learning Outcome : I learnt how the field of IoT works, how data is collected from sources and analysed to make decisions. In the process I learnt Python and KEPServerEx.

PS-I station: Bhaskaracharya Institute For Space Applications And Geoinformatic, Gandhinagar

Student

Name: TEJUS VIDYADHAR KUSUR .(2018A3PS0531H)

Student Write-up

Short Summary of work done : My initial project was to identify field boundaries from satellite images using ML and image processing. Field images from ESA's Sentinel 2-B satellite were for this project. The very large images were broken down into grids and the vegetative index was found to make boundaries visible. The boundaries were hand-drawn to make masks which would then be fed to the ML model. Any ML model could be chosen and we decided upon the UNet Model.

I had changed my project mid-way as due to lack of sufficient ML knowledge required for this. My new project was Enhanced Image Steganography. In this, messages have to embed into any image in a lossless format such as png with no noticeable alteration. We did this by altering the LSB of RGB values of each pixel in an image using python to embed the message which had been converted to binary. Later the message can be decoded using another python script where the process is reversed to recover the message hidden in the image. Upon submitting this, various methods to improve this process using advanced encryption techniques was researched upon.

While doing the above, various group discussions were also held on current affair topics while quizzes were conducted upon material given by our BITS mentor, which in my case was on entrepreneurship. In the end, we had to present our program and submit a report on it.

PS-I experience: The remote PS experience can be described as self-study with guidance. The project requirements and general direction to be taken is given by the mentors while the technical requirements for implementation must be acquired on our own giving a feeling of freelancing. The group discussions and presentation give a unique experience where you have to talk and show a presentation while not being able to see anyone's expression. Splitting of work among members can be challenging at first but once everyone achieves the same pace, it proceeds smoothly. Dedicating time to sit in a place and work while being at home was also a challenge in the beginning and I had to learn to build up my mental strength to overcome laziness and boredom due to sitting in front of a screen for long hours.

Learning Outcome : In the technical aspect, I learnt python programming, basics of ML, image processing and scrapping all from scratch. The basics of cryptography and steganography was explained by my mentor through various research papers. In the soft skills aspect, learning to search for and read research papers, presenting your model remotely, writing a formal project report, writing formal emails requesting for assistance, team work and coordination among various members, learning to settle disputes over the project and learning to speak remotely over a microphone are the my main learning outcome out of this PS.

Name: PALAASH AGRAWAL .(2018A3PS0565P)

Student Write-up

Short Summary of work done : Developing an ML model for segmentation of Boundaries in Satellite images of Agricultural regions of India. In India, the average land holding is very small, and farmers do not build proper fences, walls, etc. So, the aim of the project was to be able to identify boundaries of fields, so that proper allocation of resources can be done by the government at the local level.

PS-I experience: It was the first time PS was conducted online. There were a few challenges faced, but overall a great experience. The scientists and coordinators at BISAG are very knowledgeable and open to new ideas.

Learning Outcome : Deployment of a practical, full scale Machine Learning Model

Name: SHAH MEET KETAN .(2018A7PS0158G)

Student Write-up

Short Summary of work done : We were supposed to automate the satellite imaging process- the processing and analysis of these images and publishing on the web. A scheduler for regular execution, pyQgis for processing and geoserver website to publish results were used

PS-I experience: Mentor was nice and helpful. Faced certain challenges while learning the new stuff. Overall nice but being online, the communication, etc felt relatively less.

Learning Outcome : Learnt a totally new software and contributed for its development.

Name: SHIVAM GOYAL .(2018A7PS0167P)

Student Write-up

Short Summary of work done : In our PS, we had to develop an application that would download latest satellite image data periodically, analyse it to get information about vegetation, land area, water area etc. and then display the results over the web. Satellites capture newer data everyday, and therefore our end results also update regularly. I developed the periodic downloader for this application, and the other people developed the analyser and the application to display results online.

PS-I experience: In my PS, I learnt about Python, and then also learn Scrapy, a web scraping framework in Python. I had to take initiative on my own to learn new things, and that was the challenging part. But overall I wrote around 400 lines of code, and it was fun.

Learning Outcome : I learnt Python and Web Scraping in Python. I also learnt to use requests library and in general how to develop bigger projects.

Name: NILESH KUMAR GUPTA .(2018A7PS0233G)

Student Write-up

Short Summary of work done : Developing a plugin for qgis to generate LST data from the Landsat 8 and Landsat 5 data

PS-I experience: I was quite happy with my PS but would have preferred it if had been offline

Learning Outcome : Learning python, pyqt5, numpy

Name: CHIRAG C D(2018A7PS0277P)

Student Write-up

Short Summary of work done : The project topic was "Land Surface Temperature Estimation for Urban Heat Island Analysis". A plugin was developed in Python for QGIS, that takes Landsat images as input and generates LST heatmaps. The plugin then offers to calculate statistics over regions selected by the user, for further research. The last part of the project involved using this plugin to observe the factors that affect heat islands, and how the heat islands in Bangalore and Ludhiana changed over a period of 10 years.

Fields involved include remote sensing, open source development, image processing, multithreading and UI design. Prior experience with Python would have been useful, but not a must.

PS-I experience: The development experience was very rewarding, and was sufficiently interesting that motivation was not lost partway through.

Learning Outcome : UI design, professional engagement, multithreading for performance on low end systems were important new fields where experience was gained.

Name: RUSHABH MUSTHYALA .(2018A7PS0433H)

Student Write-up

Short Summary of work done : My work involved adding administrative functionality to Jitsi Meet. The first part of it was to solve a few bugs and add a few features to the platform. Then we had to build a new administrative site.

PS-I experience: Given that ours was an online PS, I did not keep any expectations in mind. I was pleasantly surprised with how smoothly everything was conducted and I was exposed to work for the first time that wasn't a college assignment.

Learning Outcome : I learnt some new things like JavaScript, HTML, CSS, ReactJS. I also learnt about writing code to company guidelines and my knowledge of Git was enhanced.

Name: ANUJ YADAV .(2018A8PS0029P)

Student Write-up

Short Summary of work done : The project chosen was Sentiment Analysis of Tweets. We tried to identify the sentiments of the tweets, either positive, negative or neutral. This helped us in gaining insight about what is the sentiment of people (or twitter users) towards certain trending or non-trending topics.

PS-I experience: It was really good. I got to learn different technologies, softwares, 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 vectorisation 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 presentation of our project in seminars, helped me in developing different soft skills as well.

Learning Outcome : I learned different Machine Learning classification algorithms, the mathematics used in them, different web scrapping technologies like Beautiful Soup, different text pre-processing techniques, different text-vectorisation techniques, to make the text data ready to use by our machine learning model. Learned about different python libraries and their implementation and most significant of all gained an experience of team work.

Name: DEEPANSHU GUPTA .(2018A8PS0428P)

Student Write-up

Short Summary of work done : Sentiment Analysis of Twitter Hashtags using Python' Twitter is a micro blogging site which uses a feature known as hashtags. It lets users apply dynamic, user-generated tagging that helps other users easily find messages with a specific theme or content. We will scrap tweets related to these trending hashtags using Beautiful Soup or Tweepy and clean them using NLTK based on these tweets we will predict the sentiment related to the hashtag using a Naïve Bayes classifier. The training of the classifier will be done on a public dataset available on Kaggle.

PS-I experience: The overall experience of my PS-1 was much beyond great. Despite the lock down conditions due to widespread Coronavirus pandemic , the with all the untiring efforts Institute arranged online Practice School for us which was happened for the first time in the history of Practice School. Even being an ML enthusiast, I was able

to get my project in the domain I am keen to work and explore. My project was in Natural Language Processing domain which is a really interesting and progressive topic in current times. My mentor were very supportive throughout the journey. Apart from learning all the hard core skills, I got an overview of working of the industry and honed many soft skills too. I did faced issues with my slow internet connectivity but as far as overall experienced of online mode of PS-1 is concerned it was really happening for me.

Learning Outcome : Within the course of 6 weeks of PS-1 I began my learning journey with Python which was essential for the project. Then, I came to know about various contemporary projects prevalent in the industry. Also, PS-1 opened for me the doors of opportunities to learn Machine Learning as it was extensively applied in the project. Apart from all the hard core skills, I got an overview of working of the industry and honed many soft skills by working with a team in a time frame manner, dealing with industry experts and participating in activities like Group Discussion and Project Presentation. In a nutshell, PS-1 has unraveled a plethora of opportunities for me by educating me how I can leverage my knowledge gained through university coursework in exploring and undertaking projects in the field of my interest.

Name: MOHD KHIZIR SIDDIQUI .(2018A8PS0439G)

Student Write-up

Short Summary of work done : Collected stock market data of several companies, analyzed the trend in their opening prices, predicted the movement in future days using Machine Learning.

PS-I experience: Amazing experience, learned everything from basics to advanced stuff properly. Nice industry exposure specially when remote.

Learning Outcome : Gained skills like presentation and group discussion participation. Learned few things in Machine Learning

Name: RISHABH JAIN .(2018A8PS0695H)

Student Write-up

Short Summary of work done : Predicting Sentiment of tweets using Natural Language Toolkit

PS-I experience: I 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 : Got introduced to the fields of NLP, ML, Web Scrapping.

Name: ANIRUDHA SHRINIVAS .(2018AAPS0378G)

Student Write-up

Short Summary of work done : We used various Machine Learning Regression Models like linear regression, Lasso regression and few others to analyse and predict the Future opening stock price of various Companies.

PS-I experience: It was something new for me. I developed some skills like writing a report and giving a presentation. And also improved my skillsets by learning basics of stock market

Learning Outcome : Learned basics of Machine Learning

Name: SHUBDEEP MOHAPATRA .(2018B5A70596G)

Student Write-up

Short Summary of work done : My project in PS-1 was "IDENTIFICATION AND MAPPING OF LANDSLIDES IN UTTARAKHAND HIMALAYAS". My group was assigned a study area in Uttarakhand for landslide assessment. First we had to be comfortable in Geo Information System(GIS) and Machine Learning .We used QGIS software for work related to GIS .After this we extracted the raw data for assessment using various government sources.Using QGIS we extracted the secondary features required.Then we prepared a landslide inventory map i.e. all the places in our study area where landslide occurred before.Then we used two classification technique :-SVM and NBT to classify the input images.

PS-I experience: My PS experience was very good. I got to experience the industry regulations and requirements first hand.

Learning Outcome : I got to know how the machine learning techniques learned before can be used in various aspect of the industry. Also I got to learn a new skill i.e the usage and application of GIS

Name: SHREYA MANISH JAMBAVALIKAR.(2018B5A71089H)

Student Write-up

Short Summary of work done : My project for PS I was Agricultural Boundary Segmentation using Machine Learning. The average agricultural land-holdings in India are very small, about 1.1 hectares and farmers either cannot afford, or lack the awareness of building proper fencing, walls or even to leave sufficient boundary margins. This project was an endeavour to detect extremities of farmlands in the typical rural agricultural setting of India for proper allocation of land ownership, resources and for further research analysis. It involves building a UNet Segmentation model (Convolutional Neural Network) for pixel wise classification of satellite images taken from Sentinel II Satellite. The model trains on satellite images, taken from various agricultural regions of the Indian subcontinent, over multiple seasons, to ensure a proper distribution of data in terms of climatic conditions, crop type and density, land distribution, water density, cloud cover, solar illumination and terrain. The model was able to classify boundary pixels with 87.5% validation accuracy.

PS-I experience: This year, PS-I was conducted online, which came with its own set of challenges. The mentors at BISAG were very knowledgeable and supportive. His critical reviews, insights, resources and contacts made the project successful and yielded competent results. Overall, it was a great learning experience.

Learning Outcome : The project was a great learning experience in the fields of deep learning and computer vision. The UNet model was built over Python. For the purpose of labelling and visual analysis, satellite images were converted into NDVI(Normalized difference vegetation index) images, using a Satellite Image Analysis Tool called SNAP (Sentinel Applications Platform). Satellite images were available in blocks of 110km x 110km (10980x10980 pixels).This image was divided into blocks of 512 by 512 pixels for computational efficiency and to make image analysis easier, using a code written in python. PS-I being the first assignment in a professional environment, taught us the importance of deadlines and appropriate workplace conduct.

PS-I station: BHEL - IT, Visakhapatnam

Student

Name: ARNAV JASROTIA .(2018A3PS0284G)

Student Write-up

Short Summary of work done : I was made the project leader and my team was asked to develop a live Web Application that will be used by BHEL Visakhapatnam unit once it is completed. The project titled "Material Gate Pass System" required us to create a dynamic website from scratch which would be intranet hosted. The work required us to connect the website to BHEL database and retrieve and update information of the materials that go in and out of the unit which is the primary use of the website. It required the knowledge of Java, Angularjs, HTML, CSS, Bootstrap and MySQL.

PS-I experience: My experience has been phenomenal. I have not only enhanced my technical skills but also have learnt essential management skills that one would require later on in life. I was allotted an instructor from BITS and an industry mentor from BHEL. Both were helpful and helped us in whatever problem we faced. Overall, my experience has been great and a much needed exposure to how an industry runs was gained.

Learning Outcome : I was experienced in back end development but learnt various other languages like HTML, CSS and some frameworks required for front end development. This internship also taught me how to manage work amongst the team when one is a group leader. Overall, not only my technical skills were improved, I learnt a lot about management skills as well.

Name: KONEPALI BHANU PRAKASH REDDY .(2018A3PS0317P)

Student Write-up

Short Summary of work done : We are allotted to do a project to create an intranet hosted Material Gate Pass System which monitors the in and out flow of materials from the warehouse of the company. This is a simple Web application that requires the user to log in. Once logged in, the user can make gate pass requests, check history of requests and check the status of gate pass. Once the gate pass is approved, the user can also print the pass in order to show it at the security check. The application has different levels of access based on the hierarchical structure in the company for approvals, authorisation and requests.

This Web Application is developed using various languages, libraries and frameworks. The Front end made use of HTML ,CSS, JavaScript which included the implementation of Bootstrap, jQuery and Angular Frameworks.

The backend used Java Servlets and rendering information on .jsp pages. The database used was my SQL with mD5 encryption. Session management and cache controls were used diligently to protect user data.

Additionally, micro services like java mail api , iText were used to get the required functionality.

Heroku(PaaS) and Github were used for effective collaboration ion.

Also during the initial development phase, build.me, balsamiq were used to make prototypes for the project.

PS-I experience: The PS-1 was a fruitful experience which helped us understand the working in a PSU like BHEL. It gave insights about the developer cycles that happen during the design of a product. It taught the importance of working as a group to achieve better things and perspective. Since it was a full stack development project , we had to work in phases. This meant a quick learning of new technologies and their implementation.

The PS-1 faculty was responsive to our requests and ensured better communications throughout the process.

The online sessions shared through the canvas platform were helpful for gaining insights about different aspects in an industry.

The allotted mentor for our project was helping us in the process through his valuable feedback as an end user.

We were also given sessions about SAP implementation in BHEL by the mentor, which gave us industrial exposure and to see the working of a million dollar company as a whole.

Learning Outcome : We learned the agile software development process by making the web application. This meant continuous to-fro redesigning incorporating feedback. We were exposed to technologies related to full stack development. We learn the importance and implementation of security in such applications to protect sensitive data. Working as a group meant an overall understanding of the project on a regular basis. Also we understood the importance of stakeholder management through effective communication.

Name: AKSHAT JAIN .(2018A3PS0332P)

Student Write-up

Short Summary of work done : Our team created a material gate pass management system for BHEL for tracking and movement of material in and out of the campus of BHEL HPVP VISAKHAPATNAM. We used JAVA for Backend, MySQL for database management and html css and bootstrap for the frontend part. The project was completed in the given time and was a success with the BHEL IT department liking the project.

PS-I experience: The PS-1 was a brilliant learning experience. We worked with students with all campuses and got to know them. Our industry mentor was a very helpful and genuine person. He was always there to help us and went an extra mile for us. Work from home was definitely a challenge because all our communication was based on the internet connection which sometimes was a headache. But overall, it was a great learning for all of us and most importantly taught us teamwork and accountability.

Learning Outcome : I learnt a lot of things about web development and it gave me a headstart to start learning on my own. Report writing was also an added bonus.

Name: NAMAN AGARWAL .(2018A3PS0435P)

Student Write-up

Short Summary of work done : A manufacturing industry giant like Bharat Heavy Electricals Limited has a huge amount of material flowing in and out of the unit on a day-to-day basis.

To tackle this problem, a web application termed Material Gate Pass System has been developed in order to make the process of maintaining the records of materials easier, secure and error-free. This system is an intranet hosted web application that would be used to raise a gate pass whenever a material is needed at a site. This portal will be accessible to all the employees of BHEL and finally, the person taking the material can download an e-pass generated from this portal as well. Although intranet hosted, this web application comes with all the general security features and is immune to injection attacks, rainbow tables etc. This web application not only will make the process of raising a gate pass and tracking the history convenient for the employees of BHEL, it would also save a lot of time which would be utilized in manual maintenance.

The web application has been developed with an attractive front end with HTML, CSS, Bootstrap, JQuery and JavaScripts. The backend of the web application has been completely developed using Java Servlets. The data is securely stored using MySQL database management system. The web application aims to provide a convenient and a safe way to raise gate passes and track the flow of material in and out of the unit.

PS-I experience: It was a nice and amazing experience as I got to learn many new technologies and hands on experience on real world project. This is a very useful and productive project for our PS station - BHEL, HPVP Vizag, as it can reduce the labour work and help in effectively managing the large amounts of material inflow and outflow. I have gained a lot of experience in how a professional web development project takes place. We have started this project from scratch, so I am now aware of the difficulties a new developer faces. Overall, this project has improved my thinking ability and technical knowledge in these fields.

Learning Outcome : I got to learn about many new technologies and softwares. We were exposed to many frontend languages and frameworks such as html, css, bootstrap, js, jquery, Angular JS, etc. We have used Java servlets for handling various web requests. Java server pages, a server side tech, was used extensively in our project. Last but not the least, we deployed our website on Heroku platform. It was an amazing experience to learn and use this interesting platform.

Name: AYUSHDEEP(2018A3PS0516H)

Student Write-up

Short Summary of work done : The title for my project was Material Gate Pass System. This was about developing a web application to track items leaving or entering the storage facilities. This mainly consists of two parts the front-end and the back-end. The front-end consisted of HTML, CSS, Bootstrap and Angular. Back-end included java spring boot, MySQL and Java servlets. In terms of design it consisted of a login page and included options for raising as well as printing a gate pass. Some elegant features of this system included database encryption (Hashing Passwords), sending email triggers to clients and server cache control. On a further note, we were easily able to collaborate our work using GitHub.

PS-I experience: The system of online PS has been unique experience to me. I was able to attend interesting webinars and meets from experts in various fields from all around India. I was also able to experience my PS station virtually, with help from my industry mentor. This helped me a lot in gaining a better understanding of working in a real-time industry. Team collaboration was a smooth process because of the efforts from my PS instructor.

Learning Outcome : In terms of soft skills, I was able to enhance myself as a speaker, present better and work on team coordination and leadership skills. In terms of technical skills, I was able to get hands on experience on new technologies like HTML, CSS, Bootstrap, Angular, Java Spring Boot and MySQL.

Name: SHREYANSH KR SURANA .(2018A3PS0664H)

Student Write-up

Short Summary of work done : I was allotted a project titled 'Material Gate-pass System'. The basic functionality of the website was to keep track of various materials moving in and out of the facility. The project was a web application with various technologies used such as JSP, MySQL, Bootstrap, Angular JS. We were able to complete the basic requirements handed to us by the BHEL IT personnel.

PS-I experience: PS-I was a very enriching experience for me. The 6 week course provided me with various opportunities to enrich my technical as well as soft skills.

Learning Outcome : I learnt a lot of new technologies mainly MySQL and hashing algorithms. Along with this, the group discussions and seminars helped me hone my communication, team building, presentation, coordination and cooperation skills.

Name: PRATIK KUMAR BEHERA .(2018A7PS0143G)

Student Write-up

Short Summary of work done : We were assigned a group project of designing and implementing a functional gate pass system portal for BHEL. It would be used for requesting and approving gate passes and keep a record of it. It would be used by both BHEL and non-BHEL employees. It would allow user to print gate pass and also send mails to users nearing deadlines.

It involved both front end and back end development of a website. Languages used for web development were HTML, CSS, JavaScript, Angular and Bootstrap. MySQL was used for storing data. GitHub was used for collaborating on the project as a group and the site was uploaded on Heroku. Other editors used were Sublime, Atom and Eclipse. Security features such as password encryption and URL bypassing were well taken care of. The final site developed was quite user friendly and easy to use. It had some additional features deployed as well such as mailing the user when he/she nears the deadline of returning an item.

The overall project was quite successfully carried out as a group even from home.

The PS instructor and industry mentor were very helpful during the entire duration of PS.

PS-I experience: It was quite a good experience to get exposure to actual industry for the first time. I learned a lot about how the various departments and the industry functions as a whole in a coordinated manner. There were hardly any difficulties even though we were working from our home. The group members were quite supportive of each other and I enjoyed a lot while working on the project.

Learning Outcome : I mainly learned web development which is not a part of our course until now. The languages and software used were new to me at first. Now I have a good grasp on these topics.

I learnt skills such as time management, coordination as a group which i am sure will be quite handy in the long run during my professional career.

Name: AADARSH ASTHANA .(2018A7PS0201P)

Student Write-up

Short Summary of work done : I was involved in a mechanical domain project. The title was AUTOMATION OF EFFICIENCY CALCULATION OF GAS FIRED BOILERS. I had to create an application that would automate the process of calculation of a number of values that would eventually help to calculate the efficiency of a gas fired boiler.

PS-I experience: My PS experience was very good. I got to learn a lot by working with industry mentors. Everybody was very helpful and all the work was done smoothly.

Learning Outcome : I learnt how to communicate and work with industry professionals and I learnt about the domain subject as well as programming large pieces of code.

Name: Tanya Garg(2018A7PS0215P)

Student Write-up

Short Summary of work done : My project was based on Web development. We made a webportal for the Finance department of BHEL which would function as a communication channel between the vendors and finance department. Many technologies like encryption, hashing, login authorizations, database security, etc were implemented to make the portal secure.

PS-I experience: It was a great experience, the faculty in charge and the industry mentor, both were very helpful and guided at each step of the project. BHEL staff is extremely helpful and polite. Our mentor even kept informative sessions where he would tell us about different tools and technologies used in the industry.

Learning Outcome : I learned full stack web development, many protocols and techniques used for data security, and a lot of soft skills, like presentation skills, communication, team management, etc.

Name: SHREYA GUPTA .(2018A7PS0256H)

Student Write-up

Short Summary of work done : Our project required us to design a Web-Portal for the Marketing Team at BHEL, Visakhapatnam to allow the digitization of the process of storing company undertaken project-related records. Familiarity with the basics of Web Technologies such as HTML, CSS, JavaScript, SQL and PHP was necessary to require the project goals. The team created various functionalities to be incorporated into the Web Portal, namely Login-Logout, Creating new users and Changing passwords, Adding/Deleting/Editing data in/from the database as well as allowing the uploading/downloading of documents.

PS-I experience: The Project was a great learning opportunity for anyone who wanted to venture into the field of web development. The industry mentors at BHEL, Visakhapatnam were very helpful in terms of clearing our doubts, guiding us through the project and suggesting critical improvements. The environment over-all was very friendly and relaxing, and our

inputs into the project were considered and respected. Overall, it was a great experience working with the BHEL, team. Working under our supervised faculty was also great. Our queries and genuine problems were looked into and addressed.

Learning Outcome : Increased familiarity and working skills with Web Technologies. Will definitely help if a web-development project is undertaken in the future.

Name: SREE HARSHA KOPPULA .(2018A7PS0308H)

Student Write-up

Short Summary of work done : We made a web portal for managing the finance in BHEL. This is the place where the important tender documents are uploaded and stored. Learned many new languages like PHP,HTML, JavaScript and worked in different environments like PhpmyAdmin. We were able to provide a secure and fully functional dynamic web-page for their use.

PS-I experience: It was fun working with my team and support from our instructor and mentor.I had a real experience on real time projects.

Learning Outcome : Understood the technological processes and identifying various problems at the industry/ organization.

Work on possible solution(s) to an identified problem/ project, with professional standards.

Seek, visualize, analyse and record data/ information through appropriate documentation.

Improved problem solving and critical thinking skills.

Developed appropriate organizational attitudes and values.

Acquired soft skills and social skills, particularly to communicate with industry professionals.

Name: DEBMEET BANERJEE .(2018A7PS0385H)

Student Write-up

Short Summary of work done : My team and I were allotted the project of making a website called Finance Portal for BHEL. To accomplish, we divided our team into two for focusing on the Frontend and Backend Parts of the website. We used HTML, CSS, Bootstrap and JavaScript for the frontend and NodeJS and Express for the backend. A lot of Node packages like PassportJS, Bcrypt, nodemon, dotenv etc was also used while developing the frontend. The Frontend was fairly easy to create. The difficult part was the backend when we were dealing with encryption, privacy and authorization. Another point of debate was whether to store the files in a File System or a Database. We also had minor discussions on SQL vs No-SQL Databases and in the end, we chose MySQL as our Database for the stack. Other than this, setting up the development environment for all of us in a uniform manner was a challenging task since everyone had a different computer with different specifications and more importantly, we were physically not together- tools like GitHub came in handy for collaborating remotely.

PS-I experience: The PS-1 is aimed at making students familiar with the working of the industry and I am happy that has actually been the case. I worked on my allotted project under excellent mentors and a great team, whom I had met the first time. Everything was done in online mode so there were a few hiccups along the way but in the end the target was met as everyone was patient and determined. PS1 was a great learning experience overall.

Learning Outcome : I learnt a lot of soft skills like time management, teamwork and remote collaboration. I learnt proper etiquette for email writing. Coming to the technical aspect, I was already familiar with HTML, CSS and JavaScript and the project helped me put my knowledge to test. The Backend is what I learnt for the first time-Node and Express. Other than this webinars on various topics related to Finance and IT domain we conducted every now and then, and they were really interesting.

Name: SHUBHANJAY VARMA .(2018A7PS0631H)

Student Write-up

Short Summary of work done : Project Title: Analyzing the Nozzle Design using Programming

PS-I experience: It was really nice, I interacted with new people and gained a better skillset to prepare myself for industry related work.

Learning Outcome : I was able to deepen my understanding of the Visual Basic language, the Microsoft Suite and algorithms. Apart from this, I also gained knowledge about nozzles and the ASME code. My communication skills evolved as well due to interactions during the PS-1 project.

Name: NIKHIL JINDAL .(2018A7PS0664G)

Student Write-up

Short Summary of work done : The Project of A Finance Portable required the following work:

1. Preparing the front end using HTML , CSS and JavaScript
2. Setup the server using NodeJS and Express JS
3. Database integration using MYSQL
4. Adding Authentication for the user using Passport Js

PS-I experience: It was a really good learning experience. I really enjoyed working in a team and gaining new skills . Having a deadline increased our productivity and were able to complete the given project in time.

Learning Outcome : I learned about all the work done in the backend of a website and how to link it to a database and add authentication.

Name: SATASIYA AKASH JAYANTIBHAI .(2018A7PS0804G)

Student Write-up

Short Summary of work done : We made a portal for finance in our PS-1 duration . We were required to create a portal which had multiple pages in it , it were required to improve the speed of communication between the Vendors and BHEL Vizag . The portal was created using HTML , CSS , BOOTSTRAP and j Query for frontend development because we required a simple web page with basic functionality . For backend we used Node JS , Express JS , EJS templating engine , and many other npm packages like bcrypt for password hashing , Express-session for session management and SQL based database for database Management.

PS-I experience: My Experince with BHEL-IT was really good . Our mentor was always ready to help us with any problems at any time during our duration . He properly guided us till the completion of the project

Learning Outcome : We learned technical and soft skills by working with industry experts in the respective fields .

Name: JHAWAR KARTIK VINOD .(2018B1A80654P)

Student Write-up

Short Summary of work done : The project I worked on gives a glimpse of exactly how the dream of humans to to reduce the complexity of any work onto his fingertips or even without the use of fingertips, has come true. In short this project summarizes how exactly the Internet of Things can accomplish this dream of humans. The project was to monitor the real time temperature and humidity of a room which can be remotely located, on our own web site. The purpose was served by using a temperature and a humidity sensor which are electronic devices capable of sensing temperature and water vapour content from the surrounding air and responding by providing output analog signals generated due to varying output voltages based on the changes in the surrounding parameters. The sensors were connected to an external hardware known as an IoT board having the capability to connect to a network and a programming device using wireless or wired connectivity. I used the most popular microcontroller based board i.e. Node-MCU or ESP8266. The rest of the project dealt with the use of a network such as an Internet or an intranet where this IoT device was made a client simply using libraries included in the Arduino IDE software. The client was then allowed to request the database such as the Google Firebase, to store this real time sensor

readings. The web browser client then simply requests this data from the IoT cloud and displays it. The same client-server communication was used to make an android app for displaying the same real time readings.

PS-I experience: The experience was all together fascinating and the challenges we faced due to the covid-19 situation added up to the learning experience. Though we were unable to get the industrial environment but the frequently scheduled meetings with the industry mentor gave no less than the actual experience which we would have got at the industry.

Learning Outcome : The project made me learn lot many things of which Web Development and App Development were the two mind blowing outcomes which I learnt. Along with this I also got a good experience of how Internet Of Things work and makes this world highly advanced.

Name: AKSHAT AGRAWAL .(2018B5A30627G)

Student Write-up

Short Summary of work done : Developed a marketing portal website for storing tender details and their respective tender files. Also made upload and download option for files.

PS-I experience: Got to know about marketing department work and storing of past tender files for future use. Also experienced new languages for making dynamic website like CSS, PHP, MySQL, Javascript.

Learning Outcome : Learnt about the work done by people of marketing department in BHEL. Also learnt languages like javascript, PHP, CSS, HTML, MySQL.

Name: NIVED DAMODARAN .(2018B5A71003H)

Student Write-up

Short Summary of work done : My team created an intranet web portal for the marketing department of BHEL. The web portal facilitates easy sharing of information regarding the tenders secured by BHEL. The features of the portal include Login System with verification, Password Recovery, Download/Upload of files, Addition/Deletion and Editing of the Tender details. The portal was made using basic languages and technologies such as HTML,CSS,PHP,JS and SQL.

PS-I experience: It was a enlightening experience and gave valuable insight on how corporates work and and the process of making and submitting projects in an organization. We also gained knowledge on how different departments functioned and the culture of the people within the organisation. Since it was Work From Home, all the meets were virtual however we never felt it was a disadvantage as the industry mentor was very helpful, helping us in every step of the process. Overall, it was a good experience which led to developing a lot of skills, technical as well as soft skills.

Learning Outcome : Learnt how corporates work and corporate culture. We realised the importance of teamwork and collaboration as it is one of the most important steps in completing a task within the given deadline and also meeting the requirements. It led to learning or developing a lot of technical as well as soft skills. Web development, as a part of technical skill gained. Teamwork, Management, collaboration, presentation and communication being the soft skills developed.

Name: KALAGA SAKETH .(2018B5A80929P)

Student Write-up

Short Summary of work done : My team's project was to develop a method to remotely monitor the climate of the server room at BHEL - Visakhapatnam. We were to use IoT to develop our solution. With advice from the Industry Mentor, the team decided to use the Arduino Uno micro-controller platform to deploy our IoT project. Multiple factors had to be taken into account while choosing the different parts of the project because of the pandemic caused due to SARS-CoV-2, as availability was an issue. Before acquiring the necessary hardware, we used a simulation software to simulate the

micro-controller board along with its sensors to get to a point where the team had a good idea of how the board must be setup when the required hardware was available to the team. Since availability was an issue, I was the only member in the team who had access to fully functioning hardware during the project. All the hardware prototyping and programming of the micro-controllers involved was done by me with help from my peers in the group. Finally we created a prototype which could store the temperature and humidity information of the server room on BHEL - Visakhapatnam's database, and this information could be remotely accessed by staff of BHEL - Visakhapatnam through the internet. This was the intended functionality and my team was successful in achieving it.

PS-I experience: PS-I was definitely challenging since it was online. It was hard to adjust to in the beginning, and the lack of availability of hardware was one of the biggest hurdles my team faced during PS-I. Once the hardware was obtained, things went relatively smoothly. Since the team did not have the necessary hardware in the beginning, the team had to put in more work right after the mid-semester evaluation to get back on track with the intended timeline for the project.

Learning Outcome : PS-I taught me how to collaborate well with my peers in order for us to complete the project most efficiently and create the best version of the product we could deliver. It also taught the team time management because of the delay in obtaining the necessary hardware.

PS-I station: BIG AIM INFOCOM, Noida

Student

Name: SANYA GARG .(2018A7PS0261G)

Student Write-up

Short Summary of work done : We have to make 2 android mobile applications. I worked on the front end of the Community Mobile application which included the login, registration, the wall and other parts of the application. For front end we used Android Studio and coded in Java. We extensively worked with many libraries of Android. We used recycler view, retrofit libraries.

The API development was done using Postman and the database used Mongo DB Atlas. They also taught us Redis.

PS-I experience: We had regular meetings and work was given regularly. The mentors were very helpful and prompt in solving our doubts. It was a great learning experience. Interacting with people from different campuses was also a new way to learn. Moreover, they gave us the flexibility to choose the project we wanted to work on. Also, I learnt new methodologies to learn anything new from our PS instructor.

Learning Outcome : I learnt Android development, team work, problem solving and perseverance. Testing and debugging using Android Studio were some of the major things I learnt during PS. Overall PS developed a sense of confidence to learn and implement your skills on any real life projects.

Name: VATSAYAYN BINAY(2018A7PS0305H)

Student Write-up

Short Summary of work done : I worked on a mobile community application in which the work was to be done on Android studio. It was a community application like Facebook with having features like login, registration, a wall, post creation, like comments, etc. Various libraries like recycler view, card view, retrofit, etc., were used in this project.

PS-I experience: The ps was amazing and the owner of the company just motivated us whenever he was in the meet. Mentors were also really helpful and were always there to help even with the smallest of doubts. There were regular meets organized everyday for assigning work and clearing doubts. If you're looking for a PS where you'll really learn something, this is the place you want to go to.

Learning Outcome : I was finally able to do a formal project on Android development. I also got familiar with many new components of the Android studio and I also learnt how to work with APIs. It was really a great learning experience.

Name: ADITYA MITTAL .(2018A8PS0795P)

Student Write-up

Short Summary of work done : I worked on a project named E-Bharatam. E-Bharatam is a platform for making online business easy. I worked on the E-Bharatam windows Application and Mobile Phone Application and my work revolved around the testing of API's, getting responses and creation of new API's. I learnt working with various packages like Xampp, Postman and Ngrok.

PS-I experience: It was a nice experience. I got exposed with industrial work and realised the importance of teamwork.

Learning Outcome : I learnt about the testing and development of API's and learnt working with various packages like Xampp, Postman and Ngrok. I learnt working in a team and completing work before deadlines.

Name: AMAN JAIN .(2018AAPS0396H)

Student Write-up

Short Summary of work done : We were assigned to make an e-bharatam app which included allowing the user to login, register and post stuffs. For the login and registration part we used sql as database. After registering the user will be sent an confirmation email after which he can login. The app somewhat resembles facebook which allows people to connect belonging to the same community. The user can post stuff, chat with their friends, get notification and make groups. The purpose was to somewhat replicate the company website. It's a startup. We used android studio to make the language and used java as our primary language. We used retrofit to call the API's made by the API team.

PS-I experience: It was great working experience personally. I was teamed up with two of the other students. We had two meetings daily which kept us motivated enough to work on time. It was my first time with a company and I think our mentors were great in guiding us about what to do and how.

Learning Outcome : I learned about android studio. It is an IDE developed by google to make android studio. I learned about java, layout designing and retrofit and few other things. I also learned about firebase which can be used as a database.

Name: ABHAY GUPTA .(2018B2A80681P)

Student Write-up

Short Summary of work done : Worked on API testing and Development for an social media site being developed by the firm.

PS-I experience: The industry mentors were very helpful they were always there to solve any problems and were very approachable. If you are willing to work then surely it would be a learning experience.

Learning Outcome : Got acquainted to working of organizations, understood basics of server API and various softwares related to them like postman.

Name: ISHIKA VASUDEV SINGH PARIHAR .(2018B3AA0738G)

Student Write-up

Short Summary of work done : Big Aim Infocom is a service providing company to other start-ups, for example, providing a website/application to some startup. I was given the option to choose between web development and app development. I chose

back-end app development using NodeJS. I created API routes for registration of a user, using JWT token while logging in, user can post on that social media app and can like/comment/share. Data is stored on MongoDB and AWS database. I learnt many new things during this time period.

PS-I experience: I had a really good learning experience with my industry mentors. They would hold Google meets twice a day to discuss doubts and were very keen on making us work and learn. They were very involved on a one-on-one basis too.

Learning Outcome : Because I was new to this field, I learnt how to code on NodeJS from scratch and many things about API routes and CRUD operations of Postman. I learnt about storing data in database like MongoDB and Amazon Web Services, how to use Git and GitHub for collaborative work purposes.

Name: AKASH JHA(2018B5A80893G)

Student Write-up

Short Summary of work done : API testing and development, mostly testing existing APIs on postman , saving endpoint examples and checking for edge case errors. Creating APIs included asking requirements from front end and providing APIs as per required.

PS-I experience: It was good, would have been better if not for work from home.

Learning Outcome : I learnt about back-end/API development

PS-I station: Centre for Development & Imaging Technology - Web services, Trivandrum

Student

Name: RISHI SAIMSHU REDDY BANDI .(2018A7PS0181H)

Student Write-up

Short Summary of work done : We made a online classroom (LMS) platform that enables to conduct courses online while conducting online classes through web conferencing and assessment through online quizzes

PS-I experience: It was definitely a new experience as it showed us how the industry works , how we make teams , co-operate and produce a product worthy of rolling out for public use

Learning Outcome : It opened us to the process of the production of a web application. I learnt how to host a application on AWS and all the backend aspects of the project

Name: DHARAPURAM ADITYA RAMKUMAR .(2018AAPS0336H)

Student Write-up

Short Summary of work done : Our project at C-DIT was to help build a website for conducting online classes which could be used by the Govt of Kerala to conduct classes online for the students in various Govt schools etc in Kerala. There sure was a shortage of time but with the amount of support from our faculties and amazing teamwork, we were able to come up with a satisfactory product within the stipulated time. A major learning from PS 1 would be getting familiarized with the professional work and to learn how to collaborate on projects once we get into the industry.

PS-I experience: It was a wonderful experience considering the limited time we had. The Bits professors were really supportive and helpful throughout the journey. There were quite a few drawbacks of the online work from home system as we weren't entirely exposed to the working of the station as there was very little interaction with the industry mentors in our case but the soft skills we acquired such as collaborating on projects, having group discussions etc added a lot of value to this experience. With little hands on

work due to working remotely, we focused more on the design and documentation than the implementation, which too was a very valuable learning experience.

Learning Outcome : If I had to pick the most important learning outcome, it would definitely be the soft skills required to work with different people of various backgrounds. Communication plays a vital role in the success of any project and PS 1 provided us the right platform to meet multiple students of various platforms, working with whom was both fun and educational. We learnt that behind the implementation of every project lies intensive planning and documentation work which is equally important if not more, without which there would be no place to begin.

Name: KOVVURI SRAVANTHI.(2018AAPS0341H)

Student Write-up

Short Summary of work done : Fake News Detection Platform (FNDP)

The main objective is to detect the fake news, which is a classic text classification problem with a straight forward proposition. We need to build a model that can differentiate between “Real” news and “Fake” news. This Project comes up with the applications of NLP (Natural Language Processing) techniques for detecting the 'fake news', that is, misleading news stories that comes from the non-reputable sources.

PS-I experience: It has been a great experience. Firstly, I was assigned a project in the domain that I am not familiar with. This gave me a great opportunity to explore something new. I learnt new languages and tutorials. I also got to know how the projects should be taken up and how to complete them successfully. The components like Seminar, Group Discussion helped me in improving my communication skills. Also, our PS faculty and mentors are quite helpful.

Learning Outcome : The learning experience is great. I learnt Python,MySQL,flask and some important NLP techniques that can be used in my project.I also learnt about various websites like Kaggle and GitHub. PS 1 has been a valuable experience.

Name: MUDIT MATHUR.(2018AAPS0461H)

Student Write-up

Short Summary of work done : Creating a Fake news detection platform for social media news and posts

PS-I experience: It was a good experience with new learnings

Learning Outcome : Learning teamwork, creating a work flow and management

PS-I station: Centre for Development of Advanced computing (C-DAC), Pune

Student

Name: WANDHEKAR SAURABH SANJAY.(2018A7PS0157G)

Student Write-up

Short Summary of work done : I worked on 'Vehicle Detection on Jetson Nano' which was a part of a larger project on which C-DAC was working on. Object detection is a computer-vision task involving detecting instances of objects of a certain class(e.g. humans, cars, etc.) from images or videos. Jetson Nano is a small, powerful computer manufactured by NVIDIA and is used for embedded applications. The project aimed to have vehicle detection work at 20+ FPS on Jetson Nano. Due to the memory and speed constraints, we couldn't choose the state of the art object detection models like YOLO v4, Faster RCNN. Instead, we chose the models SSD Mobilenet v2 and Tiny YOLO v3 which could work in the constrained environment of Jetson Nano. This project was assigned to 1 other student, so we each chose a model to work with. First, we preprocessed the dataset which included cleaning, splitting and creating records. Then, we custom trained our models on this dataset. Following this, we tested the model on test images and evaluated the accuracy. Then we created an end to end ML pipeline for

detection of cars in videos and live video feed from a webcam. After this, we installed the required libraries, set up the environment and deployed both the models on Jetson Nano. Finally, I optimized the existing SSD model with TensorRT and multithreading which gave an inference speed of 31 FPS on Jetson Nano. Additionally, we also created a Flask API to deploy the working model on a local server.

PS-I experience: The experience was awesome. To start with, we were allowed to choose from 6 projects and there were 5 of us. All the projects were great. The projects were related to HPC and ML. We started working from the first week itself. My mentor was very helpful and gave us ample time to work on each aspect of the project. Due to the remote mode of operation, we had meetings with him twice a week and we asked doubts and discussed any problems on WhatsApp. He was always ready to help us and made sure that we were working ahead of the decided timeline of the project. Our PS instructor was great too, he kept weekly meetings to get updates from us and organized the evaluative components very well. I couldn't have wished for any better working environment than this for PS-I.

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, OpenCV, Matplotlib, seaborn and frameworks like Tensorflow, Keras, Tensorboard, Darknet used for deep learning. I learnt about the various object detection algorithms like YOLO, SSD and got to explore a lot of different versions and pre-trained models of these two algorithms. I got to work on NVIDIA's Jetson Nano and understood its advantages and limitations. I understood the different optimization techniques using TensorRT to improve the performance of a model. I also learnt to create basic web APIs using Flask.

Name: PRANAV GUPTA(2018A7PS0190P)

Student Write-up

Short Summary of work done : Created a solution for Benchmarking a High Performance Computer using Singularity

PS-I experience: I had a very knowledgeable mentor and I learnt a lot of things, even though everything was done remotely.

Learning Outcome : Learned about Parallel Programming, Benchmarking, High Performance Computers, Containerization

Name: RAHUL GANESH PRABHU .(2018A7PS0193P)

Student Write-up

Short Summary of work done : My project was to create an end-to-end machine learning pipeline for vehicle detection on edge hardware, specifically NVIDIA's Jetson Nano. We tested two different object detection models (namely Tiny YOLOv3 and SSD Mobilenetv2) and compared our results quantitatively to choose the best model for our task.

PS-I experience: The PS-I experience was enjoyable, and I learned a lot.

Learning Outcome : Though I had some basic knowledge about object detection and computer vision, I learned a lot more about it in-depth, as well as the nitty-gritty details of model optimization, threading on Python, and CUDA.

PS-I station: Centre For Development Of Imaging Technology - IT, Trivandrum

Student

Name: ADITYA ARYAN .(2018A4PS0855G)

Student Write-up

Short Summary of work done : There were basically 2 groups for 2 separate projects. One of them was a fake news detection app, the other one was an online class

conducting system. I was in the latter. We used Moodle to make the online class platform and its plugins. Hosted the website using AWS student version.

PS-I experience: It was a nice learning experience to see how work is actually done in the industry, especially charting and planning.

Learning Outcome : Gained professional experience.

Name: V.P.KIRAN .(2018A7PS0413G)

Student Write-up

Short Summary of work done : Our project was to design and develop an online classroom platform which was to be used by the students of Kerala to make up for the disruption caused to the traditional education system by the coronavirus pandemic. We designed the platform and documented it using Use case docs, srs docs, workflow diagrams etc. Due to the shortened duration of the practice school implementation of the project from scratch was a major issue so we used the open source platform moodle as our base during implementation. Our platform had features such as videoconferencing through BigBlueButton, a scheduler to prepare the timetable for the students amongst various other basic capabilities of any LMS

PS-I experience: We had the freedom to design the platform and not just implement which introduced us to the various phases of the development cycle.

Learning Outcome : We were introduced to the flow of thought during design and development of a project. We were familiarised with various documentation involved.

Name: JATIN AGARWAL .(2018B4A70884P)

Student Write-up

Short Summary of work done : Our project was to develop a fake news reporting portal using machine learning. The portal should be able to take user input and then analyse the news based on previously stored data in form of reliable news.

PS-I experience: PS1 experience was good. The teachers were active and engaging and there was a good learning environment. The C-DIT faculty was also very much active in taking our inputs for the project.

Learning Outcome : Machine learning overview

Name: ALWYN JOSE RAJA .(2018B5A30951P)

Student Write-up

Short Summary of work done : Using ML techniques to detect fake news/fraud in social media posts.

PS-I experience: It helped to increase my knowledge base and skill set by introducing me to a new field.

Learning Outcome : I learned how to implement ML algorithms.

Name: KOTHARI DARSHAN HARISH .(2018B5A70873G)

Student Write-up

Short Summary of work done : Made a website, basically a learning management system(LMS) for the organisation. Teachers could post assignments, grades, host video conferences and students could submit files, take quizzes, and take part in video lectures. The admin role could add students to particular courses. Hosted the website on Amazon Web Services.

PS-I experience: It was a new learning experience for me. It was the first time I came in contact with industry professionals. Although, if the time period was more than 6 weeks, it would have been better.

Learning Outcome : I learnt to host website on AWS, integrating plugins on existing websites as a part of customising it. Also, I learned more about the domain of online learning and LMS in general by doing relevant literature survey in the field.

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

Student

Name: YASH NARANG .(2018A7PS0150G)

Student Write-up

Short Summary of work done : My project at CRIS was based on analysing unscheduled halts of trains. This was to be basically done using various Spatial clustering/Machine Learning algorithms such as Knn, Kmeans, DBSCAN, etc.

PS-I experience: Over all, it was a good experience. The mentors under whom I worked were very helpful and guided me throughout the project , which helped me a lot to work well on the project.

Learning Outcome : Learnt about various spatial clustering algorithms, working of these algorithms, various metrics used to find optimal clusters and about different data analysis techniques. Presentation and Group Discussion helped me improve my communication skills and report writing helped me enhance my writing skills.

Name: Akul Singhal(2018A7PS0193H)

Student Write-up

Short Summary of work done : I had 2 projects:

- 1) Make a mobile app along with an API to serve it. It is an app which takes reports of expenditure of the railways and provides graphs based on it. The mobile app is in flutter and the backend is made using node.js . The database used was OracleDB
- 2) Use Latent Class Analysis learning model to segment the customers of the passenger trains in the Indian Railway.

PS-I experience: It was a great experience for me. Even though it got a bit hectic because of having 2 projects, I learnt a lot from it. The CRIS team was very helpful and guided me in a great way. The 1st project was pretty straight forward but helped learn a lot of new technologies like flutter. The 2nd project was challenging. Latent Class Analysis is a tough topic and maths heavy which is a bit different from traditional clustering algorithms in Machine Learning.

Learning Outcome : I learn the following things through my PS:

- 1) Dart and Flutter
- 2) Improved my skills with node.js
- 3) Learnt Machine Learning algorithms like regression
- 4) Learnt python libraries like numpy, pandas, matplotlib, etc
- 5) Learnt Latent Class Analysis, Maximum likelihood, Expectation Maximization
- 6) Learnt R and the poLCA package

Name: MOHUL MAHESHWARI .(2018A7PS0229P)

Student Write-up

Short Summary of work done : Basic idea about Project is creating a chatbot, Netra and integrating it with the eDrishti application, Netra will serve as an interactive interface between the user and the railways. Users will be able to see through the earnings, stations, trains, heritage and achievements of the railways in the form of Graphs, tables or live video streams implemented in the application itself. We analysed different user cases and planned for misunderstanding in case the conversation goes out of the topic to bring back the user to relevant queries. Four suggestion chips are displayed after each query to assist the user and increase efficiency.

PS-I experience: I got an interesting project, with an amazing opportunity to learn and build an worthwhile application in Flutter using dialogFlow. I had a very supportive PS Faculty, My mentor was very co-operative and resourceful as well. He already knew flutter so he helped me with some of the libraries. Google Meets were held in two days to check progress and assign new tasks. As our PS was work from home, the experience needless to say was devalued than what we have heard from our seniors but still overall it was an amazing experience.

Learning Outcome : Got to learn about Flutter/DialogFlow. Created an application, a chatbot named Netra which will be integrated with eDrishti application maintained by CRIS.

Name: MUDIT CHATURVEDI.(2018A7PS0248H)

Student Write-up

Short Summary of work done : I was assigned under the CMM Group of CRIS and the allotted project was an implementation of an IEEE Research Paper, DROPS: Division and Replication of Data in Cloud for Optimal Performance and Security. The project mainframe was designed by me using JAVA as the programming language (Organization's Requirement) while my teammate Aman Jain, sophomore at BITS Pilani, Goa Campus, did the front end part using ReactJS and NodeJS. The implementation aims at storing data of files into fragments and distributing these fragments over a data network. This ensures better security of user's data. Overall we were able to achieve our project milestones and thus my PS1 project was a success for me.

PS-I experience: It was a highly enriching and fun experience with quite decent exposure to industry, even though PS1 was WFH.

Learning Outcome : Understanding the Industry principles and work culture.

Name: RAGHAV RAMAN GARG .(2018A7PS0312P)

Student Write-up

Short Summary of work done : I was given supervised learning problem statement. I had to perform data Analysis on the huge dataset that was provided. The next task was to explore different regression techniques and find the best model for predictions. I was able to minimize the error to the desired expectations.

PS-I experience: There were a few orientation sessions in the first week, in which we were introduced to our project mentors and the general manager. In my case, both the project mentor and general manager were very prompt in communication. Weekly meetings were held to discuss the work and plan ahead. There was no fixed reporting time since it was work from home.

Learning Outcome : I learnt various data analysis and visualization techniques.
I learnt ways to optimize linear regression
I learnt how to implement gradient boosting and the math behind it.

Name: VARUN BALASAHEB BANKAR .(2018B2A70295G)

Student Write-up

Short Summary of work done : In my PS Station CRIS, I worked on 2 projects. One involved making a legacy application named Rail Drishti cloud ready and also platform

independent using Docker containers and my second project involved working on IRADA, a data analytics web application where I mainly worked on the charting process in the frontend and authentication system in the backend.

PS-I experience: It was a really great experience, I got to learn a lot about cloud technologies, Java Spring boot and JWT based authentication. I also got to work on real life project which is used by lakhs of people. This gave me a good exposure to the industry and how things are done.

Learning Outcome : I got to work on a real world project in a professional environment which really enriched me with various experience in many domains of IT.

Name: AMAN JAIN .(2018B3A70768G)

Student Write-up

Short Summary of work done : I was working on the Front-end part which is the development of the interface which takes in the user input and Mudit was working on the Back-end part.

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. 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 dualite , it was the first IT project which I was working on so personally it was a great learning experience for me. Since I was working on the front-end part, major learning experience for me was that I learned about some basics and advanced features of Web-Development including HTML , CSS , Bootstrap , Javascript, React , NodeJs and expressJS as well. In short it was a great learning experience.

Name: AMAN MISHRA .(2018B4A70877P)

Student Write-up

Short Summary of work done : Developed a chatbot for CRIS official eDrishti and railDhrishti dashboards. Tech Stack included Flutter(ios/android frontend), React(web frontend), DialogFlow(NLP), NodeJS (backend), postgresSQL(database)

PS-I experience: It was good in all terms (Mentors, peers, project objectives reached, the scale of the project)

Learning Outcome : This project covered almost all aspects of app development and hence was a good learning experience which gave exposure to almost all kinds of tech Stack mentioned in the summary

PS-I station: Clensta International - Manufacturing, New Delhi

Student

Name: GOURAV SAHA .(2018B1AA0639G)

Student Write-up

Short Summary of work done : For my PS-1, I was told to write a review article on the possible treatments of COVID-19 using certain bio-nanovesicles called Exosomes. My work was to find an extensive and comprehensive list of papers and clinical trials related to the above topic and thoroughly compile them. Furthermore, I had to find journals that would accept my review article after I was done writing it.

PS-I experience: My PS-1 experience was quite pleasant. My mentor from Clensta International was quite helpful and approachable. Since this was my first time writing a review paper, I had quite a few questions and I could ask him these questions at any time he would get back to me as fast as possible.

Learning Outcome : I learnt how to do a comprehensive literature survey and how to arrange that in a logical flow. I learnt a lot about how to approach journals for getting a paper published.

PS-I station: Clensta International -IT, New Delhi

Student

Name: BURKULE SUSHANT ANANTA .(2018B1AA0759H)

Student Write-up

Short Summary of work done : the company required a logistics management which is supposed to provide a simple way to maintain and manage funds, keep track of goods coming in a going out of the storage facility. Android application as a logistics management system was considered to be best suitable for Clensta International. Deployment of Firebase Authentication in an app provides back-end services, easy-to-use SDKs, and ready-made UI libraries to authenticate users to your app. The real-time Database provided by Firebase (Google) was used in the making of app. The cyber security issues pushed to opt for a secure cloud storage, and a strong code. Making of navigation toolbar, setting up the authentication, setting up the real-time Database consisted a major chunk of the project along with looking for better solutions at each and every step. Changing to the new found better solution at certain tasks took a toll on time.

PS-I experience: despite the PS being online it was a good experience. Certainly there was a lacking feel of working in person at the company itself. but the overall experience was great.

Learning Outcome : i learned about the cloud storage facilities, cyber security, app development, back-end and front-end development of an application.

PS-I station: CoffeeBeans Consulting LLP, Bengaluru

Student

Name: HARSHVARDHAN JHA(2018A7PS0265H)

Student Write-up

Short Summary of work done : My PS station was at CoffeeBeans Consulting LLP, Bengaluru. CoffeeBeans provides consulting services and helps in creating great businesses with cutting edge technology using Agile methodologies. CoffeeBeans is also a product factory which creates products for various domains primarily built on AI. I was assigned to work on their WRU.AI project. WRU.AI is a publisher focused suite of products which is built to revolutionize the publishing space. These products help the publisher through the various stages of publishing, from editing to marketing. WRU.AI facilitates optimization of editorial performance, as it provides precise data-driven predictions which can be used for decision making. WRU.AI was developed to provide publishers with an AI-based assistant who can assist throughout the process of publishing by providing real-time data and predictive analysis. My work consisted of implementing tracking analytics in the project, along with implementing features consisting of sending manual email recommendations as a form of editor's newsletter and developing a widget that displays the top trending articles from a client website.

PS-I experience: CoffeeBeans Consulting LLP builds products, tackles real world challenges and solves business problems, Organisational transformations, Custom development, Technology advisory, Product design - they do this in-house and for other people. It was a very fun learning experience. I was introduced to various different tools and technologies such as Golang, Redis, Apache Kafka etc. I was familiarized with corporate culture and learned how to collaborate on projects from a remote location. Overall, a very enjoyable experience.

Learning Outcome : My learning outcome was:

1. Learning API testing in GoLang.
2. Collaboration on a project from a remote location.
3. Creating database migrations using goose(golang library) for the project.
4. Learning to communicate with project coordinator regarding various tasks and clarifying doubts.
5. Collaborating with team members over BitBucket platform.
6. Learn Redis commands
7. Using Redis drivers in Golang
8. Learnt how to create APIs for data retrieval

9. Learn how to build a project using docker.

Name: PHADNIS ATHARVA SHEKHAR .(2018A7PS0541G)

Student Write-up

Short Summary of work done : Actively contributed to the development of an in-flight entertainment streaming, mobile application using React Native as the primary development tool. My personal contributions include but are not limited to the implementation of bilingual functionality with a language select option on the home screen and optimisation of certain sections of the JavaScript codebase along with contributions to open issues and merge requests.

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 most eye-opening learning outcome for me personally was the importance of communication between teams and management of the same. An easily overlooked aspect in the IT field, the amount of positive impact a well-managed team has on a project revealed itself to me through these 6 weeks.

Learning Outcome : In terms of technologies, along with the primary tool used like React Native, I also picked up secondary like navigating large codebases as well as dealing with version control issues like git merge conflicts. Also, as I mentioned before, formal communication and its importance also constituted a large part of the learning outcomes of PS-1

Name: ACHYUTH ANAND TADEPALLI .(2018A7PS1117P)

Student Write-up

Short Summary of work done : First we had a brief introductory phase where we were shown what the full end-to-end project was about and its architecture. The project was on a product called WRU, which is a advanced predictive engine based on user behavior and article attributes. I was assigned to the Data Analytics domain of the project. Here my task was to help in the designing and developing of an end-to-end system to pull data based on User events and Article Publications, generate metrics on the questions posed and store them in a database. First week was the learning phase to learn all the new softwares for Data Analytics, then came the design and developement phase, which was prolonged as we added new features every week. The last week was kept for testing the newly built system from end-to-end and clear any bugs. I also made many performance improvements during the last week of the PS. This system, soon after my PS is over, will be deployed into the company's production server where it will run on a daily schedule.

PS-I experience: I had a great time during the PS and have learnt a lot about the industry and about Data Analytics. The company mentor was very helpful throughout the time of the PS and taught me a lot. He was also very open to any questions I had, which made the learning experience even better.

Learning Outcome : I have learnt a lot about how software developement happens in the real world and how employees work when a task is given. Additionally, I have learnt a lot in the field of Data Analytics and Data Science and it has inspired me to try continue down this path. As a by product of the project, I also learnt how to make a detailed documentation of my work and develop code in ways that would be helpful in a collaborative environment.

Name: MANAN MALANI.(2018B4A70709P)

Student Write-up

Short Summary of work done : Worked on app development with react native and also worked on providing push notifications on mobile as soon as person enters the website

PS-I experience: It was a good experience

Learning Outcome : was able to learn about app development

PS-I station: Convergent Technologies, Gurgaon

Student

Name: MANAV P MEHTA .(2018A7PS0164G)

Student Write-up

Short Summary of work done : We had a total of 10 students for our PS Station. 5 groups of 2 students each were formed. 4/5 groups worked on Android App Development. We were basically asked to make separate apps of the current web-based model of the fitness365 website. We worked on various frameworks, development environments, and learned a lot...

PS-I experience: The experience was a great learning curve for me, I came into contact with the professional world of working and learnt a great deal about their internal functioning, deadlines, meetings and such things. The first week was basic introduction, from the 2nd week onwards we were split into groups and specific projects were allotted to us. We implemented new things for the first time which had real-world implications, such as using Android Studio to create login pages and maintaining a database to store information using SQL Server. We also made use of a lot of libraries like the Retrofit library and Jsoup library, to extract data from the html page of the website and also create REST APIs. All in all it was a good learning experience for me.

Learning Outcome : I learned a lot about working in a professional environment, managing deadlines, working in a team efficiently. Technical skills include working on SQL, using concepts of OOP learnt in college, working in Android Studio for the first time, creating and deploying APIs, using libraries and much more...

Name: ASHUTOSH SHARMA .(2018A7PS0179G)

Student Write-up

Short Summary of work done : Project was mainly on development side. To develop an android app model of the fitness365/activities website and a web API for the same. Tech stack used were mainly Android studio, ASP.NET Web App using Visual Studio and SQL Server database. Starting few weeks, we focused on learning app development using android studio, and afterwards delved into working with back-end frameworks.

The app has a login functionality as well a register new user feature.

The app is supposed to filter activities on basis of two parameters. We can also get more information about the recommended activities.

PS-I experience: The online PS-I experience was very much like a remote internship. We explored many things on our own which gave us time and freedom, and experience to give online presentations. Industry mentors and faculty in charge were friendly. Coordinating with project team and online discussions gave an idea of how work from home culture might be in the future.

Learning Outcome : Learned android app development and developing web APIs using C# language.

I also learned many new libraries such as retrofit to parse json elements in android studio.

Name: ARSHIT MODI.(2018A7PS0191P)

Student Write-up

Short Summary of work done : I worked on developing the sports coaching module which involved app development using . NET framework and Android studio.

PS-I experience: PS1 was a new type of experience, unlike normal college experience.

Learning Outcome : Working in an organisation, app development and team work.

Name: CHETAN GUPTA .(2018A7PS0225G)

Student Write-up

Short Summary of work done : My project was based on Benchmarking and Data visualization, where we were provided with data and using Microsoft BI we had to visualise the data.

PS-I experience: Knowledgeable

Learning Outcome : I learnt using Microsoft BI, managing big data and also it gave a huge boost to my communication skills.

Name: PALEM MANEESH REDDY GONEGARY .(2018A7PS0462H)

Student Write-up

Short Summary of work done : Development of a daily activity tracker app for Android-based mobile phones.

PS-I experience: It was good

Learning Outcome : Building an Android app, communication with industry experts and working with peers on a common project.

Name: DHRUV ARORA .(2018B4A70651G)

Student Write-up

Short Summary of work done : I worked on Data Analytics, more specifically Data Visualization. The organization had collected a lot of data from all around the country specific to the project they were working on. My work was to clean, organize and visually represent this data so that conclusions can be drawn out of it. The tool used was Microsoft Power BI.

PS-I experience: My experience was good. The mentors were very helpful and happy to provide any guidance instantly.

Learning Outcome : The work was very interesting, though didn't involve any programming. I learnt how to create dynamic reports, cleaning data and analysis.

Name: DIVYANI SRIVASTAVA .(2018B4A71050H)

Student Write-up

Short Summary of work done : We were given the project of android app development to make a fitness app GoForFit. We worked firstly on Android Studio for the frontend development of the app and then we first learned and then worked on SQL server management studio and Visual Studio for the backend development.

PS-I experience: I had a total new experience as I started from the scratch having not a single idea about the project. Lot of effort and time was required. Many challenges were there like to install such heavy softwares on my 4 GB RAM laptop, etc. But overall I enjoyed learning a lot of new things.

Learning Outcome : I learnt how to work on Android studio, SQL Server Management Studio and Visual Studio and overall I learnt how to develop an app with many features.

PS-I station: Couture AI - ML based, Bangalore

Student

Name: ADITYA SURAJ KRISHNAN .(2018A7PS0098G)

Student Write-up

Short Summary of work done : The main aim of the project was to produce music style encodings with applications in music style transfer. I had to build a hybrid autoencoder for music. The model had three parts, the encoder, the decoder and the classifier. The input to the encoder is a music track, the output of the encoder is a dense embedding of the music file, using this embedding, genre classification is performed by the classifier whose output is a softmax layer with number of classes equal to the number of genres. The decoder tries to reconstruct from the obtained dense embedding, an output that is as close as possible to the original input.

PS-I experience: The one and half months that I spent at my PS-1 station, Couture has been immensely productive for me. The mentors, senior staff and all my colleagues were really helpful and resourceful. Working at Couture has boosted my technical skills, presentation skills and domain knowledge in ML and DL.

Learning Outcome : I got to learn a lot about Artificial Intelligence, Machine Learning and Deep Learning. I also got an opportunity to see how real world industries work and collaborate, the working environment in a corporate sector. I got to interact a lot with my fellow colleagues, my mentors and my PS faculty as well, which helped me gain and improve a lot of soft skills like communication, teamwork, professionalism, time-management, resourcefulness and openness to criticism. PS-1 allowed me to practically implement all the theoretical knowledge that I had in Machine Learning.

PS-I station: CueMath Education Pvt. Ltd- Creating training content, Bangalore

Student

Name: BHAMINI CHAUHAN(2018A8PS0688H)

Student Write-up

Short Summary of work done : We created Math puzzles for school students on a Google Doc. There are three categories of puzzles: Arithmetic, Logical and Spatial Reasoning. Next was a programming project. We worked on a BITS related app with backend development, frontend development and app development, where a user can search whatever he/she wants to learn. After they make a search, they'll get a bunch of flashcards related to their search which would be posted by other experienced users who are good in the respective fields. These flashcards will contain some links to websites which might be useful in learning the field. And, if the user found the information in the link useful, they will upvote that link. And, if the link was not useful or was inappropriate, they can simply downvote it. If a link gets certain no. of downvotes, it'll be removed from the website. And, the most upvoted link will appear at the top of the flashcard. The user will need to login to be able to use the application.

PS-I experience: Through the PS station, I enhanced my soft skills and how a company works and also how to work in a team

Learning Outcome : web development, communication skills, leadership skills, meeting etiquettes, content creation and decision making skills

Name: PARAM A BHATT .(2018A8PS0862H)

Student Write-up

Short Summary of work done : 1. We sorted through JEE previous year questions of 1/2 chapters per student and categorised them as requested by the cuemath team

2. We updated the content of the existing CueMath webpages as per SEO guidelines, in the process making them more SEO and student friendly. We also used multiple exercises, practice questions, animations and other content to make it interesting.
3. For the above project, we had to create simulations on the geogebra platform. We used this platform for creating animations on basic concepts such as time, algebraic operations etc.
4. In addition, we also learnt about backend web development and teamed up to create a common backend for a website and app.

PS-I experience: The experience was very enriching, working in the industry for the first time. We talked with managers, learnt how to work with them. We worked on live projects, were constantly supported and had constant updates to be given to our managers. Overall, it was an enjoyable experience.

Learning Outcome : My main learning outcome was backend web development in Django framework, and using geogebra platform for making simulations for the first time.

Apart from that, I learnt proper communication techniques in the official channels.

Name: RISHABH VAIDYA .(2018AAPS0328G)

Student Write-up

Short Summary of work done : I worked on previous 41 year JEE papers and some worksheets of different institutes, I have to sort them on the basis of exhaustive subtopics which are made by me. Also I have to convert subjective type questions and fill in the blanks type questions into multiple choice questions, so that these questions will be uploaded in different mock test papers.

PS-I experience: It's a good overall experience. The project manager is supportive and helps to assign project of the domain according to student's preference

Learning Outcome : Major learning outcome is soft skills like presentation, group discussion etc.

Name: UTKARSH UMANG .(2018B2A80826G)

Student Write-up

Short Summary of work done : The work was in the domain of Content creation, we were given a course from the company on SEO, where we learned about the basics of SEO. Although, we didn't do anything related to this in our PS. The company gave us some URLs of their webpages and we had to design better content for the same webpage using Simulations from GeoGebra and Adding questions. The work was time-consuming and the instructors are a bit demanding.

PS-I experience: It kept me engaged throughout the summer and I learned some new skills during this time. The work was easy but time consuming, although it was very monotonous as creating teaching content for Kids is not very exciting thing to do.

Learning Outcome : I picked on a lot of soft skills during this time and realized how the corporate world operates. I also learned how the ed-tech companies function and what challenges do they face.

Name: CHETAN GONGLE .(2018B4A40989H)

Student Write-up

Short Summary of work done : We were first asked to complete few SEO courses which were about SEO fundamentals, keyword research and page optimisation from Moz academy in order to understand about the SERP rankings of webpages and how to improve them using keyword mapping. Then we worked on content creation in the back end directly, we wrote content for few totally new webpages and modified content on few existing webpages. We learned about LaTeX coding to integrate equations to the webpages. For making concepts fun for students and to help them understand quickly

and remember it for a long time, we integrated GeoGebra simulations. For students to revise and practise the concepts, we have added Learnosity activities which contain items, which are basically question for the students to test themselves. Then to make the questions more interesting, we have worked on image revamping, which is basically adding fun and colourful images so that the student stays on the webpage for longer time and makes sure that he would return to the website for other concepts as well. In this way we increase the click through rate for our webpages, which in turn helps us in improving the SERP rankings of our webpages.

PS-I experience: It was a good educational experience. Got to learn a lot new things, have gained many new skills. My only drawback is that it was as a bit hectic, the work load was quite high.

Learning Outcome : I have learned a lot from this PS. I have gained both technical skills like LaTeX coding, etc, and soft skills mainly interactional skills, which would help me a lot in the near future.

Name: RANGANATH BHASKAR .(2018B5A10720P)

Student Write-up

Short Summary of work done : We create activities which has questions related to a topic and find simulations on a site called geogebra which are then incorporated into the site which help in increasing the ranking of the Urls in the search engine results page. The content of the topic is thus made interactive so that the users can easily understand the topic. We also find images in the activities which needed to be revamped.

PS-I experience: This was a different experience for me as what we did during this internship was something new. This is mainly because it was a virtual internship. The work done was also very different from the typical engineering jobs and it was a new and interesting experience for me.

Learning Outcome : We learnt about the SEO fundamentals which help us to increase the rank of the Urls of the topic so as to increase the traffic into these sites. We also learnt how to create activities in Learnosity and find geogebra simulations.

PS-I station: CueMath Education Pvt. Ltd- IT, Bangalore

Student

Name: DIVYANSHU AGRAWAL .(2018A7PS0267H)

Student Write-up

Short Summary of work done : Working on creating content for a new mathematics education course for CueMath

PS-I experience: PS1 this time has been different from others. It has been conducted through a completely online mode. It has been a learning experience to work with other colleagues online.

My main task at PS was to create content for mathematics education of school children. This included creating puzzles, problems, graphics etc.

My manager at the PS station is very kind. As I work on the tasks assigned to me, he is always ready to help me out, and leaves helpful reviews on my work. The entire work at my PS station has been very structured, with regular meetings, reviews and feedback. I've learnt a lot about how work is done in startups.

Learning Outcome : PS-1 has helped me learn a lot of new things that would have been impossible in a classroom context. I've learnt to communicate with my colleagues. I've learnt to work properly and manage goals and deadlines. I've learnt how work is done in a startup and the challenges faced.

Working remotely has also been an interesting challenge, and we learned to use tools like video conferencing, online reviews etc. to make collaboration possible.

Name: ARJUN BAJPAI .(2018A7PS0182G)

Student Write-up

Short Summary of work done : I have worked on segregating queries and classifying queries on basis of its validity to improve the questions on the CueMath LMS.

PS-I experience: Even though I was expecting a more IT based PS, I had a good experience working for CueMath and fixing excel sheets.

Learning Outcome : I learned database management, android development and basics of ms excel

PS-I station: E-Connect Solutions Pvt. Ltd - Smart city Governance projects, Udaipur

Student

Name: MEGHAVI GUPTA .(2018A7PS0208G)

Student Write-up

Short Summary of work done : We started with training on HTML,JavaScript and ReactJS which continued for 2 weeks. Following that we were introduced to the project, which was to make a software development lifecycle smooth and easy so that stakeholders like developers,clients, managers etc can work together. For 3-4 weeks different assignments are being given to work on webpages which makes use of ReactJS and antD library.

PS-I experience: The team and the mentors i worked with were really helpful and encouraging at the same time. I had a great time learning new things.

Learning Outcome : I learned a few languages like ReactJS,HTML,JavaScript,using antD components etc and a little bit about the process behind software development lifecycle (SDLC)

Name: PARYUL JAIN .(2018A7PS0279P)

Student Write-up

Short Summary of work done : Learnt about front-end web development using ReactJS and worked on a web app which automates the Software development Life Cycle for more efficient and fast process.

PS-I experience: The overall experience was good. Was able to learn a lot and the mentors were really good.

Learning Outcome : Learnt front-end web development using ReactJS.

Name: SHREYAS SARANGI .(2018A7PS1023G)

Student Write-up

Short Summary of work done : Helped streamline the process of monitoring Software Development Life Cycles, or SDLCs, through a project that involved creating multiple forms on ReactJS and Antd components that with various features that allow users to easily store relevant information.

PS-I experience: The experience was decent. There were good opportunities to work with a motivated team and talk to industry mentors about our work and get inputs from all of them on our work.

Learning Outcome : I learned how to use ReactJS, Antd Components, and understood how to work on code with a team.

PS-I station: Elixar Systems - APP Development, New Delhi

Student

Name: SHIVANSHU AYACHI .(2018A8PS0778P)

Student Write-up

Short Summary of work done : For my PS-1, I worked on building a new web-based platform for Elixar Systems. Elixar Systems is a BITSian start-up working in the field of Augmented Reality (AR) to improve education in India and abroad. The platform I helped create from scratch is called 'Aerth', and it can be briefly described as a proprietary GitHub for AR Development. I worked mainly on the backend part of the platform.

The Aerth platform is a place for all the AR developers associated with Elixar Systems to find and apply to new projects and work on them. They can upload all kind of files for their projects, receive stipend, find existing code, and interact with other developers and administrators at Elixar Systems. Meanwhile, the admins at Elixar Systems get a place where they can manage all their projects and developers together and in an organized and seamless manner.

I used Django to build the backend of the website and a MySQL database to store all the data. The complete website was hosted on an AWS server.

PS-I experience: My PS-1 experience was wonderful. This was the first time PS-1 was being conducted in an online manner so there was a lot of new experiences for everyone involved. I interacted with the founders of the company personally, and since they were BITSians themselves, the interactions were very friendly and laid back. The faculty assigned to me were also very responsive and helpful. Overall, I can say that it was a very eye-opening and fruitful experience for me.

Learning Outcome : I learned a lot of technical as well as soft skills. In the technical side, I learned about hosting using apache2 servers, which I previously had no experience with. I was very comfortable with Django even before PS-1, but still, I got to learn a lot of nuances and small details about it that I was unaware of before.

Other than that I learned about how things work out there in the real world, how actual industry work is done, which was very helpful. I definitely improved my communication skills, and I also learned to manage my time and to work with specific deadlines in mind. All things considered I learned a lot of new things.

Name: ABHIJEET SWAIN .(2018B4A70540G)

Student Write-up

Short Summary of work done : The project domain was Augmented Reality development. It involved creating simulations of experiments present in NCERT Science textbook. It involved the use of Unity and Blender. Unity was used for developing the mobile applications while Blender was used to create 3D models required for the simulations.

PS-I experience: I was initially assigned App Development as my project domain from PSD but the company did not have any work in the said field, so I was assigned a to a project in AR development. The PS had very strict rules in terms of deadlines for assignments, which was an issue at first. But as we received further assignments it became easier to meet the deadlines. The mentor assigned to me was good but would frequently miss mails which made asking doubts difficult at times, but overall it was a great experience with quality work involved.

Learning Outcome : I got to learn about Augmented Reality Development. Although the project was very specific to the company domain I still was able to learn a lot about both Unity and Blender which can be used in game development as well. The deadlines being very strict meant one had to manage his time properly to meet them.

Name: AAKASH .(2018B4A70887P)

Student Write-up

Short Summary of work done : I wrote code that will make an existing electrical circuit library compatible with Unity. I worked in NDA Project and then created simulation of one NCERT experiment at last.

PS-I experience: My PS experience was very good. I learned many new thing such as Unity, Blender, Advanced C# features etc. I was learning new things everyday and was implementing them.

Learning Outcome : I learned about advanced language features of C# such as events, callbacks, coroutines etc. I learned how to solve electric circuits in unity and implement my own. I learned about automata theory.

PS-I station: Elixar Systems - AR Development, New Delhi

Student

Name: Achyut Dwivedi(2018A4PS0125H)

Student Write-up

Short Summary of work done : My work as an AR developer was only to visualize class 10th NCERT science experiments as 3D models and then convert them to usable AR standalone apps with added interactivity.

PS-I experience: It was a fun learning experience, which started out a little difficult because the game engine software Unity3D and inbuilt Vuforia image targeting were completely new to me while we had multiple projects one after another, but it got better after a week or so.

Learning Outcome : I learnt about Blender, Unity3D and C# scripting, and developed my time management skills.

Name: MEHUL CHANDWANI.(2018AAPS0488H)

Student Write-up

Short Summary of work done : The first task I was given was to insert a feedback system to the Aerth Platform for developers side only as they are the one who will give feedback. The next task required to add back buttons on each page of the platform so that its easier for the developers and admins to go to previous page without going to home and finding that page. Next task involved designing a progress bar for AR developers to track their deadlines and upload the necessary files on time. Next task involved re-modelling the platform logo so that it looks good as in the beginning it was quite normal. It involved a bit of HTML and wide use of CSS.

PS-I experience: The first task I was given was to insert a feedback system to the Aerth Platform for developers side only as they are the one who will give feedback. The next task required to add back buttons on each page of the platform so that its easier for the developers and admins to go to previous page without going to home and finding that page. Next task involved designing a progress bar for AR developers to track their deadlines and upload the necessary files on time. Next task involved re-modelling the platform logo so that it looks good as in the beginning it was quite normal. It involved a bit of HTML and wide use of CSS.

Learning Outcome : I learnt how animation works using CSS and how we can implement it for our purpose. I learnt about full stack development as in the entire (frontend and backend) aspects of development. I learnt about Machine Learning which is quite major life changer in IT industry. Its very interesting to learn such topics in such a short period of time. I learnt a lot of HTML, CSS and Javascript of which I was completely unaware in the beginning.

Name: HITARTH SHAJWANI.(2018B1AA0638G)

Student Write-up

Short Summary of work done : Developed 6 AR Simulations of figures and experiments present in NCERT Science textbooks of class 8,9,10 using Blender for 3D

modelling , Unity3D for animation and vuforia engine to develop the animation into an AR app.

PS-I experience: It was a great learning experience. Learned very unique skills like AR and Game Development and got exposed to the industrial sector.

Learning Outcome : At the end of the PS, I gained some technical skills like Unity3D, C# scripting and 3D modelling in Blender. On the other hand I also gained some soft skills like how to present our work, time management, maintaining healthy work relations with colleagues etc.

PS-I station: Elixar Systems - Business Development, New Delhi

Student

Name: ABHIJITH S RAO(2018A8PS0651H)

Student Write-up

Short Summary of work done : I was in the Business Development team of Elixar. The main project objectives were client acquisition through research and lead generation, customer feedback / recommendation to make products better, garnering recognition via news and social media channels, preparing and analyzing market reports and conditions.

PS-I experience: Overall experience was pretty good. Mentor for our team was very supportive throughout PS-1. We would have stringent deadlines but enough space was given between 2 tasks.

Learning Outcome : An opportunity to connect with a working team population of an enterprise.

Gain an insight into the logistics behind practices such as on-boarding, platform migration, the struggle that teams face when it comes to technical difficulties and the processes to overcome these issues smoothly.

Name: PROTYUSH NAYAK .(2018B2A30681G)

Student Write-up

Short Summary of work done : I developed a platform for the startup where the developers can share files and communicate with one another as per requirement.

PS-I experience: It was a good experience and i gained lot of exposure. I get to work with industry specialist and overall it was good

Learning Outcome : Web Development, HTML, CSS, UI/UX Design

PS-I station: Elixar Systems - Product Development, New Delhi

Student

Name: VIDIT PATEL .(2018B3A70733G)

Student Write-up

Short Summary of work done : I was a part of business development team, and apart from it I also did cybersecurity analysis of the platform that Elixar was about to deploy. We were mostly task for market research , which included studying the current ecosystem and future plans of other major companies. My work also include to bring new AR developers to the company , we were given with some information and we made contact to AR developers for internship. Apart from that , Elixar was about to launch an AR platform for developers and I did the security analysis for the same.

PS-I experience: It was really great experience overall , there were a some challenges as this was an online internship.

Learning Outcome : I got learn about functioning of business and the work and research which requires for finding a partnership with other company.I also got a chance to apply my knowledge about cybersecurity.

PS-I station: Elixar Systems - Web Development, New Delhi

Student

Name: SIDDHARTH SHARMA(2018A7PS0199G)

Student Write-up

Short Summary of work done : To create educational Augmented Reality based applications. Using these applications, scan the diagrams on NCERT book, and the corresponding 3D simulations (that we have to build) start over that image.

PS-I experience: It was great, even though it was work-from-home experience. Learnt how to work under the pressure of deadlines

Learning Outcome : Learnt the applications of Object-Oriented Programming. Used applications like Unity and Blender for content development

Name: SAURAV J SHUKLA .(2018B5AA0653G)

Student Write-up

Short Summary of work done : My work basically included working on Augmented Reality Technology. Here I was working on a project of converting NCERT Science experiments into AR format. So I had to build and animate 3D models based on textbook diagrams and figures

PS-I experience: The PS experience a mixed bag. There were some good experiences and there were some inconvenience but overall there were a lot of things to be learnt

Learning Outcome : I learnt working in new cutting edge technologies like Augmented Reality and also communicating with industry professionals

PS-I station: Gunadhya Software solutions - Reward Point System, Pune

Student

Name: ADITYA SHARMA .(2018A7PS0315H)

Student Write-up

Short Summary of work done : I created front-end of my project. The reward point system is one of the important features of today's shopping. I designed webpage that user would be able to access. I created it, using HTML, CSS, JavaScript and Angular.

PS-I experience: My experience was very informative and i learnt about important things related to my field, i.e. webpage development. Due to non-availability of mentors on regular basis, it was pretty challenging but it was a great learning and practical experience.

Learning Outcome : Learnt how to make a webpage using Html, css, javascript and angular and how to connect that webpage to database.

PS-I station: Happiest Minds - CoE Analytics, Bangalore

Student

Name: SHIVANG SINGH .(2018A7PS0115H)

Student Write-up

Short Summary of work done : Used Supervised Machine Learning Algorithm to classify Tanzanian Water Pumps as Non Functional or Functional.

PS-I experience: It was really enriching to see the culture and structure of such a renowned IT company. I learned multiple soft skills along with the exposure to Data Science and Machine Learning.

Learning Outcome : Various Domains of Data Science like Data exploration, visualization, analysis, management. Various Machine Learning Algorithms like Logistic Regression, Random Forest.

Name: BHAVYESH DESAI .(2018A7PS0164H)

Student Write-up

Short Summary of work done : Made a Machine Learning model to classify water pumps as faulty/not faulty/need maintenance based on the data set we were given.

PS-I experience: Very good experience, mentor was very helpful and willing to guide us.

Learning Outcome : Learned many Machine Learning techniques like Logistic Regression and Random Forest Classification

Name: PRATYUSH BANERJEE .(2018A7PS0312H)

Student Write-up

Short Summary of work done : The title of my project was 'Edutech Video Analysis'. The objective of this project was to develop a computer vision based virtual proctoring software that analyses video from the webcam of the test taker to detect malpractices. This was implemented using OpenCV with Python along with dlib, TensorFlow, Deepgaze and GazeML libraries. It employs facial recognition, head pose estimation, and eye gaze detection together with a set of rules to detect malpractice in videos.

PS-I experience: It was a great learning experience. The people at Happiest Minds are friendly and supportive. The mentor assigned to my group guided us whenever we needed any help. There is a flat organization structure and a healthy work environment in the company.

Learning Outcome : Various concepts in Computer Vision and Deep Learning, Convolutional Neural Networks, OpenCV with Python, various computer vision libraries and advanced programming in Python.

Name: PRANAVI MARRIPUDI .(2018A7PS0507H)

Student Write-up

Short Summary of work done : The project deals with a use case of Advertising Technology - Contextual Advertising. It involves suggesting advertisements based on the context of the web page. We had to find a specific package of information by analyzing text from a web page that can be sent to Supply Side Platform through openRTB to get ad recommendations. Our work mainly falls under the domain of text analytics and natural language processing. We have worked on text summarization, topic categorization, theme modeling, and sentiment analysis.

PS-I experience: It is a wonderful company to work with. People are very friendly and helpful. Our mentor conducted meets on every week-day to clear any doubts and check on the progress.

Learning Outcome : I learnt coding in Python, several natural language processing techniques, various ML algorithms and neural networks. Exposure to how an IT company operates.

Name: NIPUN WAHI .(2018A7PS0966H)

Student Write-up

Short Summary of work done : Our work was related to Adtech Using AI. We had to use AI to get advertisement based on the content of the webpage. We used various NLP, ML techniques and got satisfactory results from them.

PS-I experience: It was pretty good for working from home. The work given was exciting as well as challenging for me

Learning Outcome : Learned how the companies makes decisions and also some basics of NLP, machine learning , python etc

Name: GEETI OBEROI .(2018B3A70763P)

Student Write-up

Short Summary of work done : The project was based on video analytics. The objective of this project was to develop a computer vision based virtual proctoring software that analyses video from the webcam of the test taker to detect malpractices. We had to design a software which would act as a virtual invigilator for prevention of

malpractices during online examinations by performing various checks on the captured video. This is very useful currently when all the learning has shifted online.

Using OpenCV with python and various machine learning techniques, we created a software that detects cheating by performing face recognition, head pose estimation(head movements) , gaze angle estimation(eye movements) together with a defined set of rules.

We also learned how to create our own face recognition dataset and use it for training the machine.

PS-I experience: It was a fun learning experience. It helped me explore computer vision, enhance my python skills and at the same time enabled me to observe the inner workings of a startup. We also interacted with the founders which was an enriching experience. The mindfulness sessions and regular meets with the mentor helped us learn a lot about the work life and work culture of the company.

Learning Outcome : We have implemented this using OpenCV with Python along with dlib, TensorFlow, Deepgaze and GazeML libraries. It helped me enhance my python skills and explore the field of computer vision.

Name: SAURAV AGARWAL .(2018B3A71011H)

Student Write-up

Short Summary of work done : The domain of my project was artificial intelligence and deep learning. We had to build a virtual proctoring software for online exams.

For doing this we used face detection, head pose estimation and gaze estimation models. These models use video data from the webcams and analyses it to tell whether the person giving the exam is involved in some malpractice or not.

Python programming language was used to write the codes. We used OpenCV with Python along with several other libraries to do this project.

PS-I experience: My PS-1 experience was really good. I gained a lot of knowledge in the field of artificial intelligence. My PS -1 station is a really good organization and has a very healthy atmosphere. My mentor was always ready to help us and helped us in doing the project.

Apart from technical knowledge, I acquired better communication skills and I felt more confident as I completed the project.

Learning Outcome : I learned Python programming language. I gained knowledge about OpenCV along with various other libraries that work on frames to do various types of analysis. I learned to work in a team environment where everyone has a responsibility towards the project.

PS-I station: Happiest Minds - DBS, Bangalore

Student

Name: YASH RAJ SINGH(2018A7PS0214P)

Student Write-up

Short Summary of work done : Our problem statement was to solve the problem of tracking high value shipment through transit. To tackle this we built a website to bring all the parties concerned with Shipping industry on a common platform. The website received data from IoT edge devices, such as Temperature or GPS sensor, and displayed it on the screen for user. The user has to specify the optimum value and margin of error of the IoT devices. In this way user can check whether the consignment is handled carefully or not. Further we also planned to use Blockchain to execute Smart Contracts whenever the consignment is handed over from one party to another.

PS-I experience: My PS-1 experience was very engaging and helpful. I got to learn about a lot of new technologies and also how to approach to problems and solve them in the industry domain. Also it helped in my presentation skills as we have to participate in seminar and group discussions.

Learning Outcome : Learnt about frontend development with particular reference to React JS and also came to know a bit about Node JS from the backend part. Also learnt about Amazon Web Services.

Name: RUPSA DHAR .(2018A7PS0376H)

Student Write-up

Short Summary of work done : I was part of the DBS (Digital Business Services) group and our project was to develop reliable tracking and tracing of high value consignments during shipping to prevent losses incurred as a result of tampering. Since the consignment moves through a number of hands, it is generally impossible to figure out the entity responsible for the damage and hence insurance isn't assured. Using blockchain ensured the immutability of data hence preventing any tampering of the same. It made sure various parties involved in the shipment process have a consensus by the signing of a Smart Contract that uses blockchain. Moreover, since high-value consignments may have a number of physical requirements like proper temperature and humidity, we used IoT technology to allow sensors to measure a threshold of values. To implement this, we developed a web application for creating and tracking shipments along with passing on handover requests using MERN stack for the web development and AWS for its Blockchain and IoT services. Since front-end and back-end were being developed separately we used Postman for testing and documenting the APIs.

PS-I experience: It was a great experience working at Happiest Minds. We got to solve a real world problem under the guidance of experienced professionals and this gave us the industry exposure we need. Work was divided among the members of the group and deadlines were flexible.

Learning Outcome : I learnt JavaScript extensively for the project and how to use MERN stack for web development along with AWS for various services like Blockchain and IoT device simulation. This involved learning React, Redux, Express, Nodejs and MongoDB for storage. I also got to know about how an organisation functions and how important it is to have a mindful approach. I understood the importance of team-work and coordination.

Name: AVISHA GUPTA .(2018B3A70105P)

Student Write-up

Short Summary of work done : Our project aimed to track and trace high value consignments during transport through IoT and Blockchain technology. The project was quite interesting as we realized that a large number of shipping companies incur huge losses every year due to tampering and damage to high-value consignments, and it is generally impossible to figure out the entity responsible for the damage. We devised the use cases for the problem and determined the parties that will be participating in the shipment process like the consignment receiver and shipper, logistics and insurance provider, vehicle operator and so on. Then, we developed a user interface that facilitates a smooth user experience. After a successful integration of the front-end and back-end modules, we progressed towards the final stage of the project, i.e., simulating the IoT devices and integrating the Amazon Web Services (AWS) with the system. We used the AWS IoT and AWS Lambda for the simulation process. AWS Lambda helped us to elastically generate device sensors that report their state to the AWS cloud. To store the IoT readings from the sensor, we used Amazon S3 and Amazon DynamoDB. Further, Amazon Managed Blockchain was an important component of our project as it made our work easier to create and manage a scalable blockchain network using the popular open source frameworks Hyperledger Fabric and Ethereum. Finally, we were able to come up with a solution to the frequently-faced problem in the shipping industry.

PS-I experience: Due to the online mode of training, many of us were skeptical about the efficiency of the system. But for me, it worked very well. PS-1 was well organized by the institute and provided us with a great industrial experience. I believe that working on a project at Happiest Minds was a great opportunity for me to make a good start in the industrial project experience. The projects at Happiest Minds were very interesting to work on as they leverage a spectrum of technologies like CoE Analytics, IoT, AI & Cognitive Computing, Blockchain, etc.

Along with the interesting projects provided by Happiest Minds, I believe that having a great learning experience at Happiest Minds could not have been possible without the combined effort by the team and most importantly, the mentors who supported and encouraged us at every point through this industrial project. Despite being busy with their own responsibilities and other projects at Happiest Minds, they managed to take out time to help and guide us by providing their valuable inputs. As far as team members are concerned, all have been very cooperative with each other. All my team members were reliable, trustworthy, and consistent in their approach, which led to the team to progress in the right direction.

I truly appreciate the efforts taken by everybody, including my PS instructor who was there to help at every point where I was stuck. She coordinated really well with the company professionals and mentors to make the hands-on experience of working on the industrial project a fruitful one.

Learning Outcome : Being a second-year dual-degree student, I had a little experience in programming at the time of the PS project. The most important learning outcome from

the PS-1 experience for me is that you can implement anything you wish by putting in constant efforts. The technologies that we used in the project were completely new to me, but the approach that I had to deal with the problems to complete the assigned tasks helped me to become a better learner.

The second learning outcome which I believe is very valuable to me is the inspiration I took from the mentors at Happiest Minds. Their way to approach problems and managing the team was something that I want to inculcate in my attitude. They have made me learn to incorporate different aspects of a problem and to constantly work on the optimization part of the developed project.

PS-I station: Happiest Minds - IMSS, Bangalore

Student

Name: MUDIT WADHWA(2018A7PS0330P)

Student Write-up

Short Summary of work done : My project for PS-1 involved the use of Machine Learning and data analytics techniques. There was also some full stack development involved. In our project we were required to build a model that can predict exactly 'which employee' and 'how many employees' may be at high risk of churning from the organization. During the initial days we converted the raw data into structured data using data preprocessing techniques and then applied various ML algorithms to our dataset. Later we automated our whole ML work flow using Pipelines and ended up integrating our ML models by creating a web application.

PS-I experience: I had a very educational and enriching experience working with Happiest Minds, through which I learnt various aspects of the corporate world and a lot of things about my project domain. I also learnt how to be mindful and happy through the mindfulness sessions conducted by Happiest Minds. We got exposed to the work culture in an IT company and learned to do team work. 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 the IT companies to develop industry standard products. Overall, it was a good learning experience.

Learning Outcome : I got to learn practical applications of Machine Learning concepts and how to implement Machine Learning algorithms in python. I learnt all necessary tools for data analytics including python libraries like numpy, seaborn, pandas, etc. and required R libraries. During the model building process I also learnt Machine Learning algorithms like Gradient Boosting and Survival Analysis. For web development I learnt html, javascript and nodejs. Apart from technical skills this PS experience helped me to enhance my teamwork and presentation skills.

Name: MIR AMEEN MOHIDEEN .(2018A7PS0487H)

Student Write-up

Short Summary of work done : Our project mainly revolved around automating the tasks done by the HR department in the recruitment process. One of the main applications we were expected to build was a resume screening app, which will filter resumes or CVs according to the skills required by various departments of Happiest Minds. Most of its processes are manually done, and hence need to be automated. This resume screening app is also to be integrated with their main hiring website using APIs. This application will basically shortlist the resumes of candidates by comparing the skill set of the candidate's with that of the minimum skills required for the job. Our main work revolves around API integration and backend development of a website. We also had the task to integrate the spacy NLP models into our website for the screening of resumes along with a rasa chatbot.

PS-I experience: It was a very resourceful one, we were able to learn various industry grade technologies and gained useful experience in making a full stack website. The PS station was supportive and had a very good environment and team to work with. I had very pleasant experience working with Happiest Minds, the mentors were friendly and guided us whenever needed.

Learning Outcome : I gained a lot of experience in web dev especially the baclend part by building a full stack website which screens resumes using NLP models. We also learned to build and integrate a very basic chatbot along with other ML algorithms built by other teams into our website.

Name: HARSH DARYANI.(2018B1A70645H)

Student Write-up

Short Summary of work done : The project title was 'Employee Churn Analysis', we had to predict employee churn using data analytics and Machine learning. Employee churn prediction is basically the prediction of the probability of an employee, of churning from an organization within a given time period based on datasets containing information of current and past employees. Exploratory data analysis was the initial analysis that we performed. After that, we build 3 ML models, Logistic Regression, Gradient Boosting, and Survival Analysis. We then build a ML pipeline and deployed the three models by integrating our project with another project where we built a web app that can be used to maintain the database and predict churn probability for future employees.

PS-I experience: It was a very educational experience for me, even in this difficult time we were able to finish this project with the help and support of our mentors from happiest minds and our instructor.

Learning Outcome : My learning outcomes include Working with Python libraries like numpy, pandas, & seaborn, basic R, Machine learning algorithms like logistic regression, gradient boosting and survival analysis, communication skills, teamwork skills, etc.

PS-I station: HCL Technologies, Noida

Student

Name: JASKARAN SINGH BHATIA .(2018A7PS0230G)

Student Write-up

Short Summary of work done : The project involved making a smart recruit system for shortlisting candidates during the process of hiring via machine learning. The project involved data generation, labelling, model training, testing, and then deployment on MS

Azure cloud. The project did not have to be fully implemented- it was more of a case study requiring exploration of technologies and coming up with a high level solution

PS-I experience: The experience was good. Working at an MnC like HCL Tech. really gave us an insight into the corporate world. Our mentors were quite professional and readily scheduled a meeting whenever we asked them to. They didn't push us on their end and trusted that we will take the initiative to complete assigned tasks on time, and get in touch with them for updates. Our faculty in charge was also very helpful, and gave us access to resources to study from.

Learning Outcome : I learnt about machine learning and MS Azure cloud, apart from the soft skills developed during exchange and communication.

PS-I station: Heraizen Technologies Pvt. Ltd. - UI Development for college management software, Bangalore

Student

Name: APOORV SINGH .(2018A7PS0136G)

Student Write-up

Short Summary of work done : UI development of NBA accreditation management software for educational institutes using frameworks like angular and bootstrap4

PS-I experience: Treated like a full-time employee.Chance to work on an to-be-released product.

Learning Outcome : Learned the need to be updated with the latest technology stacks . Learned about frontend web development. Experienced how hectic an IT employee's work life is.

Name: SHETTY KARTHIK RAVINDRA(2018A7PS0141H)

Student Write-up

Short Summary of work done : We were given two problem statements which was part of an erp product of the company which is a college management software. We were split into teams of 4 members and were asked to develop UI screens for the analytics part of the software which automates the accreditation process of institutes by keeping track of the performance of the students and the faculty and their contributions in meeting the Course Objectives (COs) and measuring the Program Outcomes (POs) using graphical representation of the data. The scale of measurement are the several criterias of the Blooms taxonomy namely Analyse, Create, Understand, Evaluate and Remember mapped to various COs and their corresponding POs. We integrated google graphs with Angular framework for creating Column Charts and Pie Charts and displaying them as per user inputs. The task also included displaying relevant data in the form of tables when different sections of the graphs are clicked. We were asked to design the screens for both web and mobile users, so responsive web design for the screens was also taken care

PS-I experience: Due to Work from Home, our PS duration was reduced to six weeks in which the first two weeks were entirely dedicated to training and the next four weeks was spent on the project. The director of the company instructed us to attend daily training sessions from 9:30 am to 1 pm which was taken by a person from the company. In the first week we were taught the building blocks of UI development namely HTML, CSS, Bootstrap4 and Javascript along with topics like fetching data from remote APIs, how to build Progressive Web Apps and responsive web designing. Day-to-day assignments were given based on the topics taught and we were supposed to present it to everyone on the very next day. I had some prior knowledge in this area so found the tasks pretty simple but it will take really good efforts if you are new to this as they expect us to grasp the key concepts very quickly and bring it to application as well. From the second week onwards, we were introduced to git and the basic commands for pushing and pulling code from remote repositories as we were expected to collaborate and work on the project as a team. As the product's requirement for the frontend User Interface was Angular framework, we were introduced to Typescript and then went on to build small applications in Angular. The training phase was pretty good where we were taught the basics as well as some intermediate concepts in Angular and that helped us in the project phase. In the third week we were split into teams of 4 and each team was assigned a problem statement along with a mentor to guide them if they face any difficulty related to the tasks. We had to give updates about our everyday contributions to the project to our mentor in the evening and a final demo of the problem statement was given to the director of the company where he suggested the changes that should

be made in the UI screens. After the demo we were given some time to rectify the issues and were asked to submit a documentation of the problem statement. With a second problem statement being more challenging compared to the first one, I really got to learn a lot from other members of my team. At the start things seemed to be confusing but slowly we got acquainted with the process and made significant contributions to the project. Overall it was a very enriching experience for me as it gave confidence to work on further projects in this domain. It took a lot of effort to complete the project and meet the deadlines but ultimately it gave me a glimpse of how production level code is written ,maintained and further developed.

Learning Outcome : Learnt frontend web development using Angular framework and integrating with google graphs. Working with git and bitbucket as version control systems for the source code of the project

Name: BHATT APOORVKUMAR ATULKUMAR(2018A7PS0183G)

Student Write-up

Short Summary of work done : Worked on webapp development and UI improvement using angular

PS-I experience: It was great and we also got 2 weeks of training on web development and angular which was quite helpful

Learning Outcome : It has been a great learning opportunity

Name: SUGAM AGRAWAL .(2018A7PS0237G)

Student Write-up

Short Summary of work done : Our project was in the domain of web development. Training sessions were held to help us learn the basics of Web Development.

PS-I experience: It was a nice experience. We learned Web Development from the Industry experts. Mentors were always willing to help.

Learning Outcome : We understood the basics of Web Development and completed two Projects on it.

Name: DUGGINA CHARAN CHOWDARY .(2018A7PS0486H)

Student Write-up

Short Summary of work done : As the ps-1 was 6 weeks, we had front end web development training for the first two weeks covering topics from html,css, bootstrap, javascript, json, ajax, pwa and angular. The next four weeks we have worked On two projects which were one of Their working LMS site which they provide for schools and colleges.

PS-I experience: It was a very good experience. It's good to know how the software industry is working
What are the languages they are using.
How the management is structured and how they design and distribute work.
It gave me a good understanding on what
Skills must I develop before entering the
Industry for jobs or either for a start-up.

Learning Outcome : I have learnt skills of a front end Web developer also learned to work under
Pressure. I have developed many soft skills too.

Name: NALLAMALA SAI CHAITANYA .(2018A7PS0503H)

Student Write-up

Short Summary of work done : learnt html,css,bootstrap,angular,js,ts .
created webpages as daily assignments.
worked on a problem statement in developing a webpage for learning management system software.

PS-I experience: it's completely different from campus environment,
the timings are strict and must be followed.
it took lot of time to adjust to the work environment of the company.

Learning Outcome : learnt many technical skills for developing webpages.
learnt to manage my timings according to work.
Learn and implement new things in a short while.
sticking to the working hours no matter what.

Name: KATLAGUNTA LIKHITH PRAVEEN .(2018A7PS0545H)

Student Write-up

Short Summary of work done : UI development of the ERP

PS-I experience: It's new. Working as a group but far away from each other is a new experience. Learnt a lot about web development.

Learning Outcome : Angular framework, HTML, CSS etc

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

Student

Name: ABHINAND J PAI .(2018A3PS0786H)

Student Write-up

Short Summary of work done : The project was to make a working model of a graph plotting robot. One of us bought the components, while another was helping with code. As of now it's going well. We expect it to complete by next week.

PS-I experience: Good, it could have been better if this lockdown wasn't there.

Learning Outcome : How to build a simple robot.

Name: ABHINAND J PAI .(2018A3PS0786H)

Student Write-up

Short Summary of work done : we had to build a robot that draws plots for mathematical equations. so we had build a working model that was able to draw lines when we give the slope and intercept as input and a circle when radius is given as input. The robot can be controlled using both Bluetooth and WiFi.

PS-I experience: Very good experience. The mentors were there with us all the time to help us. It helped increase by knowledge in robotics.

Learning Outcome : Learnt to built simple robots.

Name: PRINCE AJMERA .(2018A3PS0906H)

Student Write-up

Short Summary of work done : Our project was to automate the annual report generation for HBCSE.

We worked with a free and open-source platform called KoboToolbox to collect data and wrote python scripts to:

1. Automatically download the data filled by the employees from KoBoToolbox.
2. Make a default template text file which contains the column headers for each separate form. The order of these headers can either be edited during the execution of the script or can be manually written in the text file generated.
3. Generate reports in Markdown format based on the template specified in the text file generated in the previous step. The report for each form can either be created in tabular or list format, which will be specified in the template text file.

Through this project, reports can be generated in the desired format with minimal editing required from the user end, thus saving a lot of time.

PS-I experience: It was an excellent learning experience. The biggest apprehension was regarding the conduct and coordination of projects due to work from home conditions. Still, the mentors were very encouraging and helpful, thus turning PS into an exciting learning experience.

Learning Outcome : -Better techniques to make scripts with Python
-Use XLSForms to make forms on KoboToolbox

Name: DHAMMAPADA MOHAPATRA .(2018A4PS0634H)

Student Write-up

Short Summary of work done : Our group (4 members) selected a project on turtlebot. Its a robot which can print graphs and draw designs by moving on the paper. In order to design it 3D Modeling was done on FreeCAD and schematics of electrical assembly was done on KiCAD.

A lot of work was done on establishing communication link and coding for ESP 32 micro-controller. Since the project was online we tried our best to design it with available components and it is a huge success.

PS-I experience: The mentors of HBCSE were very helpful and friendly. One can approach them on personal basis too at any time. I also had one to one meeting with one of the mentor for help. Alternate meetings were conducted to guide students and their feedback proved to be quite helpful.

Learning Outcome : Learning a new open source 3D Modeling software FreeCAD v0.18

Name: ARYESH HARSHAL KOYA .(2018A4PS0637H)

Student Write-up

Short Summary of work done : My work at HBCSE involved working on photogrammetry, specifically 3D reconstruction of microorganisms from images taken of them.

We used a couple open-source libraries and were working on applying them to small objects. Some of our tasks involved designing a rotating stage, and a tilting stage.

We also worked on converting the open-source pipelines into a web app for ease of use for the user.

PS-I experience: I had a pretty good experience in PS. My task was related to my interests, was highly engrossing and exposed me to the FOSS environment.

My mentors were helpful and guided us throughout our project.

We didn't achieve the full potential of our work, as we were limited in our access to necessary equipment, but we tried to maximise the work we could do.

Learning Outcome : I learnt how photogrammetry works, the theory and implementation behind it.

Our work with photogrammetry libraries introduced me to the open-source environment, and the need for FOSS development.

I was also introduced to web development, and working with HTML/CSS/JS and PHP for creating a basic frontend and backend.

I learnt about the need for proper documentation of our work, and the benefits it provides to people who want to collaborate.

Name: ABHISHEK KUMAR(2018A4PS0653H)

Student Write-up

Short Summary of work done : There was a list of projects to choose from (branch independent). The projects ranged from web dev to robotics to Image processing. My project was converting a sequence of 2D images into a 3D object file using OpenCV.

The project was very interesting and indulging as it required me to learn new stuff throughout the duration of PS. My work consisted of implementing python libraries, writing code in OpenCV, designing CAD models and finally designing a web app to provide our work as a service to others.

Overall, the work was challenging and engaging enough to keep my interest throughout the project.

PS-I experience: Mentors were extremely helpful and constantly motivated us to think of innovative ways to go forward with our project. I learned more things because of PS than I'd have sitting idle at home.

Learning Outcome : Learned the following software/libraries :

OpenCV

FreeCAD

Meshroom

Meshlab

HTML, CSS, JavaScript, AJAX

Familiarity with GitHub repositories and Git Pages

Name: UNMESH ROY .(2018A7PS0175P)

Student Write-up

Short Summary of work done : A framework called ThinQ was developed using NodeJs and IPFS. The framework provides functionalities like sending messages and sharing files in a decentralized manner. It also provides an additional functionality of creating a service request which can be used to create a transaction between two users.

PS-I experience: It was enriching learning experience. Even after having a Work-from-Home, I got a in-depth view of the working of my station and got ample opportunities to interact with my industry mentors as well as PS faculty.

Learning Outcome : 1. Learnt about using a decentralized file systems .
2. Improved my soft skill especially my presentation skills and ability to work in a group

Name: HIMANSHU PANDEY .(2018A7PS0196P)

Student Write-up

Short Summary of work done : We developed two web applications ,a simple chat application, to demonstrate the effectiveness of the distributed file system like IPFS and queue management app, that links various service providers with nearby consumers, and helps to avoid intermediaries.The aim of the chat application was to demonstrate the basic use of IPFS in distributed, decentralized systems.The chat application supported message and file transfers using IPFS. Through the queue management application(ThinQ), a consumer would be able to make service requests to service providers through a distributed and decentralized file system to preserve privacy. Since a service provider can only serve a limited number of customers at a time, the priority of requests would be based on system of Social Trust Points(STP) developed by us.A 3-way service request resolution system(similar to 3-step TCP handshake process) was also developed for the ThinQ App.A security module was also used to encrypt all messages sent over IPFS to ensure confidentiality and authentication.We mainly used Node.js,HTML,CSS,JS for developing the web applications.

PS-I experience: It was a wonderful learning experience. The mentors from PS station were very helpful and held meets regularly to keep a track of progress made ,to guide us about the future work and to resolve any doubts/difficulties we faced.The project

assigned to me was also very interesting and based on upcoming and exciting technologies like IPFS , Blockchain etc.

Learning Outcome : Learned and used a lot of new technologies and frameworks like IPFS,Blockchain,Pub/Sub messaging etc.Also learned web app development using Node.js as part of the PS-1 project.

Name: GARG PRARABDH NILESH .(2018A7PS0198P)

Student Write-up

Short Summary of work done : During the course of PS1, we developed a distributed and decentralized framework on top an existing framework known as IPFS. The goal of the project was to decentralize the web, so that data privacy can be improved, and the monopoly of middle men could be controlled.

PS-I experience: It was a new and great experience for me. The industry mentors were very knowledgeable, and I got to learn a lot from them. Even the technologies we used were pretty new, so it was a lot of fun to explore them and read a bit more about how they were developed.

Learning Outcome : The most important learning outcome for me was that I learnt how to give formal presentations, and participate in group discussions. Through the project, I also got a chance to explore new technologies such as distributed file systems and block chain, which was a great learning curve for me

Name: BIR ANMOL SINGH .(2018A7PS0261P)

Student Write-up

Short Summary of work done : The project was to build a light weight app to work with DISCOURSE.ORG application programming interface (API) and as an alternative to METASTUDIO.ORG. The COOOL STEM Games or the MetaStudio platform is a Collaborative Open Online and Ongoing Learning discussion forum which enables project-based learning to encourage Science, Technology, Engineering and Mathematics (STEM) education and to inculcate STEM habits in people.

The idea was to build a responsive and progressive web app that is functionally the same to the MetaStudio platform while at the same time being parsimonious in resource (network and storage) usage. The project aims to expand the horizons of STEM learning by making it accessible to people with very slow internet connectivity in a vast country like India.

The project domain was web development with a 'mobile first' approach. I had to work in areas like frontend (HTML, CSS, JavaScript), backend (Node.js and Express.js), templating with EJS, required an understanding of privacy, cookies, sessions, hashing, networks and various protocols used to communicate and the way data is sent across networks as XML or JSON, understanding API documentation and sometimes reverse engineering it through network logs of MetaStudio website and using service worker to deliver pages offline by caching them.

Our team succeeded in making the desired app with 98% less resource usage and 50% faster loading speed. At the end of six weeks, we were able to launch the app for public beta testing.

PS-I experience: PS1 has provided me with the opportunity to work at a premier research institute HBCSE, Mumbai. This allowed me to interact with experienced and knowledgeable mentors while collaborating with talented peers. The mentors were very friendly and cordial, they rather wanted us to call them by their name and drop 'sir'. The work environment was amazing with flexible timings and no hard and strict deadlines. Our team was allowed to make the web app the way we wanted with minimal intervention from the mentors. They guided us when we got stuck while using the extensive API.

The PS not only allowed me to gain exciting technical skills but we were able to gain a lot of soft skills as well. I got introduced to the systematic process of Software development through an exciting and vast world of Web Development. We understood how client needs are taken into account while building a software and how to adapt to new changes in the client needs based on its feasibility. Collaboration is the key to Software development process. This was learnt and used extensively by doing version control by using Git on GitHub. Reading technical pages like documentation is important to build a great software using pre built APIs. Understanding the formalities needed to build a README and making an effective documentation of my own work is essential and was learnt through PS1. Testing and debugging using tools and test cases is a salient and underlying feature of all software and was included in this project too. PS1 taught us the art of addressing client needs, managing time and setting achievable targets. Presenting updates and reporting for meetings helped us gain important soft skills which are needed to work in any domain in life.

The evaluations were well planned and strikingly different from routine course evaluations as they not only focused on the technical aspect, but also at holistic development.

At the end of six weeks, the surprise public beta testing release of our app at the valedictory function made us very happy and the efforts we put in the last six weeks seemed to be redeemed in the best possible way.

Learning Outcome : I have gained new technical knowledge and skills. I got to learn and work in the domain of Web Development and dived deep into areas like frontend (HTML, CSS, JavaScript), backend (Node.js and Express.js), templating with EJS, privacy, cookies, sessions, hashing, networks, understanding API documentation, sending JSON data, working with JSON Web Tokens and OAuth2 authentication. I got insight into professional practices like working and collaborating in teams on GitHub.

PS1 also taught us the art of addressing client needs, managing time and setting achievable targets. Updating with weekly plans, presentations and reporting for meetings helped me gain important soft skills essential for working in any domain in life.

The real-life problem statement of making a STEM discussion forum lighter so that it can give great user experience to people with low network speeds like Jammu and Kashmir made me realize that most important learning was understanding the problems society faces and finding solutions to make their life better.

Name: ANUBHAV SRIVASTAVA .(2018A8PS0030P)

Student Write-up

Short Summary of work done : I and 3 others had selected turtlebot project. It is a small robot with wheels and has a pen at its bottom. It uses ESP32 MCU. We can give commands using arduino IDE, and it moves forward, backward, right, left, draws a circle of a radius and can draw a straight line given the equation of line.

This project involved selection of motors and MCU, learning KiCAD and coding through arduino IDE.

PS-I experience: HBCSE does not conducts first hand research. It gave us a list of projects to choose from. We could also suggest our own project. Other electronics project was IR contactless thermometer. There were not many electronics projects and very very few of them were something new. Mentors at HBCSE were very supportive. Our PS instructor conducted 2 quizzes which included most questions related to other projects not mine.

A forum HBCSE created to know about the projects: metastudio.org
Also can see this: gnowledge.org

Learning Outcome : I learnt about selection of various electromechanical components, selection of MCU coding using arduino IDE and learning KiCAD.

Name: ANANYA KHANDELWAL .(2018A8PS0417P)

Student Write-up

Short Summary of work done : My project was to design a lightweight progressive web app for the HBCSE conceived platform STEMGames or metastudio.org using discourse.org API. STEMGames was conceived with the idea of an experiential pedagogy towards science education, backed by the ideals and experience of Dr. Nagarjuna in the same field. STEMGames seeks to inculcate "STEMhabits" and a lasting avidity for scientific knowledge while achieving meaningful creations made by the participants themselves. The idea was to build a responsive and progressive web app that is functionally the same to the [metastudio](http://metastudio.org) platform while at the same time being parsimonious in resource (network and storage) usage. It wishes to expand the horizons of STEM learning by making it accessible to people with very slow internet connectivity in a vast country like India. The preference is for User experience (UX), speed and ease of use, or the ergonomic design instead of a cluttered, overburdened, and slow website. The aim was to generate a client to work with the present API while supporting a cross-platform and mobile-friendly User Interface (UI). The website had to be built with a mobile-first approach.

PS-I experience: This was a new and enriching experience for me. I have never worked in the field of web development before and there were a lot of new things I had to learn before I could get started on making the web app along with my team. For instance, I have never worked with CSS or JavaScript before. I might also add that it was challenging at times, frustrating even. But therein lies the beauty that I have come to associate with the process of software development. It has its ups and downs, but one has to learn to battle through it and push forward. Although it was a wfh PS, I was not able to get any actual industry tour still the experience has been quite holistic. I have also learnt a great deal about what this prestigious institution stands for. Science Education. I am glad to have had a hand in bettering the process and in doing so, service to society.

Learning Outcome : Learning about Web Development and chronicling and collaborating on a project on Github.

Name: ARSHDEEP SINGH .(2018AAPS0436H)

Student Write-up

Short Summary of work done : Our project title was 'Office Automation for HBCSE'. For this project, we had to decide upon a platform to make forms and collect data from the employees at HBCSE for the annual report and then write a script to generate report according to the template given by the user of the script. We made 27 forms in total using XLSform format. Then we wrote a script in python using pandas to take the data exported to excel sheets and then convert the data to Markdown so that it could be further converted to html

PS-I experience: My PS-I experience was pretty good. Mentors were very helpful.

Learning Outcome : I worked on a real life problem faced by industries so after this project I learned how project management is done in industries. Also after this project I had a pretty good hold on python and learned a lot about pandas library.

Name: VODELA AMITH KUMAR .(2018AAPS0530H)

Student Write-up

Short Summary of work done : We worked on the project Turtlebot.It is a robot designed to draw graphs if the mathematical equation is given as input.We started with selection of microcontroller by comparing various commonly used ones selected the best out of them.Then we had to select various electromechanical components required for the bot like stepper motors,servo motors alongwith required motordrivers,next we

learnt KiCAD to draw Robot's schematic and a basic version was implemented. Then using Arduino IDE we programmed the robot to draw lines, circles and regular polygons. 3D modelling of robot was done using FreeCAD.

PS-I experience: It was a good experience. I am always passionate about electronics and I explored robotics-a related domain. Mentors constantly supervised us. I was also able to gain many technical and soft skills

Learning Outcome : I was able to learn how to go through datasheets of microcontrollers and learnt about architectures of various microcontrollers. I explored various block programming softwares, I gained several skills like programming in Arduino IDE, HTML. I was able to implement basic version of interfacing robot through basic HTML page.

PS-I station: i-exceed Technology Solutions Private Limited, Bangalore

Student

Name: MHALGI NINAD SUNIL .(2018A7PS0162G)

Student Write-up

Short Summary of work done : I-exceed is a fin-tech company. Its app Appzillon works to help reduce manual labour of the banks. We were asked to assist them in image processing. Our task was to identify the edges of the document images uploaded by the customers for verification. After identifying the edges, the image was supposed to be cropped and put in correct perspective so that it becomes easier for tesseract to perform text extraction

PS-I experience: There were problems in communication due to the covid19 situation but the mentors were very willing to help. Faculty instructor also provided timely inputs.

Learning Outcome : Got to learn about neural networks, libraries in python and mainly usage of openCV.

Name: AYUSH RAJ .(2018B2A70954G)

Student Write-up

Short Summary of work done : I was a part in a team of two . We developed edge detection method for scanned documents using openCV in python . I learnt a lot about computer vision and opencv. We were given 2 weeks to familiarise with ML and python.

PS-I experience: Learnt a lot about computer vision and opencv using python.

Learning Outcome : OpenCV , ML , team work

PS-I station: IIFL, Mumbai

Student

Name: AMAN GUPTA .(2018A7PS0089G)

Student Write-up

Short Summary of work done : We made a website similar in function to the website of 5paisa where a customer can login and do trading. Some people worked on the frontend part while others worked on the backend development of the site. Stock trading and other finance activities could be done using the website. For frontend React.js framework was used while for backend Node.js. API's were provided by the company.

PS-I experience: The workload was moderate and i was easily able to keep up with the targets set. Overall it was a good experience and i learnt a lot about web development. I

did not have prior knowledge or experience related to web development. But now i can design web pages.

Learning Outcome : Major focus of my team was the frontend development of the website. Therefore, i learnt HTML, CSS and JavaScript. Moreover, i worked on React.js framework. All these languages and frameworks were new to me.

Name: PARIKH KAIVAL NISHITH .(2018A7PS0176P)

Student Write-up

Short Summary of work done : Our work involved development of a trading website based on IIFL's 5Paisa stock trading platform, making use of 5Paisa's Trading APIs for fetching information and placing orders. The features developed were authentication, portfolio, market feeds, ordering, transaction history, etc
It involved the use of NodeJS framework for the backend, writing various modules handling authentication, login, ordering, etc., ReactJS for the Frontend, and Postman for handling API requests to the server.

PS-I experience: My PS-1 experience was a unique one, especially in this lockdown period. Though being held completely in the online mode, we had regular video calls for assistance, mentoring, updates about our project from both the company mentor and PS faculty. There were a few challenges related to connectivity, collaborating work with peers due to the online mode, but it was smoothened out with assistance from the mentors.

We also had regular live sessions from Industry experts related to fields of Business and Finance, and regular monitoring of progress from our mentors. They were readily available and helped us from their end in any technical difficulties we faced.

All in all, it was an enriching 6 weeks experience which helped me grow my skillset greatly, and extend it to the Finance domain, while improving on my soft skills as well

Learning Outcome : I learnt a lot about the project domain, Web development, including NodeJS for Backend, ReactJS for Frontend, API calls and processing data, HTML/ CSS and more.

Other than that, I learnt a lot about the company's financial domain, the stock market and it's basic functioning from interaction with the company mentors along with live

sessions from Industry experts, and not to mention the soft skills development from interacting with them.

Name: ATISHAY JAIN .(2018A7PS0220G)

Student Write-up

Short Summary of work done : A web application for trading broker company 5paisa

PS-I experience: My PS-1 experience was quite nice. I learnt many new things and developed a good and sound understanding of Reactjs which would be really helpful to me in my life ahead.

Learning Outcome : Reactjs for frontend of the web application.Also getting familiar with indicators and strategies of trading.

Name: ATHARVA TRIVEDI .(2018A7PS0228G)

Student Write-up

Short Summary of work done : We had to create a web/mobile app for the company and we decided to create a web app because the company's mobile was already fabulously developed.

We decided to use Javascript and React.Js to create the web app.We divided the work among ourselves and were provided with the company's APIs.I along with another student had to create a login page with all the required data fields.We developed a page using HTML and CSS first and then transferred to React.Js
And finally combined each other's contribution to assemble the final web app.

PS-I experience: It was a great experience, we got to talk to the people working in the company, their whole app development team and their app dev team head. They helped us all along the way and guided us in the proper direction.

Learning Outcome : I learnt how to develop web pages using html,css and javascript.

Name: ADITYA BHANDARI .(2018A7PS0805G)

Student Write-up

Short Summary of work done : Our station asked us to make an app with basic functionalities like login, order history, market feed etc. We successfully managed to build a sample with the basic functionalities in it.

PS-I experience: Overall, it was a nice experience although online mode was not comfortable at times. But, it helped me develop necessary soft skills like teamwork, communicating with IT professionals, fellow peers etc.

Learning Outcome : I learned a lot about front end development and basic front-end app development. During the ps-1 , I learned JavaScript, Bootstrap and basic React in order to make the dashboard of the app.

Name: RICHA CHETAN NAIK .(2018AAPS0267G)

Student Write-up

Short Summary of work done : The project domain was web-development and involved creation of a trading and investment web-application using the publicly exposed APIs (Application Programming Interface) of the 5paisa app and modern programming languages. We could choose to work with any of the following languages:

1. Node-JS / Typescript / Electron
2. Rust / Webassembly
3. R
4. Go / GoLang
5. Kotlin
6. Swift
7. Scala
8. Flutter /Dart

The application was to have similar functionalities and features and the existing 5paisa app.

PS-I experience: Our group decided to build the app's front end on React.js and backend using Node.js . It was a good experience in a domain completely new to me. The virtual nature of the PS made coordination skills and reliability even more important. Access to learning resources was slightly difficult especially since it was a relatively new project domain to most of us, so there was a steep learning curve in order to learn web development, to begin with.

Learning Outcome : I learnt skills/languages for front end development such as HTML, CSS, JavaScript and how to create an app using React.

Name: DIVIJ NANDAN SHARMA .(2018B3A70751P)

Student Write-up

Short Summary of work done : We had to make a trading platform on OS of our choice with basic functionality like login, view margins, place orders. We made a web app and used react and node for our project.

PS-I experience: It was a completely new domain for me as I had never done web development before. Overall, it was a great experience, getting to interact with the industry mentors and the students from the different campuses.

Learning Outcome : I gained a lot of technical skills from the project like JavaScript, NodeJS, ReactJS, HTML, CSS, MongoDB etc.

PS-I station: Indian Institute of Remote Sensing, Dehradun

Student

Name: SAUMITRA RAI .(2018A2PS0124P)

Student Write-up

Short Summary of work done : I was assigned a research project, in which I undertook GIS Grid Dataset analysis. The changes occurring over the Himalaya have a major impact on the climatology, hydrology, and ecology of the Indian region. But since Himalaya varies widely in topography, it is prudent to study Himalayan Climate selectively. My study focused on Leh-Ladakh region and the Central Tibetan Plateau. The following were the main objectives of my project:

- 1) To find the correlation between variation in Temperature Anomaly of Ladakh and Local Climate Phenomenon. The Local Climate Phenomenon under consideration were the Ladakh Floods of 2010, 2014 and 2015.
- 2) To find the correlation between variation in Temperature Anomaly of Tibetan Plateau and Global Climate Phenomenon. The Global Climate Phenomenon to be studied was The Indian Monsoon and its erratic nature between 2000-2015.
- 3) A brief comparative study between Long-term Temperature trends of mainland Tibetan Plateau and Ladakh which is a part of South-West Tibet.

PS-I experience: The PS Work experience was good. PSD was very responsive to our queries before allotment of stations as well as after allotment. Given that the nature of PS was work from home, PSD managed to effectively brief us about the nature of the Program. My PS Mentor also kept continuous contact and helped the students regarding any query or problem. Once the project was allotted, which was after a week of the start of PS Program, the IIRS Mentor was also responsive.

Learning Outcome : My main learning outcome was exposure to research. Because my project domain was Study of Climate Change, I had to read various research papers to understand the past work done in the field, as well as the scope of any future study undertaken. While writing the final report, my mentor asked to me edit the report multiple times which helped me in understanding the structure of a scientific report. I also learned how to extract Climate Datasets from CRU and WorldClim, and how to further manipulate and process the dataset using R programming.

Name: PURU DUTT SHARMA(2018A2PS0714P)

Student Write-up

Short Summary of work done : We worked on making an already existing application Dharohar more efficient and error-free. Our Project title was - HERITAGE DOCUMENTATION USING ULTRA HIGH-RESOLUTION 3D DATA FROM TERRESTRIAL LASER SCANNERS AND HIGH-RESOLUTION GROUND IMAGE.

PS-I experience: There a lot to learn from these projects allotted to us at IIRS. In the case of my project, the ultimate aim of this project is to develop a prototype framework for damage detection using Point cloud data and multi-scale representation for assessment and reconstruction. The project aims to improve the traditional standard of heritage recording and documentation and utilize Geospatial technology for digital documentation of cultural sites.

Learning Outcome : Soft skills, as well as technical skills:-

1. Migration
2. Data Processing
3. 3D GLCM Texture Analysis
4. Open3D library (Python)
5. Point Cloud Processing
6. 3D Documentation
7. Communication Skills
8. Organizational Experience

Name: SPARSH AGGARWAL .(2018A3PS0303P)

Student Write-up

Short Summary of work done : The main objective of project was to improve and update an already existing application used by IIRS for 3D visualization using 3D point cloud data. We did the migration of the old code from Python 2 to Python 3 and PyQt4 to PyQt5. And , we also changed the data processing part in the application from PostgreSQL to SQLite and also we implemented open3D for 3D Visualization and Voxel Down sampling.

PS-I experience: My PS-I experience was good as I was able to work on variety of different fields and learnt quite a lot in two months with guidance of my project guides.

Learning Outcome : I learnt to interact in a professional environment in research institution with project guides and how to use their help to maximize my learning. My presentation and report writing skills also improved. Working with a team of three I was able to learn how to communicate and work efficiently in a group. At the end , I have the knowledge of How GUI can be made and also learnt about the back end and open3D.

Name: TANMAY ANAND .(2018A3PS0378P)

Student Write-up

Short Summary of work done : My Project was on Altimetry. I had to work on Sentinel-3 Satellite Data and Extract parameters from the Data file and calculate the Water Level in Water Reservoirs at each Latitude & Longitude lying within the Satellite Tracks. I also had to Automate the data download from the Satellite for a specified region (which has Ganga Basin in my case) and within a particular time period. All of these Calculation and download were to be done using Python Programming Language and Plotting was done using Google Earth Engine.

PS-I experience: Good, I was able to learn about how satellites based upon Altimetry work. Also my mentors were encouraging and they always helped me.

Learning Outcome : I learned about working with GIS Applications and Data Formats

Name: ACHYUTA KRISHNA V.(2018A7PS0165H)

Student Write-up

Short Summary of work done : I worked on developing an application for calculating the backscatter coefficient of microwaves from polarimetric SAR satellite data using a theoretical model called the Integral Equation Model.

PS-I experience: I got a good experience of working in a research institute. The project I worked on was highly related to the kind of research that takes place in IIRS. Though I had go through a lot of technical details about the field of microwave remote sensing, a field which was completely new to me, I was able to do a good project in the end. However, the remote mode of operation of PS this year led to a few difficulties, particularly in contacting the mentor from IIRS, it was overall a very good experience.

Learning Outcome : The project I worked on got me introduced to the field of microwave remote sensing. I gained valuable research experience while learning about the field. Developing the application gave me a chance to improve my computer science skills and gave me a feel for coding for a scientific expression.

Name: NAYAN JAIN.(2018A7PS0173P)

Student Write-up

Short Summary of work done : Worked on Google Earth Engine - Python API to make an easy to use user interface for visualization of satellite image datasets. Learned about various Image Classification Algorithms and implemented three of them in the interface, thus allowing a user to classify satellite images without any coding experience. The classified images and the visualized datasets could be used for further tasks such as Land Cover Change Detection. Python was used for all of the coding.

PS-I experience: The experience was a fairly new one. We got a chance to use our knowledge of Python to implement a user interface. We learned a lot about Remote Sensing and Satellite Imagery. Activities like Group Discussion helped us in honing our communication skills. Though the length of the internship was very short this year, the experience gained helped us in learning how to use our knowledge for real world work.

Learning Outcome : We learned how to use the Google Earth Engine platform. We also honed our Python skills while coding the user interface. We learned about various image classification techniques. We also familiarized ourselves with Transfer Learning and Deep Neural Networks for Land Cover Change Detection.

Name: AYUSH GUPTA .(2018A7PS0203P)

Student Write-up

Short Summary of work done : Our project was automatic landcover change detection using satellite imaging, using Google Earth Engine. From the publicly available dataset of satellite images stored with Google, we learnt to fetch images and display them using various visualization techniques, converting numbers into images.

We also did Image Classification, where we trained a few Machine Learning Models using algorithms such as SVM, K-Means and SAM. These models were used to classify pixels into different landcover types, like forests, water, soil etc.

We will further use these classified images for change detection, ie. automatically detecting change in landcover.

We have integrated all these functions in a GUI to make our program user-friendly.

PS-I experience: I went into PS-I expecting to do work only related to Machine Learning/Deep Learning. Though the project was related to these, it turns out that all these ML models are already implemented and we just have to use them. Our main work was getting to know about Google Earth Engine, and learning how to fetch and visualize data. Further, we learnt how to use the already implemented models, also implementing SAM classification from scratch.

In short, our work didn't use any of our knowledge of ML/DL. Instead, a majority of our time was spent in image visualization and making the GUI. It also seemed as if we were doing software development, not remote sensing, which was very different than what I had expected.

Learning Outcome : I learnt a lot about remote sensing as a field. I learnt how to use Google Earth Engine, and have started to appreciate the platform which makes remote sensing a lot easier. I have learnt that a lot of work related to ML/DL doesn't involve building models from scratch, but is more concerned about how to fine-tune these models according to your needs, and also to integrate them in your application. I learnt a bit about how industry-grade code should look like. When multiple people are working on a project, the code should be properly commented and documented so that anyone can understand it.

Name: GUNTAAS SINGH .(2018A7PS0269P)

Student Write-up

Short Summary of work done : We prepared and preprocessed NDVI time series data using Google Earth Engine for two locations - Agra and Ahmedabad. This was done using the JavaScript API.

We, then, implemented and trained four models, each based on different machine learning and deep learning techniques - Support Vector Machines, K-Nearest Neighbours, Decision trees and Convolutional Neural Networks (U-Net). All of these were implemented in Python using appropriate libraries and frameworks. The results obtained using each classifier were then compared on the basis of accuracy and qualitative correctness.

PS-I experience: I had a good learning experience at PS. I got to learn about new technologies and tools for software development.

Learning Outcome :

1. Learnt about the significance of remote sensing problems and different technical aspects of solving them.
2. Studied different machine learning and deep learning techniques and learnt how to implement them.
3. Learnt about different problems in the domain of Computer Vision. Reading research papers from the field also helped me to understand how research in computer science proceeds.
4. Gained practical experience in programming in Python and JavaScript.
5. Various evaluatives such as the seminar, report and group discussion helped me improve my soft skills and learn the etiquette to be followed when participating in professional communication.

Name: SAMINA SHIRAJ MULANI .(2018A7PS0314P)

Student Write-up

Short Summary of work done : My project was to build a deep learning app for plant identification. The technology to be used was Java for Android App development and TensorFlow Lite for model implementation. Due to time constraints, I limited the model dataset to apple leaves only (dataset taken from PlantVillage on Github). The work involved implementing a CNN model to classify diseased apple leaves. Ideas from research papers were implemented and their accuracies were compared. The next step was to use the model in an app. This involved knowledge of TensorFlow Lite. I had to learn app development from scratch. The app was to allow the user to either pick an image from the phone's gallery or take a picture using the phone's camera and predict the image accordingly.

PS-I experience: The project was interesting and since I had no prior knowledge of any of the concepts involved, it was a good self-learning experience. The mentors would occasionally review my work and provide feedback on how to improve. There was minimal guidance and most of the work involved self-learning. I communicated with my mentors through WhatsApp as it was their preferred mode of communication.

Learning Outcome : I learnt about concepts involving deep learning and various CNN architectures. I learnt usage of TensorFlow and TensorFlow Lite, along with Android Studio. I was also able to learn to read and implement research papers.

Name: RITIK GARG .(2018A8PS0457P)

Student Write-up

Short Summary of work done : The project title was "Reconstruction of Hyperspectral Imagery from Multispectral Imagery (sRGB)". It involved training multiple deep learning models for a comparison and analysis of their efficiency at solving the mentioned task.

The two major approaches implemented were U-Net and ResNet. Both models were trained using an open source dataset.

PS-I experience: PS - I was a good experience. I got the chance to work in an interesting field of my choice. I was able to learn a lot of new things in a short amount of time and apply them to a meaningful project. Further, the opportunity to work under the guidance of experienced mentors and scientists was a unique and enriching experience.

Learning Outcome : I learned about various deep learning techniques and image processing. I had to read a lot of research papers which gave me an in-depth understanding of the workings of a lot of deep learning models. I was also able to learn working with Tensorflow.

Name: MRIDUL KUMAR RAI(2018AAPS0359H)

Student Write-up

Short Summary of work done : Our project was a research-based one and focused on the Development of an algorithm for automated forest fire damage assessment using Google Earth Engine's JavaScript API.

Several severity mapping techniques have been developed and tested in the past, but they have inherent shortcomings which need refinement. Our project relied on understanding the shortcomings of the pre-existing techniques and devising an algorithm which offered maximum accuracy regardless of the region being assessed. The platform that we used was Google Earth Engine so that the need to download the datasets locally was eliminated and an accessible cloud-based solution to tackle the problem could be devised.

PS-I experience: IIRS Dehradun was a dream PS station for me since it aligned almost perfectly with my interests. Being a WFH internship, which I guess was a first for the station also, the onboarding process took around a week. But once we got in touch with our mentors, the day to day communication and other things were pretty smooth.

There were many projects to cater to people with a wide range of interests, ranging from Web/App Dev to CNN and Deep Learning based ones. Having said that, I would highly recommend this station for people who are into satellites and stuff and are comfortable with some basic programming.

Learning Outcome : I learnt a lot about the technical aspects of satellites and remote sensing. I have always been fascinated by space technology and learning about the various technicalities involved was a great experience for me. I studied a lot about the different techniques that are used to map forest fires traditionally and tried to improve upon them. In the end, I was successful in generating a Burnt Area Mapping product improving the spatial resolution from 500m to 20m.

Name: HARSHIT GOYAL .(2018B2A30110P)

Student Write-up

Short Summary of work done : My project was to detect brick kiln around New Delhi. It is a deep learning project making use of random forest algorithm . I made use of GEE to detect the brick kiln through satellite images . Main language used is Python .

PS-I experience: PS-1 was a wonderful experience , since i was allotted IIRS work culture there was amazing . All people was very helpful there.

Learning Outcome : Through PS-1 , i was able to learn how to manage things in group and got to learn many new things . Satellite imaging is one of the best field to explore.

Name: AVIRAL KUMAR TIWARI .(2018B3A70820H)

Student Write-up

Short Summary of work done : The Objective of my project was to focus on Automate flood mapping and damage assessment process using latest emerging GEE(Google Earth Engine) platform. Under this project the GEE code was customized using the JavaScript and Python libraries to automate the entire flood mapping process with the

help of different space based images and other thematic layers available from various open source websites.

I also worked on Change detection approach in multitemporal satellite images for natural hazard classification and generating output layers to identify affected regions with prime focus on the Bihar floods of 2019.

Project was focussed on enhancing the User Experience by using user Interfaces such as Date slider,checkboxes etc .further asserting the fact that the automation of flood mapping can be an important input to carry out rescue and relief operations effectively.

PS-I experience: During my internship, I was able to interact with the scientists and Engineers working at IIRS through the virtual mode and gained their valuable insights on Remote Sensing and its Application.

The experience of working with my mentor was very enriching, both professionally and personally. I learnt a lot of technical as well as communication skills. I learnt how to organize my work and got introduced to a completely new domain of Machine Learning and Image Processing.

The lectures/webinars from identified industry experts and others that were organised by the PS Division, on topics specific to the industry domain were also be very helpful. Overall, it was a very enriching experience for me.

Learning Outcome :

Technical Skills I learnt are basic Machine Learning and Image Processing. Softwares I learnt are Google Earth Engine and SNAP(Sentinel Application Platform) majorly used for Earth Observation processing and analysis.

**PS-I station: Indian Meteorological Department - Image processing,
Pune**

Student

Name: AYUSH JINDAL .(2018A3PS0348P)

Student Write-up

Short Summary of work done : Given an IR image of a cloud, we had to find its height using Image Processing. Language was not mentioned, so I used MATLAB due to its powerful IP toolbox.

PS-I experience: Given that for the first time, it was work from home, it was a fine experience. PS faculty and mentors were there to help us out wherever and whenever we needed it

Learning Outcome : As part of the project, learning IP, ML and DL were part and parcel of it

Name: AYUSH JINDAL .(2018A3PS0348P)

Student Write-up

Short Summary of work done : We developed a cloud detector using IP and DL which was then used to find the cloud's height

PS-I experience: It was a nice experience where I learnt a lot from courser for the project

Learning Outcome : Acquainted myself with various trending topics of today like IP, ML/DL

Name: JAY KARHADE .(2018A3PS0852H)

Student Write-up

Short Summary of work done : My project in IMD was based on image processing. We were a team of 4 and we had to develop a system that gauges visibility using a stationary camera. The IMD mentor explained that this kind of system if developed would be one of the first such system in the world. Our project aimed at getting a higher degree of accuracy for estimating visibility at airports and at the same time greatly reducing costs from current technology.

We made use of openCV for quick and optimised prototyping of software. We also came up with a few novel algorithms that could serve the purpose.

PS-I experience: My PS-1 experience was a good one. Although our industry mentor wasn't much in touch with us , our ps instructor was really helpful and ensured that we get the best possible experience by staying in constant contact and guiding us in case of any technical difficulties.

Learning Outcome : My main learning outcomes were getting more familiar with image processing and computer vision.

Name: NARVEKAR ATHARVA HEMANT .(2018A3PS1100H)

Student Write-up

Short Summary of work done : The project required us to calculate visibility range at the airport using image processing techniques. Visibility is often hindered by haze which can pose a threat to take off and landing operations at the airport. A rotating camera was stationed at the spot that took pictures in each direction. These images had landmarks using visibility of which we were to calculate the visibility of the entire scene. We wrote processing algorithms on python using the openCV library to estimate the visibility of each landmark. We learnt about edge and corner detection methods using which we estimated visibility of landmark and classified them as visible/not-visible. Once, the landmarks were classified, we used their distances from the camera site to calculate the visibility range of the overall scene. Using the final code, the user could select the most suitable landmarks by clicking on the images, enter the landmark distance and then obtain an image with all the landmarks classified as visible/not-visible and the visibility range displayed.

PS-I experience: My days during the course of the PS were very engaging and challenging. It helped me explore the field of computer vision and ML/DL and also helped make new friends from whom I learnt a lot.

Learning Outcome : I gained knowledge about various different concepts in the field of image processing and deep learning. I learned about the current technology used in visibility range estimation using transmissometers. I also got to learn about the organizational structure and the functioning of departments at IMD.

Name: AMAN AZIZ .(2018A7PS0119G)

Student Write-up

Short Summary of work done : Our Project was to detect cloud height from infrared images. Basically we had to use image processing tools and object detection algorithms. The object detection algorithm made the code computationally efficient.

PS-I experience: It was a great experience. We basically found out temperature of the cloud and then used Environmental Lapse Rate to get height of cloud from surface. Our PS station was not communicating with us during the start but our PS Instructor helped us pick up the pace and we managed to finish the project a week before the due date.

Learning Outcome : I learned concepts of deep learning, image processing and basics of python.

Name: SHIVAM CHANDAK .(2018A7PS0120G)

Student Write-up

Short Summary of work done : We were asked to create an admin dashboard using PHP and MYSQL for IMD, Pune. There were 15 sheets which could be edited, wherein one could add, delete, update and modify the table, and they were visible only to the respective end-user. Then there was the main admin dashboard page, which corresponded to any change done in the 15 sheets, and by default it was only visible to and accessed by the admin.

PS-I experience: The experience was great, I had an amazing PS instructor who was always ready to help us whenever we were in some sort of difficulty. Even the IMD, Pune people took time out of their busy schedules to guide us in our project. Co-operation as a team with them was very difficult, and we sure did learn a thing or two through the interaction with our PS mentors.

Learning Outcome : We learnt about the procedure of developing a simple CRUD application using PHP and MySQL. Also, designing the database and passing queries in PHP using the PDO was an important feature of the project. We also learnt the procedures implemented in a simple CRUD implementation and a basic admin dashboard.

Name: SIDDHARTH JAGOTA .(2018A7PS0166H)

Student Write-up

Short Summary of work done : During the PS-1 we were given the project of Web Development. Due to time constraints and our lack of experience in Web Development, we started to learn about the basics of networking and then proceeded to HTML5 . After that, we learnt

about CSS3 and its fundamentals and then we proceeded with PHP7. After learning some basics and about linking PHP code with MySQL we were able to write the basic schema of the database we were to maintain. We were also able to create the backend config.php and update.php files. However we were given the project title in the 4th week only due to lack of communication and co-ordination arising due to Work from Home and IMD's busy schedule(they were busy in the 1st week due to Cyclone Amphan and 3rd week due to Cyclone Nisarga) hence we couldn't proceed further than this in the PS-1 which lasted for 6 weeks. However we were able to learn about the basics of Web Development which we had no idea about

in the beginning of PS-1. We also learnt about the different frameworks and about a server side scripting language (PHP) and a little bit of designing.

PS-I experience: The Work from Home experience was one of a kind and a very enriching one. The PS mentor from BITS was very cooperative and guided us perfectly through the difficulties and he also helped us to make our learning fruitful. The IMD mentors, despite their busy schedule, were also very cooperative and tried to respond to our queries to their best.

Learning Outcome : We learnt about the basics of Web Development including a basic understanding of HTML5, CSS3 and server side programming using PHP and linking it with MySQL to perform basic operations on database stored in MySQL.

Name: SAHDEV NUWAL .(2018B3A70900G)

Student Write-up

Short Summary of work done : My project in PS 1 was based on calculating cloud height using image processing of IR images of clouds. The first stage was to compare the heights of two clouds from their IR image. So I applied the threshold function of OpenCV here which separated clouds with a low height from clouds with high height. I used concepts of Stefan-Boltzmann law and Lapse rate in this separation. I also tried Therimage packages from R language of separation which helped in separation by plotting images with different palettes. After this, we needed to automate our model and also find the absolute value of the height of the cloud. For automation, a cloud detector was needed. I used contour plotting of OpenCV which detect clouds using edge detection and plots a rectangle around it which it cropped later. Now we need to find the average temperature of the cloud detected from the contour. For this first, I stored all pixel values with its temperature in dictionary extracted from the color bar of the IR image. Then I moved to every pixel of the cropped out image of the cloud and searched for its corresponding temperature in the dictionary and took the average temperature of all the pixels of the cloud. And finally using dry lapse rate I calculated the height of the cloud. This method of cloud height detection is fast and cheap as compared to the current method used by IMD in cloud height detection.

PS-I experience: I got to learn various skills due to PS1. Our instructor helped us to learn all the skills from the beginning and to get ideas for the progress of our project. Our instructor conducted daily meetings to solve our doubts and guide us for further on. Our Instructor regularly contacted IMD mentors to help us in our project and sharing our

progress. He divided us into a group of 2-4 students based on our streams. Our instructor shared many tutorial videos and text so as to introduce us to various topics which would be needed in our project. These tutorials were very nice and guided us to various topics which could be further explored from various tutorials available on the internet. Honestly, at the beginning of PS1 I was having zero knowledge about these skills and topics but after completion of PS, I having good knowledge of these skills with experience which I gained in doing these projects.

Learning Outcome : In these 6 weeks of PS1, I gained various skills. My project in PS 1 was based on calculating cloud height using image processing of IR images of clouds clicked from the earth. Before starting the project, some prerequisites were needed to be completed so as to ensure a proper understanding of the project and generate ideas for the project. The first and most important skill required to gain before the start of the project was understanding image processing theory and various tools used in it. After this, I learned Deep Learning (especially Convolutional Neural Networks) concepts which are also important for the automation of our project work. After the completion of all the theory part of image processing and deep learning, I felt a great need for applying these concepts practically. So I worked on some algorithms of Convolutional Neural Networks on Google Colab notebook, some of these algorithms include (handwritten digits detection and cat and dog detection). And for Image processing, I choose OpenCV libraries of Python. I worked on many image processing tools like Edge detection, haar-cascade and contour plotting on OpenCV. I also tried the YOLO object detection library and R-thermimage packages.

Name: YATHAARTH RAJIV JAMWAL .(2018B4A70862P)

Student Write-up

Short Summary of work done : Developed a model that takes in an image of the sky and gives an output of the cloud cover in Okta units(scale of 0-8). The project involved Deep Learning (CNN, U-Net architecture) as well as Image Processing (for converting the prediction of each pixel summed up over all pixels into final result).

Can narrow down to the cloud cover around a city, if satellite image with appropriate labels is provided.

PS-I experience: It was a great learning experience. I started off with very little knowledge in the domains of Deep Learning and Image Processing. To have completed a project of this scale felt amazing.

Learning Outcome : I have gotten some experience and practice with the concepts of Deep Learning and Image Processing, and applied the same. Apart from the technical learnings, teamwork and preparing reports and presentations were also valuable skills learned.

Name: PANT DIVYANSHU RAVINDRA .(2018B5A70912P)

Student Write-up

Short Summary of work done : Our project revolved around the usage of Image Processing to identify landmarks in images for visibility purposes. This would usually be done for airports and such, due to the importance of visibility in the aviation sector. Current technology utilizes transmissometers that are complicated to use and costly to maintain. This technique uses digital imaging for the same.

Using mostly the OpenCV library for Python, one would remove haze/fog from the image using various techniques like Dark Channel Prior, Template Matching, etc.

The cleaned images would then be subjected to a series of algorithms for the purpose of landmark detection. This could be done with simple filter techniques including Sobel filters and Laplacian filters (mainly edges) and could also be done with advanced algorithms such as Correlation Coefficients method, Harris corner detection, SIFT, etc.

After identifying the landmarks from images, one only needs to do a distance calculation between the last visible landmark and camera to estimate visibility.

PS-I experience: While PS-1 this year happened to be a work from home affair, I feel that it was no less than a PS-1 that would involve a real, concrete visit to the industry itself. The industry mentors as well as the institution mentors were always ready to help and it was very easy to establish communication with them.

Learning Outcome : I learnt a plethora of things through the duration of this course. I learned how to utilize a completely new and unfamiliar Python library i.e. OpenCV. Preliminary studying also allowed me to gain a basic understanding of Digital Signal Processing, Machine Learning and Computer Vision. Moreover, it helped in building my communication skills, interpersonal skills and overall work ethic.

Name: SIDDHANT BARUA .(2018B5A70919P)

Student Write-up

Short Summary of work done : I, along with my team, implemented different methods to calculate the cloud coverage over an area. Cloud Coverage is an important parameter for meteorological measurements and predictions. We implemented the project using simple image processing techniques like fixed thresholding, and also Deep Learning models such as the UNET architecture.

PS-I experience: My PS-1 was a good learning experience, as I got introduced to the fields of Image Processing and Machine Learning. My faculty mentor was very helpful and provided constant guidance throughout our project.

Learning Outcome : Through the PS-1 program, I got introduced to the fields of Deep Learning and Image Processing and learned to implement these concepts in code.

**PS-I station: Indian Meteorological Department - Mechanical Based,
Pune**

Student

Name: HRITIK GUPTA .(2018A4PS0307P)

Student Write-up

Short Summary of work done : We were allotted the project in which we need to automate the current sensor mounting mast so it can ease human efforts and can be used more efficiently.

PS-I experience: It was a good experience in these work from home conditions. Physically visiting the PS station is in no match with work from home PS as it cutoffs very good opportunities to meet new individuals and learn from them but whole together it is a new experience for all of us and we learn how to collaborate even without personally meeting with the person.

Learning Outcome : I learned about different mechanisms which we can apply for our given problem statement as well as also learned how to remain optimistic in even the conditions where there are lots of difficulties.

Name: SAMAR.(2018A4PS0618H)

Student Write-up

Short Summary of work done : Automation of tiltable mast was done using hydraulic and electromechanical methods was done. A deeper understanding of drivers and microcontrollers was gained.

PS-I experience: Great!

Learning Outcome : Learned soft skills.

Name: MAHESH SWAMINATHAN .(2018A4PS0982H)

Student Write-up

Short Summary of work done : My work in IMD was based on the project "Design of an automated weather mast". Automated Weather Stations are the primary source of measuring parameters such as temperature, rainfall, humidity all over India developed by Indian Meteorological Department, Pune. The current masts are manually operated which are difficult to repair especially during bad weather conditions risking the lives of workers. Hence we were required to design an automated mast, sensors on which could be repaired easily without climbing up. We did this by researching and implementing new mechanisms in order to lift the mast up from ground. Some of the mechanisms we were able to implement were a telescopic mechanism and a hydraulic mechanism.

PS-I experience: My PS-I experience was well done and structured. In meets, my PS-I instructor was approachable and always gave us good advice.

Learning Outcome :

In my PS1, I was able to learn many concepts by researching and finding innovative ways to come up with a solution.

Name: MANUL RITESHKUMAR PATEL .(2018B5A40501P)

Student Write-up

Short Summary of work done : We were required to design a model of an automated weather mast which hosts sensors of weather monitoring. Currently the existing masts are manually operated which makes it difficult to repair during bad weather conditions. So we propose a new telescopic design with 2 mechanisms to automatically power it. First is electromechanical using motor to power mast to lower it down during repairs. We suggested Wheel Chair motor. Second powering mechanism used Hydraulics. Single and double acting cylinders in hydraulics were presented to the officials. Also we suggested Microcontroller with Arduino to control the movement of mast using simple program.

PS-I experience: I had a good experience during PS -1 ranging from interaction with instructor to getting feedback from IMD scientists and officials. As this time PS was remote based and virtual, it was a little bit difficult to visualise the movement of current

mast in the starting. However, the IMD officials were very supportive and cooperative ,they recorded the video of working of mast and sent us.

During the whole course of my PS -1, I got introduced to many new technical concepts and developed soft skills of formal communication with the faculty and IMD scientists.

Teamwork was the major binding force among our group members as everyone's contribution and cooperation were required for the project to complete.

Learning Outcome : I got to learn about the analysis of a mechanical design on logical basis. Controlling the mechanism with Microcontroller and Arduino programming really took my interest. Way of communicating with my peers and higher officials was also major learning outcome.

PS-I station: Infor Global Soln India (Pvt) Ltd, Hyderabad

Student

Name: MILI DILIP DOSHI .(2018A7PS1014G)

Student Write-up

Short Summary of work done : We made a machine learning model that classifies vendors into performing and non-performing based on three aspects: Quality, Quantity and Promptness. Quality depended on how many products were returned, quantity depended on how many products were received and promptness depended on how soon products were received.

These models are useful as they minimize subjective judgement and establish continuous review standards.

PS-I experience: PS-1 was a great learning experience. Our course was split into 2: 3 weeks of learning and 3 weeks for the project. We learnt a lot of from our daily 2 hour sessions. They shared a lot of technical knowledge and their experience. We understood the meaning of "applied" in "applied machine learning".

Learning Outcome : I learnt about how end-to-end machine learning models are built, everything from if a problem can be best solved by AI to deploying a model.

Name: SHREYAS KERA .(2018A7PS1119P)

Student Write-up

Short Summary of work done : The work done during PS-1 involved learning and applying Machine Learning to business applications. It included several lecture sessions from the PS-1 mentors to help us learn the basics of Machine Learning. The basics we learnt included the Machine Learning concepts of Classification, Regression, Clustering algorithms like Logistic Regression, Random Forest Classifiers, Agglomerative Clustering and many more. We went in depth into the complete process of building a working model, from the data processing, to the deployment of the model using Docker. Using this knowledge, we applied Machine Learning to complete our project, and some use cases we worked upon included Customer Segmentation, Medical Insurance Prediction, and Vendor Performance in the Pharmaceutical Industry. The models we made would really help out in these industries, as the predictions the models could make were very accurate, and could greatly improve the performance in these businesses.

PS-I experience: My PS-1 experience was great, and the learning went smoothly. The mentors were very helpful and were always available throughout the complete duration of the internship. Our interactions with them really helped in understanding the core of Machine Learning and its applications. The approach taken by Infor was helpful, since they taught us the basics of what we needed to know first, before giving us the project. The mentors were always friendly and gave us suggestions and modifications that could be made to our Machine Learning models, in order to make it better.

Learning Outcome : The learning outcome of the PS-1 station was mainly related to applied Machine Learning. After learning the basics of Machine Learning, including the various data processing techniques and different Machine Learning models, it becomes necessary to apply them to business use cases. Our mentors taught us to look at it with a new perspective, in order to optimize the model and have its performance accuracy increase drastically.

PS-I station: Jochebed Tech Solutions - ESP WiFi MESH, Hyderabad

Student

Name: SARANSH JINDAL .(2018A7PS0221P)

Student Write-up

Short Summary of work done : Our project was based around detecting instances of electricity wastage in retail stores around India. We had to create a model to fetch data from a mysql database, detecting outliers in it, then creating alerts and storing them in another database.

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

Learning Outcome : Coding in python - accessing MySQL databases using scripts, some conceptual knowledge like outliers, linear regression etc

Name: UTKARSH JAIN .(2018B5A70456H)

Student Write-up

Short Summary of work done : Project: Scheduled Home Automation. In this project, we focused on the building and functioning of a centralized database that can be used to schedule commands that will be sent to IoT enabled devices.

PS-I experience: The faculty members at the PS Station were very helpful. The entire program was conducted very professionally.

Learning Outcome : I learnt about database design, MQTT, and about how to use Python to automate processes. I also learnt about teamwork, leadership and time management.

PS-I station: Jochebed Tech Solutions - Routers, Hyderabad

Student

Name: HARMANJOT KAUR.(2018B1A30779P)

Student Write-up

Short Summary of work done : Our group developed an android application using the concept of Triangulation to locate the user inside small closed buildings like grocery stores, airports etc where GPS signal gets attenuated due to roof and walls of the building and thus provide inaccurate results. This problem is solved by the application developed utilising the concept of Triangulation using signals from the minimum three wifi signals available. The distance of the wifi routers is made available by relating to the wifi strength of the signal scanned by the user. Thus, we get the radius of the circles to locate the user using their intersection points.

PS-I experience: It was an absolute professional experience of working with your team member, coordinating with them in a group for achieving the same target, making everyone in the team feel engaged and make learning a fun comes under all the good experiences gained while being there with the company.

Learning Outcome : PS-I provided a glimpse of the industrial work. The way the professionals handle thier work and coordinate in a team. The use of Github for coordinating with other members and also to store all the word done. The importance of being regular at work rather than finishing up things in one go. All these values summarise the time well spent at Jochebed Tech Solutions.

PS-I station: Kizora Software Pvt. Ltd., Nagpur

Student

Name: YASH ARORA .(2018A4PS0002H)

Student Write-up

Short Summary of work done : At Kizora we were allotted a full stack web development project which had to be developed using Python , JavaScript , HTML , CSS and Bootstrap

Its named Geo Service Solution hub and is basically a micro-service and has functionality to get route between n points , the distance between then and time of travel in different modes of travel such as driving , air route ,etc The second feature was to get latitude and longitude of a location using its address and vice-versa

All this was done using Google Map API and Open Street Map ,MySQL Workbench and Python's Flask Framework

PS-I experience: The experience at PS-1 was very good for me , I learnt how an actual web development project is handled in the industry as well as learnt new skills from the training given to us in the initial weeks by the company mentors
The mentors were very supportive.

Learning Outcome : I learnt how to make a website from scratch . I learnt technical skills such as the Flask Framework in Python as well as JavaScript and jQuery along with HTML ,CSS and Bootstrap

I got a very good hands on experience on a project which will definitely help to make my resume stronger

I also learnt some softskills that will help me in the future

Name: V A S ABHINAV .(2018B1A70979G)

Student Write-up

Short Summary of work done : Develop an ML app which, which involved incorporating all kinds of tools like front-end web development, and back-end web development software. Also included management of databases in order to process data received from app

PS-I experience: It was a very good experience ,got to learn a variety of of stuff which would definitely help in the future. Had no problems in communication with company officials.

Learning Outcome : Was able to learn web development tools, GitHub version control system , and database software like MySQL

Name: KARTIK SHARMA .(2018B3A70789P)

Student Write-up

Short Summary of work done : I created a microservice in which a user can get the fastest route between two locations and can select the mode of travel. The user can add multiple stops in the route. Another feature in our microservice is the user can get the

latitude/longitude of a particular street address and vice versa. The project required good skills in python, javascript, html and css. The framework used for integrating backend and frontend is flask.

PS-I experience: My experience was decent. The first three weeks went like a cool breeze. But after that, we had to do a lot of work. Two complete all nighters were required to complete most of the coding. Overall it was productive and i learned a lot. The CEO is very helpful.

Learning Outcome : I learned a lot in coding. I learned HTML, CSS, Bootstrap, JavaScript, and got a bit proficiency in Python. I also learned the basics of web development. I learned created Wireframes, architectural designs and block diagrams of project

PS-I station: L & T Infotech, Mumbai

Student

Name: DIVYAM BANKIMKUMAR SHAH .(2018A7PS0205G)

Student Write-up

Short Summary of work done : Most of today's enterprises have monolithic architecture. However, as the enterprise keeps adding new functionalities, the monolith would keep getting bigger, coupling would increase and hence the cost of maintenance would increase. The monolith is refactored to microservices to reduce coupling between the services and the microservices can be deployed easily. The technology stack that the enterprise uses plays an important role in determining the amount of time it would take for the transformation. (Martin Fowler, n.d.) In this report we would be explaining about what monolith and microservices are, why we need to break monolith to microservices and the procedure we are following for the breakdown of monolith to microservices. After breakdown of the monolith into various independent microservices, it has to be deployed on the cloud which makes the application decentralised and the services can be used efficiently.

PS-I experience: PS-1 though being online was a great learning experience. Apart from academic growth, overall growth played a more vital role where we learnt about Email etiquette, time management, Communication with corporate world, etc. We had group discussions, seminars, presentations which led to overall development.

Learning Outcome : PS-1 though being online was a great learning experience. Apart from academic growth, overall growth played a more vital role where we learnt about Email etiquette, time management, Communication with corporate world, etc. We had group discussions, seminars, presentations which led to overall development.

Name: ARYAN SHARMA .(2018A7PS0245H)

Student Write-up

Short Summary of work done : Our task was to convert a monolithic application to microservices. We needed to come with a flow to do the refactoring. Once we came up with the flow with the right technology stack, we were given a monolithic app in NodeJS to be broken down. I used functional decomposition to break down the monolith. It basically a method to break the monolith using coupling and cohesion. I used dynatrace as a software to follow the above approach and conveyed the above to the mentors. Software like Structure 101 were also used to the above conversion/

PS-I experience: Our project was research based. We got to learn a lot about microservices, monolith, cloud computing, and technologies like dynatrace. It was pretty interesting and informative.

Learning Outcome : We learned about spring in java, cloud computing, microservices, monolith, softwares like structure 101 and dynatrace. We also learned about LTI working culture and basic soft skills that are required in software companies like time management, email etiquetes, etc.

Name: GARLAPATI YOGITHA .(2018A7PS0438H)

Student Write-up

Short Summary of work done : In the first week, I learnt the basics of SikuliX, a tool that can automate anything that's visible on the screen, it is a tool employed for RPA(Robotic Process Automation). My project was to make an automation dashboard that is generic to all IT processes. What this essentially means is that the dashboard (python GUI) had to read data from a spreadsheet based on the SAP systems he/she wants to work on and based on the transactions(rows) that the user wants to execute, the automation scripts are run and finally, the user has the option of saving the results of the executed transactions in a PDF file. The transactions here, refer to the routine check performed by engineers in the SAP systems.

PS-I experience: PS1 definitely gave me a opportunity to get to know how the industry works. The challenge was definitely the fact that it was work from home but I believe it was the best solution in the scenario and taught us how to telecommute. The evaluation components themselves seemed to be a lot of fun, especially the GD and the seminars where I personally got a flavour of the different projects taken up LTI.

Learning Outcome : Heading into this project, I hadn't learnt Python before, so, I had to learn as much as I could and apply it, being able to do this built up confidence in me. I also learned the importance of time management and fine-tuned a lot of soft skills over the course of 6 weeks. While this might not seem to be notable in general, I understood the importance of being able to search for resources effectively, ultimately enabling me to optimise the time available.

Name: DACHANI THANOOJA REDDY .(2018A7PS0471H)

Student Write-up

Short Summary of work done : In the first week of my PS, I have learnt about the working of the organisation and got to know about the various products and services offered by the company.I was allotted my project in the second week of the PS.The project was to build a common report that can fetch the data from HPQC(a change management tool) and Service now(an IT service management system) tools.I had

been working on the project for the last 4 weeks of PS.I had regular meetings with the PS instructor and my mentor who helped me out in completing my project.

PS-I experience: The whole 6 weeks of my PS were really productive.I got to learn some new technical skills.Though I had some challenges in the first few weeks,they were later on addressed by my instructor and the mentor.

Learning Outcome : I understood the working of the organisation and learnt about various departments in the company.I learnt about new softwares like HP Quality Center and Service now.I also learnt some soft skills like meeting and email etiquette.Also i understood the importance of proper communication and co-ordination between the employees and learnt how to work as a team.I learnt many technical skills like Excel macro which i have never heard of before.I got to know about some of the work from home policies and understood how the company is managing in this pandemic situation.

Name: ROHAN DANIEL .(2018A7PS0584H)

Student Write-up

Short Summary of work done : I was working with a team to make a chatbot for the website of this company called vitamix. I added a couple of features to the backend, and made a new chat Widget for the website, among other things.

PS-I experience: WFH for an internship was definitely interesting. My mentors were quite helpful and approachable.

Learning Outcome : I acquired work experience and learnt some stuff about AWS services. Also learnt another frontend js framework Vue.js.

Name: KUMAR KARTIK.(2018B2A70646P)

Student Write-up

Short Summary of work done : Helped a team of the company with its ongoing project. The project was about making a web application for the company Hindalco to digitalize the business transactions between them and other industries. The area under which I worked was creating the front-end of the application. An online service by Oracle called Visual Builder Cloud Service (VBCS) was used in making the front-end.

PS-I experience: It was a new learning experience and a big eye-opener for me. I got to know about the workings of an IT company and the intricate details which are mostly overlooked until someone actually experiences them.

Learning Outcome : Learnt the basics of creating the front-end of web applications using HTML, CSS and JavaScript. Also got hands-on experience with working on Oracle VBCS which normally would have been difficult for me to get access to. Also got to learn soft skills like meeting and e-mail etiquettes, and time management>

Name: MEHUL AGRAWAL.(2018B4A70955P)

Student Write-up

Short Summary of work done : My project was based on creating a dashboard for script utilisation.

Some data(regarding script utilisation) was to be analysed and represented using graphs. So the challenge was to decide the types of graphs, provide filters for their data and add interactivity to them by embedding corresponding JavaScript code for callbacks on actions like hover. I used Bokeh python library to achieve the purpose and then rendered the python objects to jinja2 HTML template along with css and scripts for every plot.

PS-I experience: The experience was fulfilling as I got continuous support and feedback from my mentor. There are so many things to learn other than technical stuff such as professional communication, improvising on feedbacks, time management etc.

Learning Outcome : Data analytics, python Libraries (pandas, numpy, matplotlib, Bokeh, word cloud, joyplots, jinja2), professional communication, improvising on feedbacks, time management, group discussion, email etiquettes.

PS-I station: LOGIQ LABS Pvt Ltd (eShipz.com) - Predictive analytics and Blockchain based, Bangalore

Student

Name: RISHIRAJ ACHARYYA .(2018A7PS0168P)

Student Write-up

Short Summary of work done : We had to develop an algorithm to optimize the cost of a process related to e-shipping. Then we had to push the code into a Github repository and create a website to showcase the output.

PS-I experience: It was a pretty good experience working with my fellow project mates under the guidance of our mentors as well as our PS faculty. It provided us with a firsthand experience of the e-shipping industry and how things work at the back end.

Learning Outcome : In addition to improving my soft skills, developed technical skills such as WebD, got familiarized with Google OR tools, Flask and MongoDB.

Name: AGRAWAL TANISH RAJESHKUMAR .(2018A7PS0202G)

Student Write-up

Short Summary of work done : We built a conversational bot to handle shipping queries.

PS-I experience: It was great. We managed to learn a lot of new things.

Learning Outcome : I learnt about Rasa.ai and some great python libraries as well as deployment on the web.

Name: NANDANAVANAM ARCHITH .(2018A7PS0270P)

Student Write-up

Short Summary of work done : Designed and developed a voice enabled contextual assistant Chatbot, which understands natural language (like English) and tracks the shipments of sellers whose logistics are handled by eShipz. The developed chatbot was integrated with Speech Recognition features and deployed on the web using cloud deployment services.

PS-I experience: The planning of the work to be carried out was meticulous. Initially, we had formal introductions with the mentors of the PS station and the institute where they explained the work done by the company and our job in it as interns. Our skills were assessed and projects were divided accordingly. The aim of the projects and the approach to complete it were clearly explained. There were review meetings everyday where the status of the work done on the present day, and challenges faced was discussed and work plan for the next day was laid out accordingly. At the end of every week, diaries were to be filled on the work progress of the current week and plan for the coming week. The mentors were always available and helped us with all sorts of queries: general and technical. They made us familiar with all the required tools and explained their usage. There was a constant evaluation in the form of quizzes, group discussions, presentations, report submissions and a thorough feedback was given. All-in-all it was an amazing learning experience.

Learning Outcome : Gained knowledge on the different aspects of the industry and what it has to offer us. Acquainted myself with the work behind any ML based application, how it starts from an idea, collection of data, training, collaborative working

and making it available to the client. Team work and soft skills (such as presenting to officials) were enhanced thus boosting the confidence.

Name: DEEPANSHU MODY .(2018B1A70949H)

Student Write-up

Short Summary of work done : For our project we were supposed to use Google OR tools which provides software libraries and API's for route optimization. To elaborate - Consider the case of any seller on Amazon, they have to pickup packages from multiple locations, take them to a hub, ship them to another hub and then deliver them. We had to use Google OR tools to find the optimal route, the pickup/ delivery vehicles must follow. The vehicle routing is done through machine learning. However, we did not need to implement the machine learning model ourselves as it was contained within the OR tools. What we had to do was find adequate constraints for the problem and implement the code.

PS-I experience: Being a remote PS this year, I felt the work we put out could have been better had it been an on-station PS. Regardless of that, our PS station mentors were knowledgeable and were proactive and even asked us occasionally to get our queries cleared.

Learning Outcome : Learnt about new technologies like Google OR tools. In our project, I was able to use mongoDB, a decentralized database and Flask, a web framework for python. We were able to extract location data from a mongoDB database using python, some other libraries and then use the data to find the optimal routes. Learning all of this however required us to be proactive. Overall, if you are proactive in doing your stuff I would recommend this PS station.

PS-I station: MagTapp Technologies - Backend Development, Mumbai

Student

Name: MAYANK SHEORAN .(2018A7PS0114G)

Student Write-up

Short Summary of work done : We were given basic projects in the learning week includes Weather Website , PDF compressor. This is all we did till midsem after that we were given wireframe for their what's new page we had to copy that design and make a responsive website [Only Frontend]

PS-I experience: Experience was pretty good as i was complete beginner in Web Dev field so i learned so much during my PS.

Learning Outcome : I can now make decent looking website as most work given to me was of frontend so i am still lacking in backend part.

Name: JASHANPREET SINGH .(2018A7PS0134G)

Student Write-up

Short Summary of work done : First we were told to learn MERN stack and make a weather app using the same. Then we had to make a pdf compressor website which can upload as well as download the file. Next we were told to debug the new magtapp app before its update was made public. Last we had to make a website for new update of magtapp app.

PS-I experience: The PS-1 station was for backend development while most of thw work we did was only frontend.

Learning Outcome : We learnt main features and implemntation of MERN stack and also frontend based web development using HTML,CSS,JS and bootstarp.

Name: DUSHYANT YADAV .(2018A7PS0179P)

Student Write-up

Short Summary of work done : We did not do much back-end work per say and were given mostly front-end work. We learned React and wrote a weather app and rebuilt the company's website for version 2.0 of its app.

PS-I experience: We collaborated and discussed ideas remotely, but work from home did not work as good for me as an offline workflow. Learning new technical skills was a rewarding experience.

Learning Outcome : I learnt idiomatic HTML, CSS3 and some React.

Name: Namit Chandwani(2018A7PS0207G)

Student Write-up

Short Summary of work done : In total there was 1 major project which started after a training of 2 weeks.

As a part of the training phase, we worked on 2 mini-projects:

- 1) Weather app based on React
- 2) PDF compressor web app built with the MERN stack

Our main project involved developing a static webpage that promotes the new version of the MagTapp app.

PS-I experience: It was a good learning experience. We were able to learn some of the current relevant technologies. I expected more work in the backend, but for the entire duration of the project, we were mainly working on the frontend. Nevertheless, I learned a lot through this program and got to interact with company individuals which enhanced my communication and presentation skills.

Learning Outcome : Learned some of the best industry relevant technologies like React, DynamoDB, etc. The technical head of the company kept on sharing his insights about the industry, how it works, how to survive etc. By the end, we were able obtain a clear picture about the industry.

Name: DHRUV ADLAKHA .(2018A7PS0303H)

Student Write-up

Short Summary of work done : The projects done were related to Web development. We used MERN stack for building the applications.

We had to build a Weather application which takes the city name in the search field and then displays the current temperature, weather forecast of the coming week and an image of the city. Building the application involved designing the front end part of the application and also implementing the API calls.

Second project was related to designing the database schema (DynamoDB) for the content management system.

Third project was PDF compressor application - it takes a file from user and returns the compressed file for downloading.

Last assignment was to design the What's new in Magtapp 2.0 page in which we were evaluated based on how close we were able to design it compared to the company's prototype.

PS-I experience: My PS experience was good. The mentors were supportive and helped us resolve the issues and constantly asked about our progress. The assignments helped me get an exposure to web development field. Interaction with mentors and my colleagues helped me improve my soft skills.

Learning Outcome : MERN stack usage
Improved communication skills

Name: HARSHIT JAIN(2018B4A70682P)

Student Write-up

Short Summary of work done : Initial days were given to explore the various aspects of development- backend, frontend and database management. Web development projects were given which involved using different APIs and npm packages. We were given the flexibility of learning at our own pace and then implement it to complete the assigned projects.

PS-I experience: It was a good learning experience and got an insight into the workings of the IT industry. Industry mentors were helpful whenever we needed their help.

Learning Outcome : Explored web development and learned new languages: ReactJS, NodeJS, HTML, CSS. Also improved my presentation and communication skills.

PS-I station: MagTapp Technologies - Content Writing, Mumbai

Student

Name: AYUSH AARYAN .(2018B5AA0684G)

Student Write-up

Short Summary of work done : It was mostly making presentations in PowerPoint. My team was given close to a 100 words daily and had to find the meanings of the same in Hindi and write them in the said presentation.

PS-I experience: It was okay. Got to learn some stuff about Hindi language and making proper presentable work. It being one of the first corporate experience was also a plus.

Learning Outcome : Researching through internet,Emailing professors and mostly soft skills. The project didn't involve much of technical skills

Name: RAJAT SAINI(2018D2TS1174P)

Student Write-up

Short Summary of work done : As a content developer at MagTapp Technologies, Mumbai. Our aim is to create content for the Web Browsing App of MagTapp. The project is important so as to increase the reach of Visual Dictionary of the app. And have a huge database which covers most of the words and in turn be useful in enhancing the MagTapp application.

The application mainly aims to provide Visual representation of words that user goes through, as it is proved scientifically that a human being can grasp things quicker when presented visually, so in that sense this app helps you learn things in a more efficient and long lasting manner.

PS-I experience: During my internship experience with MagTapp Technologies, I was able to develop my Strong Research Skills. I particularly found the interactions with the company experts to be useful in improving my skills. Although I found group sessions to be challenging, I found it to be valuable.

Learning Outcome : The project has taught me a lot of things even in this short period. Most importantly it has taught me being a team-man and the ability to get focused. As the overall work of the project is totally based on the three teams working for separate verticals. It is very important that each vertical completes their job in time and with accuracy.

PS-I station: MagTapp Technologies - Digital Marketing, Mumbai

Student

Name: KRISHNA KUMAR ASAWA(2018B3A40747G)

Student Write-up

Short Summary of work done : We learnt about digital marketing via various videos on YouTube. We wrote articles on Quora, Medium, LinkedIn, Twitter and various social media platforms, highlighting the importance of the Magtapp app and publicize it. We also contacted various writers to guest post about Magtapp app and made various memes to publicize the app. Overall it was a great learning experience and fun.

PS-I experience: Wonderful team and a very friendly environment.

Learning Outcome : We learned about various digital marketing techniques.

Name: NANDABHADHAN B.(2018B4A40930H)

Student Write-up

Short Summary of work done : Social Media Marketing, a component of digital marketing. We had to create content about the app , MagTapp . We had to write about the different features it possess and the problems it can help to solve in our daily lives. Then we have to post the content in Twitter , Medium, LinkedIn,etc. We also had to create memes because of their effectiveness nowadays and then post them on Twitter. We also had to contact bloggers and media houses via messenger,emails, etc to write about MagTapp so as to increase awareness about the app through them.

PS-I experience: It was really good . I know a lot about digital marketing now better than before. I had fun especially while making memes. All in all, it was really good and educational.

Learning Outcome : Learned about the fundamentals of digital marketing and the different ways to increase awareness using social media marketing.

Name: UMANG JAIN .(2018B4A80885P)

Student Write-up

Short Summary of work done : Works done during PS-1 :-

1. First we have Written an in depth structured article about what did we learn by watching all the videos in the Digital Marketing PS-1 Playlist.
2. Then, we had written a well Structured Article about MagTapp App.
3. Our next task was to prepare 6 questions whose answers should be indirectly be related to MagTapp App and its product and then answer those questions on Quora.
4. Written a LinkedIn, Twitter & Quora Post about Why Switch to Indian Alternatives. This is known as Going with Trend in Digital Marketing.
5. Next we had to approach 10 Writers who write on topics like Education, Tech and Startups on platforms like Entrepreneur, Your story, INC 42 etc. I have successfully approached and convinced one writer to write about MagTapp.
6. We had created 4-5 memes daily for a Week related to MagTapp (taking inspirations from Movies, Series).
7. We had written an App store description for MagTapp with all the new features in MagTapp 2.0.
8. Written two more Articles on the Story of founders of MagTapp and MagTapp 2.0 by mentioning its new features.
9. After the new version of MagTapp launched, in order to get the Maximum reach for it, we had to start an aggressive Twitter meme campaign. Each of us had tweeted 4 memes each with appropriate hashtags and tagging prominent people (whose list we had prepared) in the tweets. Now it was also important to create memes on India China sentiments, like why should we give up applications like UC browser, WPS office and use Indian Made browsers like MagTapp with much more advanced features.
10. Our last Task was to reach to Media Houses on Facebook through Personal Messages. I have successfully connected with Loktez Newspaper and they have published the Story of MagTapp on their Website and Newspaper.

PS-I experience: It was a great learning experience for all of us and we gained some important skills relevant to the field of Digital Marketing.

Learning Outcome : By writing various Articles on different Topics, our writing Skills got better. We also got the real world Experience of How to approach and convince the famous Writers and Media Houses to Write for MagTapp. We all know the power of memes to engage crowd and attract discussion. So we also learned How to create Memes.

Writing on different platforms like LinkedIn, Quora, Medium, Twitter, etc. we learned Social Media Marketing.

By the end of this Internship got a 360-degree experience of Digital Marketing.

PS-I station: MySmartPrice Web Technology - Machine Learning, Hyderabad

Student

Name: SUDHANSHU MOHAN KASHYAP .(2018A3PS0319G)

Student Write-up

Short Summary of work done : During the PS I was asked to initially analyze the people related to trading on leading platform like twitter then i had to find their numbers and store them in database and final part of project was to separate the post by these people using supervised ML.

PS introduced me to some exciting technology like Amazon AWS EC2.

PS-I experience: Experience in PS was quite good and I learned a lot about industry and kind of work they do.

I think overall experience was good.

Learning Outcome : I was pretty decent in python but had never used a custom APIs like Twitter API i.e. tweepy.

I also learned about basic concepts of Databases by using SQL and SQL WORKBENCH but i think AWS was a amazing technology with faster internet and execution.

Name: KETAN GOYAL(2018A8PS0900H)

Student Write-up

Short Summary of work done : Use machine learning algorithms to identify social media accounts posting content on finance. Analyzing the content shared by these accounts, find trending content on social media.

PS-I experience: It was good, resourceful. Employees 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 : Introduction to Machine Learning, Computer Vision, APIs, Python.

PS-I station: MySmartPrice Web Technology - Monitoring Metrics, Hyderabad

Student

Name: BHAVISH PAHWA .(2018A7PS0168H)

Student Write-up

Short Summary of work done : My work was for the growth and support of the company's under pipeline application called "FINPAL" it revolved around collection of financial datasets for various support elements of the application and using web crawling, web scraping techniques for generation of the datasets from remote web directories . I also worked with the Growth team of the application for matters regarding market penetration and revenue generation strategies using targeted advertising techniques through user/personality data analysis . In the end I was told to generate web application based dashboards using StreamLit library in python.

PS-I experience: It was a quite accurate experience relating to how work is done in this present virtual/work from home scenario and how communication between various

teams and teammates are maintained using video conferencing applications like Zoom and collaborative work applications like Google suite,etc.

Learning Outcome : After this PS I learnt how communication happens in virtual / work from home scenarios. I also improved my problem solving and critical thinking skills and developed appropriate organizational attitudes and values . I also learnt the importance of maintaining regular contact with mentors and importance of connections in the corporate world .

Name: SOMESH KUMAR SINGH .(2018A7PS0175G)

Student Write-up

Short Summary of work done : I built a functional web scraper for Instagram, urbanPro, and BankBaazar for data collection, later we used the statistics from the obtained data to build a knowledge graph and laid foundations for some knowledge based systems. The data was scraped using Selenium and data analysis was done using MS Excel and R. For WebScraping I had to accept a CSV of more than 100k entries, so instead of the usual element select and scraping I searched the queries by formatting the URL, and accessing the search box to obtain the result of closest searches in Instagram and used the HTML source to extract links and information, this gave a 57X time improvement and was easier to manage in parallel. Finally we used Headless browser and 6 Selenium Grid to make the process 9X faster, eventually scraping the 20K test rows in 40-50 minutes only.

For UrbanPro I also automated the login portal which receives OTP to cross the limit of logins, for BankBaazar and Wishfinn we use a one-command script that runs on a local server and keeps updating information from banks to process time series data.

PS-I experience: My PS-1 experience was pretty good. The work the other guys are doing here was impactful and we had good work coming our way too. The work culture was pretty cool, and we had full freedom to go about our work as long as we completed it.

Learning Outcome : I learnt a lot about automation, Selenium, statistics, NLP, fluency in Python and along with this team-work and project management as well.

Name: SHIVANSH ANAND(2018A8PS0415P)

Student Write-up

Short Summary of work done : My work for practice school 1 was to collect details regarding all the recurring deposit providers in India and the schemes they sell. After making an exhaustive list I was supposed to do a statistical analysis on data collected.

PS-I experience: My PS-1 experience was really fruitful to my experience. I got to take part in presentations and making reports which gave a boost to my technical skills making my life more organised.

Learning Outcome : I got to learn about how to use excel for statistics and also got to know how to deal with things in a professional environment.

Name: ANANYA JAIN .(2018A8PS0587H)

Student Write-up

Short Summary of work done : My work aimed to build a system that will help the user to find the right credit card with features that match his income, savings and spending habits. It collected different information about the user and his needs and used the quantitative and qualitative information provided by different providers to convey to the user for a better decision. It also included integration of Google login to the already existing website of FinPal - A product of MySmartPrice.

PS-I experience: It was a good overall experience. Although everything happened virtually, the environment and learning was in par with the actual IT industry exposure. It was an amazing experience to interact and work with a mentor, to learn new technical skills from him and collaborate with the team to get an idea of working in an office workspace.

Learning Outcome : Team work and learning new technologies were amongst the most important learning outcomes. Some of the technical stuff I learned through this PS are AJAX, IntelliJ, PHP, JavaScript, Google API console, XAMPP, CSS. It was a good learning experience since I improved a lot upon my communication and presentation skills as well.

Name: LAKSHAY TOMAR .(2018B1AA0578H)

Student Write-up

Short Summary of work done : We built a recommendation engine for Life Insurance Companies in India based on user-user collaborative filtering.

PS-I experience: It was a nice experience working with MySmartPrice Web Technology. 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 AI and ML and do some live projects on it. I also learnt about best practices that should be followed while writing the code.

PS-I station: MySmartPrice Web Technology -Product Research, Hyderabad

Student

Name: MOVVA KARTHIK TEJA .(2018A3PS0532H)

Student Write-up

Short Summary of work done : I was allotted to SMS Classification and Parsing System in the project domain Product Research.

PS-I experience: Great experience to work with the company.
Knowledge about how we are useful to the company in a productive way.

Learning Outcome : Learned about the types of Bank Messages and how to categorize them.

Name: PRASHANT RAMESH JHA .(2018AAPS0332G)

Student Write-up

Short Summary of work done : Automated parsing, mapping and verification of messages for FinPal, an application that tags and categorizes messages based upon its content, keywords, and type, using JavaScript, RegEx, SQL, and Google Sheets.

PS-I experience: This was a new learning experience for me. It was one of the best ones so far. This was my first internship, and hence I was looking forward to it. I was very keen to observe how people operate, and communicate in an organisation, and how different pieces of work done by different employees all comes together to become a part something bigger. The employees, especially my industry mentors were kind and lenient, and they would guide us in all aspects possible. Also, got exposure to the live projects which would be very helpful in my future endeavours.

Learning Outcome : RegEx, DBeaver, and SQL.

Name: KETAN GUPTA .(2018B2A30892P)

Student Write-up

Short Summary of work done : I did data collection and filtering regarding our app in the company.

There we made regexes of the messages and added them to databases so that they can be used as templates and help user in their finance management

PS-I experience: It was an overall decent experience.

I learnt how to meet deadlines and do some team work.

Learning Outcome : I learnt regex formation and app development

Name: BHUWAN TYAGI.(2018B2AA0844G)

Student Write-up

Short Summary of work done : I created a selenium script to verify the subscription of emails on an affiliated site.

PS-I experience: It was fun working with such experienced mentors and I learnt a lot of new things

Learning Outcome : I learnt the advanced javascript, selenium and few nodejs libraries, Managing time and teamwork.

Name: HARSHIT UPADHYAY.(2018B4A30823H)

Student Write-up

Short Summary of work done : I classified the messages based on different account types and further based on different transaction types using tools like regular expression and excel sheets. I have also created a final set of unique senders list which will be used in the final product and will also help us in integrating our work with other domains. I have also parsed through 40000 messages and separated the sender whose messages are non promotional in nature. So we have a list of senders whose message can contain financial information.

PS-I experience: The experience here is nice. We got exposure of how corporate world works at an early stage. The learning experience was fruitful

Learning Outcome : I learnt about regular expression.

PS-I station: MySmartPrice Web Technology -Whatsapp Automation, Hyderabad

Student

Name: LAVANIKA S.(2018B4AA0787H)

Student Write-up

Short Summary of work done : I was given a task of web scraping - or automated data collection from ahrefs website (for mysmartprice domain) with marketing and storing it in a database which can be exported for future analysis/usage. Ahrefs is an SEO tool (Search engine optimization - process of increasing the quality and quantity of website traffic) used for gathering information such as organic keywords (or words that are most searched), referring domains (websites from which the target website has links), top pages (or those pages that fetch the maximum traffic to your website), competing domains etc. for a particular domain. The data was scraped using PHP and cURL library for multiple pages and stored in DB using MySQL Workbench. MySQL Workbench has options to export the data in various formats (spreadsheet, CSV, TSV, XML, HTML, etc.).

PS-I experience: Got to learn something new and interacted with industry officials. Overall a decent experience for an online PS.

Learning Outcome : Basics of PHP, SQL, web scraping, search engine optimization

PS-I station: National Centre For Polar And Ocean Research, Goa

Student

Name: HARSHIT AGRAWAL .(2018A8PS0484P)

Student Write-up

Short Summary of work done : All the students who were allotted NCPOR Goa under Dr. Sami worked primarily on Data Analytics using Machine Learning techniques. I was allotted the project "Weather Prediction and Forecasting in Antarctica" by my PS instructor and I was alone in this project. In this project, I worked on visualization of data, which included plotting of all the weather parameters with datetime, creating scatter plots for different seasons using colormaps and also eliminating noise and seasonality from data using various techniques such as moving averages and differencing. Next, my mentor guided me in finding the correlations among all the weather parameters as it constitutes an important part of data analytics. As the most important part of the project, I had to accurately forecast and predict the weather parameters (particularly temperature) using various Deep Learning models. I implemented 3 models viz. CNN, RNN (GRU) and LSTM using keras API of tensorflow. I quantified the results using various error metrics and also scientifically visualized the results of the model. Further my mentor guided me in making my model self correcting and more robust by implementing K-fold cross validation for time series data and finally I completed this project by making it automated (my code could itself choose which model to use to output results).

PS-I experience: I had a vivid experience working under my mentor at NCPOR Goa. I got to learn about scientific programming at research stations and how an organisation functions. Despite our Practice School being work-from-home, we were given sufficient industry exposure through various live and recorded sessions by industry experts. In short, I got a good experience of industrial life, work culture and professionalism.

Learning Outcome : I learnt scientific programming as my mentor regularly emphasized its importance and guided me in making my code and plots look professional. I learnt various aspects of time series data and went through all the difficulties which arise while forecasting this type of data using Deep Learning models. My communication skills definitely improved through various seminars and group discussions.

Name: ABIJITH Y L.(2018AAPS0448H)

Student Write-up

Short Summary of work done : NCPOR has three polar stations in total – two (Maitri and Bharati) in Antarctica, and one (Himadri) in the Arctic region. Data transmission from these polar stations and the display of the processed data on publicly accessible websites is not autonomous at the moment. The purpose of our project was to take the data collected by the polar stations and transmit it to the main server automatically at periodic intervals of time, process the data, and display it on a webpage.

PS-I experience: It was a valuable experience which helped me in understanding the work culture in the industry.

Learning Outcome : Learned web development and data processing. Also, more importantly, I got to experience group discussions, seminar presentations etc.

Name: RISHIKA JAIN.(2018B1A70302P)

Student Write-up

Short Summary of work done : The project was based on data analytics, to be precise, time-series data analysis, and prediction of blizzards prevalent in Polar areas.

Analysis of different parameters was done to find a correlation between different factors responsible for blizzards. The work mainly involved learning and implementing data analytics for a variety of purposes on a data set of the weather conditions of Antarctica which is provided by the institute.

PS-I experience: The experience was very good. The mentors closely monitored our work and helped us in achieving the final objective.

Learning Outcome : I learnt about software development and about the creation and distribution of Python packages. I read about different types of programming practices and guides on methods to document code. PS-I enhanced my programming skills and opened the world of development for me.

Name: SABHYA KAPUR .(2018B3A70804P)

Student Write-up

Short Summary of work done : My project revolved around using machine learning algorithms for blizzard prediction. My PS station operates two research labs in Antarctica and we were working on weather data collected by those stations on the ground. The initial weeks focused on data analytics, wherein we plotted graphs to look for trends possible trends between the different weather features that we were studying. We then moved onto training machine learning classification models like Logistic Regression, SVMs, Random Forest, Extra-Tree, and AdaBoost to try and classify blizzard occurrences. The final stage of my work concerned Neural Networks. We studied Artificial, Convolutional and Recurrent Neural Networks, and trained models based upon their architectures using the keras and tensorflow libraries.

PS-I experience: The experience was great, albeit slightly marred due to the work from home nature of PS this time around. Even though both my PS instructor and industry mentor were extremely approachable, the remote nature of the internship did lead to some communication issues which I feel could have been avoided had I actually been in office. However, the experience was still great and gave me my first exposure to working in the industry.

Learning Outcome : I gained my first exposure into using machine learning algorithms on a real-world problem. I got to put the theoretical knowledge that I had into practice.

Name: NIHIR AGARWAL .(2018B4A70701P)

Student Write-up

Short Summary of work done : Our project was about figuring out correlation between chlorophyll-a concentrations and sea surface temperatures in the Indian part of Southern Ocean. We used data from NASA's MODIS satellite.

PS-I experience: It was a learning experience

Learning Outcome : Spatial data analysis

PS-I station: National Informatics Centre (NIC), New Delhi

Student

Name: PRATIK SANJAY BHIRUD .(2018A7PS0128G)

Student Write-up

Short Summary of work done : The project assigned to me came under the Application security division of the NIC. It involved development of an automated solution for testing and auditing the security status of a system. The script was written in C++ and the results were reported in form of an XML report.

PS-I experience: It was great learning experience.

Learning Outcome : Improved programming skills, learnt XML and Linux Programming.

Name: DEVANSH AGGARWAL .(2018A7PS0131G)

Student Write-up

Short Summary of work done : Developed a web service to provide encryption and decryption services using HashiCorp Vault's Transit Secret Engine and a supporting front-end application. Technologies used were - Spring Boot, Hibernate, Vault, Angular and MySQL server

PS-I experience: Practice School - 1 experience was decent, I got to work and interact with people from NIC. The project was not that challenging but I surely learned some new things.

Learning Outcome : I got to know about HashiCorp's Vault service and a chance to actually implement it. This was a nice learning and this may help me in my other future projects.

Name: SURINDERPAL SINGH VIRK .(2018A7PS0234H)

Student Write-up

Short Summary of work done : We have to develop a web application in java with secure coding.

PS-I experience: It was really informative.

Learning Outcome : Web Development, secure coding, learned to use different software's like Tomcat, Burp Suite, Eclipse.

Name: SURINDERPAL SINGH VIRK .(2018A7PS0234H)

Student Write-up

Short Summary of work done : Developed a web application secured from OWASP TOP 10 security issues.

PS-I experience: It was really informative and good experience.

Learning Outcome : Web Development, Secure Coding, JSP and Servlets, Tomcat server, OWASP top 10 security issues.

Name: ROHAN SINHA .(2018A7PS0417H)

Student Write-up

Short Summary of work done : Currently, at the time of admission to a university/school, a student has to submit a number of documents. After the submission, they are verified by the institute. There might be some errors or false information in the docs provided. Sometimes the docs are referred back to the student. This whole system is quite cumbersome and time-consuming. For our PS project, we had to develop our own blockchain system in order to store the original documents digitally in it so that no tampering takes place. It also helps in avoiding the issue of duplication.

PS-I experience: Despite the PS being remote, it was a great experience. Ours was a 3-member team and all of us enjoyed the project. We had little knowledge about the field of Blockchain earlier, but within those 6 weeks we learnt quite a lot. We coordinated with our mentors at NIC from time to time using Google Meet and updated them about our progress. They guided us and sometimes suggested modifications.

Learning Outcome : We learnt new languages like GoLang, JavaScript etc. and learnt how the blockchain functions. Furthermore, we extensively studied Hyperledger Fabric, upon which our project network was deployed. We made a front-end for the student & the Admin, a blockchain back-end and an API to connect the two. At every stage the work was divided among teammates. Our instructor took seminars and we also participated in a group discussion.

Name: ROHAN KUMAR .(2018A7PS1013G)

Student Write-up

Short Summary of work done : I had to make a client which would communicate with a server that had text to speech and speech to text conversion capabilities. I had to make an API on top of this which could be imported into web applications to use the capabilities of the server as required.

PS-I experience: This was a unique experience as it was work from home. It was harder as the help provided by the mentors was limited but nevertheless it was helpful.

Learning Outcome : I learnt how to work in an industry and how large scale projects are built and deployed.

Name: POKAR SANKET CHANDULAL .(2018B3A70356H)

Student Write-up

Short Summary of work done : I worked in the web development project for NIC. The goal was to make an application similar to Google Forms for the government. We had a team of 3 working on the project. NIC expected us to use Microsoft's .NET core framework to build this project. I worked on the front end part of the project. It was my responsibility to make the page where the creator can enter the questions he would like to be on the form. I learned frontend web development in the process. I learned HTML and JavaScript because those were the main components of my part of the project. It was a very enriching experience and I had a very good time developing this project. There was no major prerequisite before starting on the project. All the technologies required can be learned during the development of the project.

PS-I experience: It was an awesome experience to work for the organization which provided IT infrastructure to the Government of India. I feel grateful to have received such an opportunity right at the end of my second year. The mentors at the NIC and the instructor in charge were very helpful throughout the course and helped and guided us whenever we needed. It was a very good experience.

Learning Outcome : I learned HTML, JavaScript which are the main building blocks for front end web development. Also, I gained experience how the project development of a web application takes place.

Name: MANPREET SINGH TALWAR .(2018B4A70925P)

Student Write-up

Short Summary of work done : Objective of my project was to build a neural machine translation model using Rnn and Lstm which will be able to convert Hinglish text to English ,just like google translate

PS-I experience: It was a great experience to work under NIC. Although it was an online PS but still our mentors were available for us at any time

Learning Outcome : Learnt about deep learning,natural language processing and nmt. Ps helped me to develop my communication skills and presentation skill as well

Name: UMANG BARTHWAL(2018B5A70672G)

Student Write-up

Short Summary of work done : Our project was to develop eForms for the NIC (eForms are similar to Google Forms). We used ASP.NET Core 3.1 Framework for Client-side and Server-side development and MySQL as Database.

PS-I experience: The overall PS experience was good.

Learning Outcome : ASP.NET Core Framework, Entity Core Framework, MySQL

Name: DINANK VASHISTHA .(2018B5A71055H)

Student Write-up

Short Summary of work done : We created an AI enabled chat-bot, for an API portal. It guides the user through different step by step procedures to be performed on the portal. It can also answer general queries, technical FAQs, and other queries related to API portal.

PS-I experience: It was a great learning experience, and i explored many fields, learned to communicate with a team, and mentor. It taught me a lot.

Learning Outcome : I learned about APIs, API management, API portals. On the other side I explored Natural language processing, AI chat-bots. In the end, me and my team were able to deploy the fully functional AI chat-bot on a pre-production website. Also, I developed a lot of soft skills in these 6 weeks.

PS-I station: National Institute of Oceanography, Goa

Student

Name: AVINASH BHAT PATTAJE .(2018AAPS0476H)

Student Write-up

Short Summary of work done : I was tasked with designing a software that was capable of reading the stored sonar system data and plotting graphs based on the raw data. The program was designed keeping the Konsberg EM series of sonar systems as the target system types. The sonar system would store the measured values in a binary file, which could be transferred to a computer. It was stored in the form of contiguous datagrams, with each datagram containing a certain type of data, like depth readings, position, measured backscatter from the seafloor, etc. The program had to identify the required datagram from the multiple ones stored in the file, then store them in special variables. These values were then processed according to our need and plotted using a wrapper header file called `matplotlibcpp`, that allowed the program to leverage Python's `matplotlib` API. The program itself was written in C++.

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 no prior experience, namely multi-beam sonar systems. he helped me understand the calculations that had to be done before we could plot the extracted data. My PS faculty helped ensure that there were no issues on the admin side of things.

Learning Outcome : I learnt how to develop a program for a specific user base. I also got an opportunity to learn C++, a language I had been meaning to learn for a while now.

PS-I station: NECTORR LABS - IT, New Delhi

Student

Name: ASHWIN MATHEW OLAKANGAL .(2018A3PS0544H)

Student Write-up

Short Summary of work done : All the projects were related to web development. My project in particular dealt with creating a website for teams to manage tasks and members. The learning process was intense as there was a lot of different technology that we had to learn about and implement in our website. Our project would also help in generating users by offering a platform for companies to create/edit teams, add/delete members from a team, allocate and divide tasks to members in a team, set status or delay deadline for particular tasks. All this was in addition to creating basic functionality expected from an Enterprise level website such as cookie implementation, sign up, login, user friendly interface on both desktop and mobile devices. In the end we successfully completed the project as per requirements.

PS-I experience: The experience was intense as there was a lot of learning and implementation to do, but in the end we learned much more than just web development, we learned how to work in a team. I would recommend this PS station to anyone who already has an intermediate/advanced level along with deep interest in web development.

Learning Outcome : Besides the technical skills gained, I got insight into how the IT industry really is like, and the kind of work that is done. Furthermore, I also learned how to collaborate and work in a team environment.

Name: RISHI JAIN .(2018A7PS0103G)

Student Write-up

Short Summary of work done : We have created a web application named Team Text Connector, which enables members in a team to chat and send files.

PS-I experience: It was really an enriching experience, the initial one week was very hectic, but afterwards things started to get more informative

Learning Outcome : I got to learn about web development and backend

Name: ADITYA MISHRA .(2018B1AA0897G)

Student Write-up

Short Summary of work done : Our team was allotted a web app development project where I worked on backend of the project. The tech stack used was mongodb nodeJS jQuery and bootstrap.

PS-I experience: My PS station is a social media management startup start-up in New Delhi. We worked with the CTO on web development. The experience was not good in the beginning as we had to sit 8 hrs in front of a screen which wasn't very productive and we didn't achieve anything fruitful in the first week. After the allotment of projects it became more productive and enjoyable

Learning Outcome : Now I can comfortably work with NodeJS and Mongoddb.

PS-I station: North Eastern Space Applications Centre - AI applications on Satellite & UAV images, Umiam

Student

Name: ASHNA SWAIKA .(2018A7PS0027H)

Student Write-up

Short Summary of work done : Our project was Image classification, Object Detection and Semantic segmentation in Aerial imaging using deep learning techniques. The project was entirely computer vision based requiring us to do different tasks on aerial images. We started by taking three datasets for these three projects. Image classification was done on Eurosat in order to classify images according to their land use. We used pretrained resnet 50 architecture and trained our model using it. Object Detection was done on DOTA dataset. In this project we were required to detect objects across 15 classes in the images. We used darknet implementation of YOLOv3 to complete the project. Semantic segmentation was done on DSTL dataset which required pixel wise classification of images.

PS-I experience: Online PS through NESAC was a nice experience. The projects were pretty good and given to us right from the beginning. Although we mostly had to figure out everything ourselves and I felt like there was a shortage of time to complete the three projects.

Learning Outcome : I learnt a lot about the field of deep learning in computer vision. The application part and also the challenges of training the models, computational limitations and memory limitations.

Name: MANAS MINNOOR.(2018A7PS0142G)

Student Write-up

Short Summary of work done : We were required to develop various Deep Learning models which would be able to detect and predict the types of human actions present in Aerially recorded videos. We were assigned the publicly available Okutama-Action dataset, which consists of 43 videos recorded by drones. We implemented a CNN as well as an LSTM model, and also developed a web application to deploy said models.

PS-I experience: Remotely working on this was a challenge, but both the faculty and mentor in charge of my project were very helpful and accomodating. Although it would have been better to have had an in-person experience, I was able to learn and also

apply a lot of knowledge in these fields. The evaluation components were well-spaced and not too hard to manage.

Learning Outcome : I was able to not only learn but also apply this knowledge in the field of Machine Learning, particularly Deep Learning. We also attended many webinars that expanded our knowledge in fields other than Computer science as well. We were able to work on soft skills through presentations and writing tasks too. Overall it was a fruitful learning experience.

Name: ARCHIT GUPTA(2018B1A70149P)

Student Write-up

Short Summary of work done : The project was mainly focused on Human Action Recognition and Tracking. The work involved choosing of a dataset with aerial videos of people performing various actions. This dataset was then studied and pre-processed in different ways. Alongside this, neural networks such as CNN and LSTM were built and trained with this dataset. Minor fine tuning and tweaking was done to improve metrics such as accuracy, f1 score etc. Object detection models were also trained such that they could identify humans from aerial videos. Once these models were trained, there were incorporated with a web application. In this web app, a user could upload an aerial video, after which we would extract the frames, perform object detection for humans and predict the actions being performed by these humans with our trained neural models. The predicted results were then returned to the user.

PS-I experience: The PS gave me exposure to Machine Learning, particularly to Deep Learning. The experience was overall very good, with the mentors helping us whenever we had a problem and encouraging us to explore and try new things. The project helped us to explore several fields which gave us a lot of knowledge.

Learning Outcome : Understanding and working with Neural Networks/Deep Learning Models , Python coding and several of its libraries, working with Tensorflow and Keras, working with Google Colab and the basics of HTML and CSS.

Name: SIDDHARTH HEMENDRABHAI SHAH .(2018B1A70259G)

Student Write-up

Short Summary of work done : My project was in the Deep Learning domain. I primarily worked on 3D Semantic Segmentation on Aerial Dataset (Semantic-8). We used the PointNet++ architecture to build our model and Open3D library to parse the point cloud data and enhance the performance of our model.

PS-I experience: PS-1 gave me a good exposure of collaborating and working in teams.

Learning Outcome : I had no prior experience working in Deep Learning. So, from the project, I got to learn a lot about CNNs, open-source tools and libraries for 3D dataset and how to structure our DL models to improve accuracy.

Name: SOHAN DAS(2018B3A70848H)

Student Write-up

Short Summary of work done : Our project aims to accomplish three goals namely Image classification, Object Detection and Semantic Segmentation on aerial images captured by drones and satellites.

We have relied on transfer learning/fine-tuning of a ResNet-50 (pre-trained on large ImageNet dataset) by running back-propagation on smaller datasets like EuroSAT for image classification.

To accomplish object detection on DOTA dataset, we have used Darknet implementation of YOLOv3.

For semantic segmentation we have relied on Atrous Convolutional networks to generate binary masks for object classes in the DSTL dataset.

These models will be used for various applications like natural resource mapping etc.

PS-I experience: Due to being WFH, we couldn't gain as much experience as an onsite PS. However, doing the project at home and engaging with others in seminars, did help me gain insight into AI/ML.

Learning Outcome : Learnt about how to train and test AI models to classify, detect and segment objects in aerial images. Learnt about TensorFlow, Darknet, YOLO etc. Learnt to resolve compatibility issues in code. The seminar and group discussions also helped in improving soft skills. Doing this project introduced me to machine learning and computer vision. Also learnt about how such techniques are used at NESAC to solve real world problems and for research.

Name: ATISHAY JAIN .(2018B5A70908G)

Student Write-up

Short Summary of work done : Our project was to build advanced Landcover Classification models for Satellite imagery and to develop a GUI to smoothen the classification process. The work can be majorly divided into 2 parts: (i) Finding and building different types of classification models (UNet, SatelliteNet, Random Forest) which have the potential to be used with remote sensing data [it mainly involved reading research papers and building models on python] (ii) Development of GUI [it involved reading tutorials & documentation and python coding]

PS-I experience: I can safely say that for our whole team the experience was very enriching. Mostly because the project offered to us was interesting and our PS mentor was very helpful. We were given ample time to explore new domains while our mentor ensured that we were meeting our targets.

Learning Outcome : We were exposed to new fields of Remote Sensing & GIS and software development, it was fun learning everything from scratch. Apart from these technical things, we also got acquainted with research methodology, writing software documentation and conference paper. Overall the experience was very good.

Name: VASHI CHAUDHARY .(2018A7PS0243H)

Student Write-up

Short Summary of work done : I was allotted the project "impact crater identification from satellite imagery". It was an object detection project using YOLO (a Machine learning algorithm).

PS-I experience: 2 of us were allotted the same project. Our major work was data pre-processing and working with multiple datasets. We used a pre-trained model of YOLO for our work. Through our journey, we gained a good hands-on experience of working with big data , machine learning and data pre-processing. Our instructor was really helpful and helped us gain maximum from the project. It was a great work experience over all.

Learning Outcome : From learning basics of machine learning , to working with very high resolution images, to training machine learning algorithms with our data, we gained a good experience.

Name: SHIVANSH GAHLOT .(2018B3A70736G)

Student Write-up

Short Summary of work done : We learnt about the basics of remote sensing and Geographic Information System. We then generated Land Use Land Cover maps using Google Earth Engine.

PS-I experience: The instructors were very nice and always ready to help. However, the experience could have been way better if the PS was offline.

Learning Outcome : I learnt the basics of Remote Sensing, Geographic Information System. I learnt about Google Earth Engine and machine learning techniques and neural networks in relation to LULC map generation. I also got familiarised with Javascript and Python API of Google Earth Engine.

Name: MUSHKAN SUREKA .(2018B5A70477H)

Student Write-up

Short Summary of work done : LULC maps are vital for several governmental, environmental and societal applications. Traditional techniques for generation are time consuming and labour intensive, especially over large areas. We attempt a time and location independent technique for LULC map generation using Google Earth Engine and compare several machine learning and deep learning classifiers to uncover the classifier most suited for this purpose. We have generated classified maps using minimum distance, support vector machine and random forest classifiers. In the next part of the project, we have used the Sequential Neural Network classifier and assessed accuracies.

PS-I experience: Amazing, got a lot of exposure to corporate work and got an interest in research work.

Learning Outcome : Tensorflow, Neural Networks, Machine Learning, Python.

PS-I station: Parentlane, Bangalore

Student

Name: DHRUV NAGPAL .(2018A7PS0095G)

Student Write-up

Short Summary of work done : Our PS project was the development of a tele-consultation feature for the company to be used from mobile browsers.

PS-I experience: Due to the COVID pandemic, our PS was conducted online. We had daily meetings with our instructors from the company. Parentlane is a startup and has a small team right now, and we were working with the founders themselves. I was initially assigned to the backend team, and developed some APIs for the same. Most IT work can be done remotely, so this part was not the issue. Towards the end of the PS, the feature was deployed on their servers. I cannot discuss the work due to NDA, but it was in the domain of web development.

Learning Outcome : I learned how to implement APIs, work with back-end and also gained skills in front-end development.

Name: SHREYANS JAIN .(2018A7PS0253P)

Student Write-up

Short Summary of work done : My project involved developing the consultation interface for Parentlane that will be used directly by their customers (mainly doctors and parents) once launched. The application interface is built using full-stack tech (React, Express) and features other services including a symptom search-engine (based on Elastic search) and a video conference room (uses the Twilio API). The application was later deployed on AWS.

PS-I experience: The mentors were extremely helpful and introduced us to industry-level development practices that we otherwise don't use when doing personal projects. This station is a startup, so the workload was a bit on the higher side but we were given the freedom to make certain development-related decisions which made things more interesting. Good opportunity for people interested in full-stack dev or natural language processing.

Learning Outcome : Learned about practices that developers use when making production-ready applications that can handle a large amount of traffic and remain performant. Got exposure to full-stack tech like React and Nodejs and learned how to integrate NLP models into a web app.

Name: INDRAJITT VALSARAJ .(2018A7PS1019G)

Student Write-up

Short Summary of work done : Had to work on developing a RESTful API for the company's doctor facing application. The work involved extensive use of Java and MySQL. We used several other frameworks such as Hibernate and Dropwizard.

PS-I experience: The experience so far has been quite enriching. Since the company is a startup, we were given work that was actually quite crucial to their products. Prior to this I had no practical experience. The experience gave me my first exposure to the corporate world and helped me gain a lot of new technical knowledge.

Learning Outcome : I learned how to work in a corporate setting and gained an understanding of how the corporate world speaks and works. Apart from this I also learned how to develop backend APIs. This experience also showed me real world applications of the OOP concepts we had learned in college.

Name: AKSHAY V.(2018B1A70608G)

Student Write-up

Short Summary of work done : The parentlane app used elastic search for giving the relevant results but it wasn't efficient so we had to implement a REST API for giving relevant queries and articles based on the user query using natural language processing and the best model would be implemented in their app

PS-I experience: It was good ,it was hectic in a good way and the company people took us seriously when I showed them that our model was working better than their app and they even gave us access to their Amazon servers to implement it directly

Learning Outcome : Overall mind-blowing .We learnt about the flask rest API ,deep learning models ,transformers and got an exposure of the software world.

PS-I station: PayPal - Secondary Research, Chennai

Student

Name: HARMAN MARSHAL SINGH .(2018B4A70843G)

Student Write-up

Short Summary of work done : The project title was 'Forecast of deposits in PayPal wallet'.

The aim of this project was to forecast deposits in a PayPal wallet by determining the underlying trends and patterns in the available data of e-wallet deposits.

Various data analytics techniques were used to observe trends in the data and for prediction of future deposits, time-series analysis was used. Predictions were made using multiple forecasting models and results were compared. At last, a GUI for showcasing our results was created.

The programming languages used for data analytics were Python and R and for the GUI, Java was used.

PS-I experience: Considering that PS-1 this time was 'work from home', the experience was great. Mentors from PayPal, Chennai were really helpful and guided us very well. The work could have been a bit rigorous but the duration of PS-1 was also shortened so overall it went well enough.

Learning Outcome : PS-1 had been a great opportunity for me to improve my technical as well as soft skills. I learned R, various time-series analysis methods. The project also helped me enhance my Python skills. PS-1 also demands good communication skills, presentation skills, and teamwork and this helped me refine these skills.

PS-I station: PayPal - Sectoral study, Chennai

Student

Name: PRATYAKSH GUPTA .(2018A4PS1019P)

Student Write-up

Short Summary of work done : Qualitative and quantitative analysis of Indian digital wallet industry. we performed SWOT, PEST and Porter's Five forces analysis. We also analyzed consumer behavior on tableau and created a webpage to display the same information.

PS-I experience: Good

Learning Outcome : Industry exposure, soft skills and technical skills.

Name: RAJDERKAR NILAY PRADEEP .(2018B3A70725G)

Student Write-up

Short Summary of work done : Work revolved around market study of digital wallet industry in India with data analysis. All relevant stats and findings had to be put up on a created website to be deployed. Data needed to have category filters with a good UI.

PS-I experience: Good experience overall.

Learning Outcome : Learned about market study as well as Web development and data handling/analysis.

Name: MANU PRIYAM MITTAL .(2018B3A71051H)

Student Write-up

Short Summary of work done : We had the project 'Market Study of Digital Wallet Industry in India' and come up with some indications as to which is the most preferred way of digital payment by Indian consumers. There are a number of things that are involved in doing a market study. So we did Qualitative analysis as well as Quantitative analysis. Under Qualitative analysis we took the competitors of PayPal and found out as to what all services are offered by PayPal and others, which all are the areas that need to be improved upon. On similar lines, Qualitative analysis was further done using three benchmark techniques namely SWOT analysis, PEST analysis, Porter's Five Forces analysis of the digital wallet industry in India. Quantitative analysis was done studying the behavior of the consumer under two categories - those using PayPal and those who use some other mode. The variables included frequency of purchases, amount, etc. We also made a web-page where different graphs could be found as soon as we input the data of PayPal or other competitors with and without time being taken as a frame. This was done for a better Quantitative analysis that could also compare PayPal with its competitors. Finally, this all was done to find which all areas were there Where PayPal was lagging behind and it could improve and marketing could be done in appropriate areas.

PS-I experience: It was a wonderful hands on experience as this was the first time we got an opportunity to use the theoretical knowledge that we have been taught in various academic course like Principles of Management, Econometric Methods , etc. We had to work on real time data and find important insights from it and give suggestions to our industry mentors. Our PS Faculty and Industry mentor were always there with us at each step to provide guidance and support without which we would not have been able to complete the project successfully.

Learning Outcome : We got the opportunity to learn various new things, be it technical skills or soft skills. As a part of technical skills we learnt some softwares like Advanced Excel, Html-CCS and mongoDB , creating a new web-page. Since we applied the SWOT analysis, PEST analysis, Porter's Five Forces analysis ,etc, we got our these concepts much more strengthened. Moreover , there were lot of webinars that took place not only related to our project domain ,but also other areas . As a result we learnt various other things like Data Analytics, its main components, General Management,, etc. We also got the opportunity to have our first look at the Bloomberg Terminal which is a great thing in itself. As a part of soft skills we learnt team work, time management, report writing, presentation skills, Group Discussion skills , paying attention at each and every smallest detail that could be there, and much more. In all, it was a great experience.

PS-I station: Platifi Solutions, Bangalore

Student

Name: HARSHIT GAKHAR .(2018A7PS0182H)

Student Write-up

Short Summary of work done : Development of Platifi Jobs website:

A platform where job seekers can be recruited by interested employers, based on their skills, education, etc.

As our work, we made some components of this website.

PS-I experience: It is a unique experience working from home with industry experts and peers.

Learning Outcome : Learned Basics of Backend Development using MERN stack.

Name: JATIN ARORA .(2018A7PS0551H)

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 job portal for the company.

PS-I experience: Overall experience was good.

We have daily meets in the first two weeks which turn out to be weekly meet after that

Learning Outcome : I was not new to web development so I revised what I have already learned in my software engineering course. Basically you can learn react, node , express and mongoDb after doing this internship

Name: LAKSHAY DUA .(2018B3A70735G)

Student Write-up

Short Summary of work done : My project was to build a job portal similar to Naukri, Shine, etc. where students/job seekers can register to the portal, create their profiles and upload their resumes. Also, employers could register and view the profiles of students and contact them. Basically it was a client-side rendering web application. In this all of the software run on the client's device where the burden of compiling dynamic content and generating HTML for them is transferred to client's browser. Instead of having a different HTML page per route, a client-side rendered website creates each route dynamically directly in the browser. Our team of 10 students worked in groups of 5-5 where 5 worked on frontend and other 5 worked on backend of the project. In this project we used ReactJS, HTML5, CSS3, Bootstrap 4 and JavaScript for Front-end; NodeJS, ExpressJS for Back-End and mongo DB for Database.

PS-I experience: The PS experience was very good as it provided me with experiences and the tools that will help me in the future. I understood that team work and strong communication skills are a must to work effectively in the workplace. Things change all the time, and that's especially true in the workplace so we should adapt to the changes that our workplace and work demands to be more efficient and give the best output to the organization. It helped me to get used to the professional setting and to navigate the corporate world through hands-on experience of learning and implementing new technical and soft-skills within a short span of time as per the demand of the new environment and the situations that arise around me. The mentors were really knowledgeable and were more than willing to help with everything. The main things learnt were to be professional at all times, to be open to learning new things every day and working hard.

Learning Outcome : I was exposed to a new set of problems that helped me to have a practical outlook towards the scenario throughout my journey in PS I and also helped me better understand and have realistic expectations out of a job in the corporate world. 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 learnt about front end technologies especially Bootstrap, ReactJS, and basics about back end frameworks as well. I learnt the intricacies of these frameworks, and was able to make an end-to-end web application using these technologies.

Name: M V SHASHANK .(2018A7PS0734G)

Student Write-up

Short Summary of work done : We designed a job portal web application for company where students can apply for jobs using the portal.

PS-I experience: It was a great experience working in the company. I had learnt a lot of new skills and also the company officials were very easy to access and clarify doubts.

Learning Outcome : I am now very comfortable with backend development and also have a good knowledge in front and.

PS-I station: Race2Cloud Technologies Pvt. Ltd. - Apps on Zoho Creator, Bangalore

Student

Name: SHIVAM AGARWALLA .(2017A7PS1589H)

Student Write-up

Short Summary of work done : We were asked to develop an application for an NGO to automate and ease their crowdfunding efforts. Before, the NGO worked using Whatsapp and word-of mouth.

We used Zoho Creator (a low code platform for creating custom applications) to create an application which contained forms to collect data like donor form, beneficiary form, volunteer form, and donation page. We also created a public Dashboard to show statistics about the donations made till date.

For better reach we also created an android application (using Java) which will collect data from donor/beneficiary/volunteer and send it to the Zoho application using API calls. The android app also features a dashboard which shows all the donation statistics.

We have automated the application to a certain extent which are as follows. Whenever details are submitted, an email is sent to the user about his/her submission. The application checks for mandatory fields, valid mobile number, valid Aadhaar card number, etc. Whenever a beneficiary sends a request for help, an email is sent to the admin for verification of the request. The request for help is automatically closed when the target amount of monetary help is reached.

The process flow is as follows. The beneficiary submits the request for help. The admin may check and verify the request and may confirm the request. If the request is confirmed a new campaign is created and mail is sent to all donor about the new campaign. Donations are accepted till the target amount is reached. After that the request is closed.

PS-I experience: The PS-I experience was very valuable to me. I came to know the difference between academic knowledge and practical application of it in industry. PS-I allowed me to sharpen my skills by allowing me to work in the corporate environment.

The complete software development cycle was a very informative and enriching experience for me. This was my first experience to work remotely and with professionals. The virtual tours, training and webinars allowed me to become skilled in practical development and made me aware of industry norms and practices.

Learning Outcome : We learnt about Zoho Creator and Deluge (a scripting language). We also learned about ZML (Zoho Markup Language) and Mobile SDK. We came to know about the software development cycle of an application. We learned how to debug and test an application so that it works under different conditions.

We learned how to work remotely from home in an online environment and in a professional way. We also learned about collaboration with our teammates as well as our faculty and mentors.

Name: ROHIT GARG(2018A7PS0193G)

Student Write-up

Short Summary of work done : Project Title: Crowdfunding Application for NGO

Description: We built an crowdfunding application for NGO where a beneficiary can start a fundraiser for his/her cause like education bills, medical expenses and donors can help them by providing financial support. For this purpose, we built an Android application using Android Studio, consisting of 4 forms: Donor Registration Form, Beneficiary Registration Form, Volunteer Registration Form and Request Form. Zoho Creator was used as database for our project and data sent by forms was caught by it. Apart from this, we also integrated a Paypal payment gateway within the app using APIs.

PS-I experience: PS-1 provided me the exposure to the industry level projects. I got to work in a corporate setting and also got helpful inputs from my mentors . PS-1 also helped me to build professional connections with company officials and speak in a professional setting. Through PS-1, I was able to explore my area of interest in Computer Science and try out different domains like Web Development, App Development, DBMS, AWS etc.

Learning Outcome : I learned how a software is designed, built and deployed from scratch by understanding client's requirements and what tools are needed at each stage of development cycle. I also learnt Web Development, Android App Development, AWS etc. I also learned how to work with APIs . Apart from technical skills, PS-1 also helped me to hone my soft skills like Public Speaking and teamwork.

Name: DEVANSHU .(2018A7PS0194P)

Student Write-up

Short Summary of work done : I made Zylker Application on Zoho Creator. With help of this application, users can book an appointment of service and can select stores, date and time slots according to his/her convenience and according to the availability and the company can keep track of the services, stores and slots booked by the users

and can also add new services and new stores to this application whenever it is required. This application greatly helped the company, to easily handle all the appointment details and keep all the data in a structured way..

PS-I experience: I really had a great PS-1 experience. Be it the work environment, the mentors, the staff and my peers all were quite great. Our mentors were really helpful and keen to help us whenever we were stuck somewhere. Overall it was a great experience and I shall cherish these 6 weeks in my near future.

Learning Outcome : I learnt a lot of things, from how an organization functions to how teams co-ordinate on projects. I studied various new languages and topics, which will be of great help in my future courses and projects.

Name: AAYUSH MATHUR .(2018A7PS0729G)

Student Write-up

Short Summary of work done : Worked with Zoho Products. Made websites, iOS, and Android apps with Zoho Creator. My project was to make a tenant management application. The app had a customer portal and various features and was integrated with a sales management software (Zoho CRM), a help desk software (Zoho books), and finance management software (Zoho Books) all synced together. Everything was automated with different Workflows, a PG owner can now sit in his room and manage everything without speaking a word.

PS-I experience: Along the journey, I learned a lot about cloud computing.

Learning Outcome : Got to know about Zoho. I'll be using Zoho Products to make quick apps now.

PS-I station: Regional Remote Sensing Centre, Jodhpur

Student

Name: RACHIT MAYUR SHAH .(2018A3PS0300P)

Student Write-up

Short Summary of work done : My project involved detecting change in vegetation cover over a period of time. The study was conducted in two districts of Rajasthan, namely Sirohi and Barmer, which has completely different terrains. Several classification algorithms as well as change detection algorithms were applied on the satellite imagery to get the desired output. As our PS was conducted in a remote way, we used cloud GIS platform Google Earth Engine for analyses of satellite imagery.

PS-I experience: Apart from the limitations of remote internship, I had a great time interacting with my mentor from RRSC Jodhpur. I got a glimpse of how an organization like RRSC operates and what kind of problems does it solve, from my mentor. I also learnt how a project can be implemented completely from home and how communication barriers delay the implementation of the project.

Learning Outcome : I realised how powerful remote sensing technology is and how we can apply it to various disciplines to get some really fruitful insights. Also, PS helped me improve my communication as well as presentation skills.

Name: PRATEEK GARG .(2018A3PS0412P)

Student Write-up

Short Summary of work done : My work at PS-1 entailed application of Deep Learning techniques on GeoSpatial Imagery. In particular, we had to semantically segment House Buildings, Solar Farms and Sand Dunes on the Aerial Image Collections, such as LANDSAT-8 & SENTINEL-2.

The first phase of the project included building and compilation of dataset using Google Earth Engine and object boundaries. This was followed by some image processing

techniques to convert the obtained rasterized data into a valid deep learning dataset. This was achieved using some special Geo-Processing Tools based on Python libraries. We then trained this dataset on some semantic segmentation architectures such as UNet and DeepLab V3+. This process involved a lot of hyperparameter tuning to set up a model that could precisely segment the object classes. We reported the robustness of the trained model based on visual inference results and accuracy metrics on some test images.

PS-I experience: My experience at RRSC, Jodhpur was quite good and the project allotted to me suited my interests very well. The mentor and faculty were helpful and supported the team throughout the PS duration. My fellow team mates were helpful and coordinated well in the project work. I also got a good exposure of working in a research institute.

Learning Outcome : 1) I learnt about professional communication skills.
2) I learnt how research institutes typically operate while undertaking a project.
3) I learnt about some new Deep Learning architectures and methods that can give excellent performance in vision tasks.
4) I got a good exposure to some new libraries and platforms such as Google Earth Engine that are helpful in processing geospatial images.

Name: SIDDHARTHA GOSWAMI.(2018A3PS0523H)

Student Write-up

Short Summary of work done : The topic of my project was semantic segmentation of satellite images using convolutional neural network architectures. The project involved extraction of satellite images from Google Earth Engine platform and applying image pre-processing techniques using Python libraries such as GeoPandas, Supermercado, Riotiler and Solaris. The high resolution aerial images were obtained and were divided into smaller tile format and the dataset was split into training and validation set. The training set consisted of the raw images and the corresponding labels of the desired segmentation region. Then, the prepared dataset was used to train the appropriate neural network model and finally, the trained network was used to perform the semantic segmentation on new images to detect solar farms, buildings and sand dunes. The best performing model was selected. A systematic study of various popular semantic segmentation architectures such as UNET and DeepLab V3+ was conducted in order to

better understand their inner workings. The results were analyzed and the most suitable neural network model was chosen, which was DeepLab V3+ model.

PS-I experience: Overall, PS-1 provided a good experience. The mentors and instructors were very knowledgeable and helpful to clear any doubts regarding the project. The project work allotted was interesting and had simple requirements. The project is suitable for someone interested in deep learning applied to image-based data. The projects were conducted in groups and there was freedom to choose our project of choice from a list. It can be carried out smoothly even from a remote location using the Google Colab platform. Overall, the project was insightful, interesting and serves as a good learning opportunity in the field of deep learning and image processing.

Learning Outcome : Key Learnings:

1. We gained introductory knowledge about the fields of Machine Learning, Deep Learning, Digital Image Processing . We learnt to perform study, research and understand popular convolutional neural network architectures such as UNET and DeepLab V3+ for semantic segmentation and implement them using popular Python libraries FastAI & TensorFlow.
2. We learnt about team collaboration techniques for remote working using resources and software like Google Meet, Menti.com, Google Colab, Creately , etc.
3. We learn how to use GitHub platform for collaboration in a software oriented project.
4. We learnt how to extract datasets, images with the help of Google Earth Engine . So now we are familiar with Geospatial data and other preprocessing required for machine learning projects.
5. Gained knowledge of various satellites like LANDSAT , Sentinel etc. and various sensors, methodology used by them for capturing satellite imagery and other data .
6. Various Project management skills like preparation of effective and concise flowcharts, process maps, Gantt charts as well as efficient division of tasks along with creating a project milestone timeline to regularly map the progress of the project.
7. The Group Discussion and various other components that happened as a part of PS improved our communication skills as well as presentation skills. This also helped us to improve our skills related to report writing and documentation for Software Architecture projects as well as in general.

Name: ABICHAL GHOSH .(2018A7PS0172G)

Student Write-up

Short Summary of work done : The work that I have done was done by a total of 6 people(including me). Our work included the application of semantic segmentation/image segmentation(Computer vision topic) on satellite images to detect a)Buildings b)Solar Farms c)Sand Dunes. The building part of the project was done in order to gain a thorough understanding of the topic also it had already been implemented in a tutorial. After the analysis of this tutorial, we had to apply similar techniques to detect the solar farms and the sand dunes. The label of the sand dunes/solar farms (consisting of blocks or polygons which showed the corresponding solar farms/sand dunes were provided to us by our mentors). Also accessed the high resolution satellite data through google earth engine. After this we created our dataset into tiles of small images and then applied Image segmentation on the divided training and validation set using 2 architectures namely UNET and DeepLabv3+. After this we submitted the model which worked better i.e the model created using the DeepLabv3+ Architecture. Our code was written in Python3.6.

PS-I experience: Even though the whole PS experience was online, we got to learn a lot. Interaction was there with the professor as well as our mentor via meets and discussions. Also regular meets/discussions was kept in between the Teammates. In the start the momentum was a bit low as we had to analyze many tutorials and articles, but after some time we gained momentum and were able to work properly. No major challenges were faced.

Learning Outcome : Learned about implementing Image segmentation on high res satellite data. Learned about the architectures that are used in Image segmentation namely UNET and DeepLabv3+. Learned how to access data in Google Earth Engine and working with extremely high res satellite data. Learned Python as our code was written in Python. Learned the functioning of RRSC and NRSC. Also we learned how to discuss topics and properly communicate with each other as a team.

Name: RATHI PARAG SHYAMSUNDAR .(2018A7PS0231G)

Student Write-up

Short Summary of work done : The project which was given to us was applying semantic segmentation for detection of solar farms and sand dunes. So our work was divided into three major steps Preprocessing of geospatial data, the training step and the post processing and analysis part. Our mentor dr. Gaurav provided us with the .kml file which contained labels of the marked solar farms. With the help of google earth engine we had to extract the geotiff image of the labels and then make the dataset required for training step. Before this we were provided with some resources which contained similar kind of approach for the building segmentation and it helped us a lot in our project. The tools used by us in project were google colab, GEE etc. The project was done in python and various different such as solaris, rio-tiler, super mercado for the preprocessing part. The model which we used for semantic segmentation was UNET. In post analysis we came to know that since our dataset was small and UNET also was small model our accuracy was very less. So we used some techniques such as data augmentation and we changed our training model to deepLabv3+ which was developed by google for semantic segmentation. After completing this procedure we got some good results. Then the same model was applied by us for the sand dunes detection purpose.

PS-I experience: The PS experience was very good but would have been more better if we would be able to actually stay and work there. PS helped me to understand basics of how a Research organization works. Due to the project which was allotted I learned machine learning, Computer Vision and Semantic Segmentation techniques. PS also improved my communication and Presentation skills because of its various different components.

Learning Outcome : I gained introductory knowledge about the fields of Machine Learning, Deep Learning, Digital Image Processing . Learnt to perform study, research and understand popular convolutional neural network architectures such as UNET and DeepLab V3+ for semantic segmentation and implement them using popular Python libraries FastAI & TensorFlow. Learned about team collaboration techniques for remote working using resources and softwares like Google Meet, Menti.com, Google Collab, Creately , etc. The Group Discussion and various other components that happened as a part of PS improved our communication skills as well as presentation skills. This also helped us to improve our skills related to report writing and documentation for Software Architecture projects as well as in general. Overall it was a very good learning experience.

Name: SARTHAK AJMERA(2018A7PS0236G)

Student Write-up

Short Summary of work done : The project was about change detection and analysis of satellite images using Google Earth Engine. Focus was mainly on detecting change in vegetation cover Barmer and Sirohi district of Rajasthan. All the required data and tools were available on Google Earth Engine, hence getting fluency with Google Earth Engine was the foremost thing. Some machine learning algorithms were also used to detect changes and perform time series analysis over image collection.

PS-I experience: The experience was enriching in terms of knowledge gained. Due to remote nature of internship, getting doubts cleared by PS mentors was a bit slower but due to combined efforts of mentor and fellow team-mates, it wasn't difficult to overcome this gap.

Learning Outcome : I got introduced to GIS and associated technology. Got to learn about algorithms like random forest, support vector machine and CART.

Name: VAIDYA OMATHARV BHARAT(2018B4A70354G)

Student Write-up

Short Summary of work done : Our project was on the detection of Solar farms and Sand-dunes using Image processing techniques. Surveillance of these solar farms would help in providing better monitoring and optimal utilization of renewable energy sources. The detection of sand dunes in a particular area gives a rough idea about the drought conditions, overgrazing, unsustainable agricultural practices, etc. We used Semantic Segmentation, which is a technique to classify each pixel of an image into different groups. We were given the labeling of Solar farms and Sand dunes in a kml file. We imported and processed satellite images of the same via Google Earth Engine. The entire project was done in three phases - Pre-processing, Main segmentation, and Post-processing. Pre-processing involved in breaking the GeoTIFF Satellite images into small tiles. These tiles were fed into a deep learning model. We used two different architectures to compare and contrast our results - UNet and DeepLabV3. DeepLabV3 proved to be a more effective model with an accuracy of almost 70%. The post-

processing step was used to evaluate the performance of our model using accuracy metrics and visual results.

PS-I experience: This was my first internship experience. It was also the first time the entire PS1 course was organized in a remote environment. It was a very good and positive learning experience for me. We had several technical seminars organized by the PS department. We also had regular meetings with our PS instructor regarding our schedule, group discussions, and practices in the IT industry. Sessions with our mentor helped in formulating the plan and understanding the objective of the project. Our team also had meetings together to help in effectively completing the project. I was able to learn theoretical knowledge in this domain and apply it in an important practical scenario. Overall, I am quite happy that I got this incredible opportunity to work under RRSC.

Learning Outcome : Because of this project, I was able to explore a completely new field. It gave me a hands-on experience on how geospatial data can be handled and analyzed to yield exciting, yet salient results. This opportunity helped me learn technical skills in the domain of Computer vision, Image processing, and Deep learning. I learned to effectively plan and structure my work. I gained knowledge of the structure and function of RRSC and ISRO in general. Because of group discussions and presentations, I was also able to develop some key soft skills. It was a unique first-time experience for me and I am grateful to BITS Pilani and RRSC Jodhpur for ensuring that it was a success.

PS-I station: Self Help Group, Self Employment Department, Government Of West Bengal, Kolkata- Social Sector, Kolkata

Student

Name: SAUMYA HEMANTKUMAR BHATT .(2018A3PS0303G)

Student Write-up

Short Summary of work done : Gave suggestions on improving the UI of the JAAGO sub portal of the SHG website and increase it's performance. Also performed data

analytics on the JAAGO dataset consisting of 8 lakh entries to gain insights into the scheme.

PS-I experience: It was informative and enjoyed working with the team over at the station.

Learning Outcome : Learned a lot about leadership, management and improved upon my soft skills such as speaking confidently in group discussion and making and preparing for presentations.

Name: PRABHAV SHARMA .(2018A3PS0337H)

Student Write-up

Short Summary of work done : My project is to provide suggestions to improve GUI for the website of the Department after thorough analysis of the present interface. I have worked on two pages on the main website, on first page i fixed the issue of form fields, button alignment, remove unnecessary codes and make it more mobile responsive. And on second page , i have worked upon form alignment, button alignment , label alignment and fixed the mobile responsive issue.

PS-I experience: This PS1 is quite different from what we used to have it . PS1 helps you in building skills from base level and gives you a complete industry experience. PS1 helps you to improve your soft skills which is very important. PS1 provide you a platform that links between ps mentor and industry mentor.

Learning Outcome :

1. Learn techniques of responsive web design
2. Develop skills in analysing the usability of a web site
3. Understand the principles of creating an effective web page.

Name: ROHIT SINGH .(2018A3PS0498G)

Student Write-up

Short Summary of work done : Improving structure of entrepreneur development program and coming up with a module on launching an online business

PS-I experience: It was a good learning experience .

Learning Outcome : Improved soft skills and content creation.

Name: SHASHANK MADHUSUDHAN .(2018AAPS0443G)

Student Write-up

Short Summary of work done : Had to perform data analysis to analyse self help group details which were applying loans to banks. Performed geospatial analysis to analyse locations of self help groups and analysed banks to look at which banks were approached frequently and on what basis loans were given out/rejected.

PS-I experience: It was a decent learning experience.

Learning Outcome : Better teamwork/communication skills.

Name: DEEPAN JAIN .(2018B2A20066P)

Student Write-up

Short Summary of work done : We were given the tasks of designing course modules on the Entrepreneurship Development Program of the Department to promote entrepreneurship amongst the people of West Bengal. Various financial schemes by the government were analysed and studied and a summary was prepared for the scheme to be used for funding of projects. Also one more task was to work on the LMS platform for the department. Due to lack of time only certain amount of suggestions could be made and not much work could be done on the development part of the platform.

PS-I experience: PS 1 experience was really great. It certainly gave us an insight to how the professional life works. Many experiences that couldn't be taught through regular classwork were gained through this practice school course. Regular contact with company officials was really great. Our ps mentor was also very cooperative and she was always ready to help. the industry mentors were always there for guidance.

Learning Outcome : Presentation skills, Communication skills, Web Development, Professional behaviour and the ability to deal with pressurised situations at the industry level

Name: RITIKA GUPTA(2018B3TS1186P)

Student Write-up

Short Summary of work done : We were given the blueprints of modules of EDP training and we were supposed to learn EDP ecosystem of the country and to suggest some measures to improve EDP training in our state.

PS-I experience: It was a whole experience, I learned team work, and developed leadership qualities which enhanced my work ethics.

Learning Outcome : I learned about both Online Business and Offline Business. Specifically, I learned "Marketing and Promotion" at the station.

Name: ANAGH GUPTA .(2018B4A30696G)

Student Write-up

Short Summary of work done : My work consisted of improving the GUI of the SVSKP portal under the SHGSE website, we reported bugs to the developer wing of the PS and worked on debugging them under the guidance of PS instructor and mentors.

PS-I experience: It was decent.

Learning Outcome : Learnt front-end development tools such as HTML, CSS, Javascript, Bootstrap. Apart from this presentations and reports helped me gain decent experience on MS Word and MS Power Point.

Name: Dhruv Vishnu Patidar(2018B4A80012G)

Student Write-up

Short Summary of work done : Improvement of GUI of the department's website.

PS-I experience: We had to start working late due to onset of cyclone Amphan, which had disrupted communication channels. Apart from that my PS1 experience is good. I have a good PS Station team and an amazing PS Faculty.

Learning Outcome : Apart from soft skills like patience, formal communication skills, etc. and technical skills like Web Development, I also learnt a lot about functioning of big organizations.

Name: Dhruv Vishnu Patidar(2018B4A80012G)

Student Write-up

Short Summary of work done : I had to suggest improvement in the GUI of the department's website.

I spent the first half of the PS1 in improving the design of the website, and the other half in making the website more mobile-friendly and optimizing it.

PS-I experience: My PS faculty was amazing. The PS station was also really good. Overall, I liked PS1.

Learning Outcome : I have made progress in the field of web development. I also learnt many soft skills.

Name: HARSH TALWAR.(2018B4A80046G)

Student Write-up

Short Summary of work done : Improvement of the GUI of the department's webpage on desktop as well as mobile devices, optimization of the webpage to reduce load speeds

PS-I experience: Work from home made it difficult to actually implement our suggestions on the server but overall it went smooth

Learning Outcome : Web development skills, presentation skills, teamwork etc

PS-I station: Silvertouch Technologies - Facial Demographics, Ahmedabad

Student

Name: SHREYANSH JOSHI.(2018A7PS0097G)

Student Write-up

Short Summary of work done : I was allotted the project - Facial Demographics. In it, my job was to create a CNN based model that takes image as input and predicts the person's age and gender. I got a wonderful mentor who understood my work very well and guided me all along my project.

The project had 2 parts - Age & Gender Classification and Age Estimation. The former was a classification task as the name suggests, while the latter was a regression task and predicted the exact age of a person.

The model after finalizing was to be deployed for real-time usage. That was done using Flask and Anaconda. I hosted a local server to deploy the model, wherein the user has to just input his/her cropped face image and the model will make predictions.

PS-I experience: My PS-1 experience was pretty amazing. I found the company to be very disciplined and regular in their work. They expect you to work and submit/present your work on time (for us it was 2 times a week). The project was pretty interesting - Facial Demographics and our mentor was pretty knowledgeable. In all, it provided me a wonderful industry exposure.

Learning Outcome : I feel i have got wonderful industry exposure via this PS1. I got to learn how any company functions, i.e the basic practices followed in a company to make it run successfully. Apart from this, I think this experience honed my social skills, such as public speaking, teamwork, etc. Most importantly, I honed my skills in Deep Learning (the project domain) and got to learn many more techniques that can be used.

Name: Jash Shah(2018A8PS0507P)

Student Write-up

Short Summary of work done : My project involved creating custom models using both DL(CNN) and ML(SVM) techniques for implementing Facial Demographics. Specifically we created Gender and Age classification models. It further included benchmarking our models and weights.

PS-I experience: The PS station was quite good. The instructors were really ready to help and were highly knowledgeable. They, and my PS mentor gave constant help and support during the entire duration of these 6 weeks. Implementing such a real world project was really exciting and also expanded my vision in this field. Overall it was nice experience.

Learning Outcome : Technical stuff including pre-training techniques and image's Exploratory data analysis. This included topics from Data Science. Further ML models were learnt and implemented.

Other than these technical stuffs, soft skill including presentations, reports and team project management was also learnt.

Name: VIKAS SHEORAN .(2018B3A70847H)

Student Write-up

Short Summary of work done : We worked on facial demographics where we built a deep learning model to detect face, crop, align and predict age and gender. We begun by reading 6 research paper for literature review then Exploratory Data Analysis then training model on Colab using Keras and Sklearn. Trained around 20 different types of core Machine learning and Deep learning models(various architecture - VGG16, ResNet50) including from scratch to transfer learning and compared performance. I surpassed the benchmark on the UTKFace dataset. The final model was deployed as a web app with a localhost using Flask.

PS-I experience: It was enjoyable and learned a lot of things. Our instructor was really enthusiastic about the project. I highly recommend this PS stations for ML/AI based projects.

Learning Outcome : CNN, Transfer Learning, Keras, Sklearn, Pandas, NumPy, Seaborn, Face detection, Alignment using landmarks, core Machine Learning Algorithms to name a few.

Name: ASHUTOSH SHARMA .(2018B3A70928P)

Student Write-up

Short Summary of work done : My project was Facial Demographics. The goal was to predict age and gender of a person from his/her face image. First we did Literature Review on the subject by reading some research papers. Then we choose a face image dataset and did Exploratory Data Analysis on it to know the dataset better. Then we tried to preprocess the images for input in the model. Then, we built 3 Convolutional Neural Networks for gender classification, age group classification and exact age prediction and a baseline accuracy was reached. Then we kept on tweaking/optimizing the model to get as much accuracy as possible. After that we also tried other bigger face datasets. Once we got our best models we deployed the model for real life use by hosting it on a webserver using flask.

PS-I experience: Worked as a summer intern in Deep Learning for 6 weeks at an IT company. The internship was completely remote based due to COVID and the communication took place mostly through Skype. Even then the exposure I got was really great. My project was Facial Demographics. The project seemed quite challenging as first, but the Mentor was very knowledgeable and guided me through it. And I honestly got to learn a lot in such a short duration. It was a really amazing experience.

Learning Outcome : Learnt python, its various libraries (pandas, numpy, seaborn, matplotlib, SciKit Learn, keras, tensorflow, PIL, OpenCV, flask, etc). Also learnt using services like Google Colab, Git (and other VCS), reading documentation of libraries and reading research papers for Literature Review. Got grasp of Machine Learning , Deep Learning Techniques and Neural Networks especially CNNs and how they function. Also got to know how an IT company functions. From the meets, GDs and seminars that took place regularly, improved my soft skills.

PS-I station: Silvertouch Technologies - Tender Classification, Ahmedabad

Student

Name: Siddhant Kulkarni(2018A7PS0185H)

Student Write-up

Short Summary of work done : Implemented Classical models (SVM, MNB, LR, RFC, KNN) as well as Neural Networks(ANN, CNN, Bi-LSTM, BERT) on the kaggle procurement notices dataset and gained insight in NLP

PS-I experience: Very Helpful Mentor, Teamwork, Soft skills, ML skills developement

Learning Outcome : NLP Concepts, ML model implementation, State of the art models and their implementation, Flask deployment on server.

Name: VATSAL GUPTA .(2018A7PS0198H)

Student Write-up

Short Summary of work done : The Project assigned to me was Tender Classification. I had been given a dataset on tenders. We had to extract useful features from it so that we can predict the major sector, in which the tender belongs. Firstly we tried basic ML Classification models, then moved on to Deep Learning Algorithms to get better accuracy.

PS-I experience: Overall it was a very good experience at Silvertouch Tech. The Industry mentor had a thorough knowledge about the project and guided us through the internship in every way possible. Even though PS was conducted online, the frequent meetings and interaction helped me solve my queries.

Learning Outcome : Canvas assignments helped me to improve my soft skills. The timely submission of the assignments made me punctual. The project domain was in my field of interest and this project helped me to learn and made me more interested in it.

Name: THAKUR SHIVANK SINGH .(2018A7PS0439H)

Student Write-up

Short Summary of work done : We were working on the project named Tender Classification. The project aims to do Long Text Classification of Tender documents into its major sectors using Machine Learning, Natural Language Processing and Deep Learning. Initially, we gather the dataset by scraping relevant websites for long text tender documents. We preprocess the text and convert it into a legible and clean format. We begin with classical Machine Learning models which will set a foundation and benchmark for our project. We then move onto Deep Learning algorithms which help the model understand the contextual information and classify the tenders better. Implementation of different types of models will help in comparing how different models perform with respect to each other and deploying the models for demonstration.

PS-I experience: We were a group of 5 members working on the project, applying various approaches, guided by a training mentor from the company. Overall, it was a good learning experience which helped me improve my technical skills in the domain and gave a sense of real-world datasets and work experience. Also learnt communication etiquettes through online meets and mails.

Learning Outcome : Lot of learning opportunities including soft skills like presentation, collaboration, team-work and effective communication in addition to technical skills and report writing.

Name: VARUN NARAYANAN .(2018A7PS1226H)

Student Write-up

Short Summary of work done : We classified long text tender documents into its respective major sectors. We first preprocessed the tender data and cleaned the data. We then applied SVM, Logistic Regression, KNN, Random Forest classifier models to the data. We then classified the tenders by using deep learning models such as LSTM, CNN and BERT models.

PS-I experience: The experience was very good. The instructors and the employees of the company were very helpful and helped us learned a lot about the Natural Language Processing domain.

Learning Outcome : I learned a lot about the natural language processing domain and understood how to properly deal with bad and unclean data. I also learned how to apply deep learning machine learning models such as CNN, LSTM and BERT.

PS-I station: Silvertouch Technologies -product Recommendation system, Ahmedabad

Student

Name: ANANYA VARMA .(2018A7PS0208P)

Student Write-up

Short Summary of work done : The project allotted was to build a Product Recommendation System for E-commerce application. This was to be implemented by building a Hybrid Recommender Algorithm. The Hybrid Recommender Algorithm had to be constituted of various types of Recommender Systems such as Collaborative Filtering, Latent Factorisation etc. We worked on the Amazon Review Data set in the domain of Electronics and the objective was to provide personalized product recommendations to our users.

PS-I experience: My PS-I experience has been great as my project was well coordinated and informative. Our industry mentor encouraged us to find solutions to the problems that we faced. We were given materials to refer to and new ideas were appreciated. There were a few problems related to handling logistics of meet schedules, but that's reasonable in my opinion as this company came for PS for the first time. The company has given training to many other interns, and their experience has also been great. Most importantly, even though the PS was conducted in online mode, still we managed to get industry experience. I'd like to thank PS division for giving me an opportunity to work on this kind of a real life project.

Learning Outcome : The most important lesson I got in this internship is that, in any kind of ML project, majority of the time is spent on understanding the data. The better one understands the data, the more valuable insights one can derive from the data. We tried and tested many algorithms to fit our scenario and figured out the best picks for our model, and learnt hyper parameter tuning, which is a finishing touch to our model. Also, the industry solutions are presented as APIs and thus the ultimate objective was to script our algorithm as a solution to the Product Recommendation problem statement.

PS-I station: Starmark Software Pvt.Ltd. - Build an interoperability platform, Bangalore

Student

Name: VINITI JAIN .(2018A7PS0202P)

Student Write-up

Short Summary of work done : Making an interoperability platform where two software communicate and exchange information.

PS-I experience: It was a work from home experience where we did not get a chance to see the work environment but learning the industry standard and techniques to write a code which matches the standard was informative

Learning Outcome : I learned about the broad scope of the interoperability platform and how to change the code according to the requirements. I also learned about making a configurable use friendly platform.

Name: NIELLESS ACHARYA .(2018A7PS0207H)

Student Write-up

Short Summary of work done : Under the guidance of two mentors from the field, it was a amazing journey to go through. Starting from the first day we got involved in the company's work field and got to know about their management system (LIMS) and the platform to work on. Our project was basically using the platform HL7 to manipulate files for industrial use in a large scale in Xml file format. We built two Transformer softwares which can convert files between HL7 and Xml formats. And then a platform which could hold both these transformers and assist the user in converting files. The whole model is built using java which is an automated one where a config.properties file is provided where the user can make changes that he desires to bring in the documents after conversion. The model takes input and all the user needs to do is simply drop/paste files in the expected folder and the rest conversion part is done by the model. It's a very efficient model which has an input capacity of 1000 files of each type simultaneously and do the job in a few seconds. All you have to is drop files in batches and keep on doing that as the program keeps on running in a loop until the user stops. The mentors provided the required guidance and supported us throughout the programme. I've gained a lot of experience as well as knowledge in this journey.

PS-I experience: A adventurous and beautiful experience of teamwork, planning and efficiency.

Learning Outcome : Mainly I brushed up my java concepts and got an industrial experience and came to know how it works in the world outside.

Name: SHAH JAINAM SATISHKUMAR .(2018A7PS0212P)

Student Write-up

Short Summary of work done : Starmark software is basically delivering its products in healthcare industry. My PS1 station has different projects. I was part of Building an Interoperability platform project. I and my teammates have build a platform which takes hl7 or XML file as input and converts into XML or hl7 file as output. All the coding was done on java language. PS1 was a great initial exposure to practical projects.

PS-I experience: PS1 is a great way to start working on real world projects. I'm glad to work with some cool teammates. The mentors were also good as they guide us for completing our project and to improve code quality and how to automate the things. It was a nice experience for me as I was able to complete PS1 at home.

Learning Outcome : I have learnt how to modularize the code I wrote and how to put meaningful comments so that anyone can understand my code easily. I also learnt how to automate the things. Finally, I have used Java language in practical application.

PS-I station: Starmark Software Pvt.Ltd. - support ticket classification, Bangalore

Student

Name: NITYA MANGAL .(2018A7PS0216P)

Student Write-up

Short Summary of work done : My project was Support Ticket Classification wherein we were supposed to classify the customer complaints and queries into four classes. We also performed sentiment analysis on the customer reported communication so as to help identify the customers' emotions while writing the mail.

PS-I experience: PS-I was a good learning experience for sure. It helped us get a fair exposure to industry and develop an etiquette to interact with seniors at work. We also learnt the specifications for writing an industry level code.

Learning Outcome : Learnt about natural language processing and sentiment analysis, the spirit of team work and cooperation, experienced writing industry level code.

PS-I station: Starmark Software Pvt.Ltd. - Usability Improvement, Bangalore

Student

Name: SRI SATYA ADITYA VITHANALA .(2018A7PS0175H)

Student Write-up

Short Summary of work done : Learning about usability improvement and UX design, and improving the usability and design of the VitalDx Lab Information Management System (LIMS).

PS-I experience: The PS was very productive and seamless despite being an online PS.

Learning Outcome : Learned about UX design, usability, and usability improvement.

Name: SAUBHAGYA SHUKLA .(2018A7PS0535G)

Student Write-up

Short Summary of work done : Development of UI and UX of VitalDx a Laboratory Improvement Management System.

PS-I experience: It was good. Got to learn a lot.

Learning Outcome : Learnt about various usability techniques and their application.

Name: SAUBHAGYA SHUKLA .(2018A7PS0535G)

Student Write-up

Short Summary of work done : Development and enhancement of UX of a LIMS

PS-I experience: Got to learn a lot about UI and UX. Worked on front-end Development.

Learning Outcome : Learnt about UI and UX

PS-I station: Starmkark Software Pvt. Ltd., - Build an Automated Testing framework, Bangalore

Student

Name: GARIMA SHARMA .(2018A7PS0090G)

Student Write-up

Short Summary of work done : We prepared a testing framework. Learnt about different kinds of testing softwares online and how to automate testing.

PS-I experience: I got to know so much about how Software development works. From basic ideation to actual execution of the ideas. We also learnt about version control systems and the need of testing for any software.

Learning Outcome : We learnt the basics from development to testing of anything. About the software development lifecycle and about how things work in an industry.

Name: ISHA SETHI(2018A7PS1017G)

Student Write-up

Short Summary of work done : My project was 'Build an automated testing framework.' We basically learned about testing applications and learnt how to use Selenium tool. We implemented testing by doing a small project where we had to make a Covid-19 Registry portal and automatically test all its fields.

PS-I experience: The mentors from the PS Station were quite interactive. We could WhatsApp/email them with questions whenever we wanted and they would respond quickly. We had 1-2 meetings a week and were assigned small tasks to complete before the next meeting.

Learning Outcome : Worked on a small project, where we needed to make a web form and integrate it with a mysql database and get values automatically stored from an excel sheet.

PS-I station: Takshila Learning - IT, New Delhi

Student

Name: RISHAV DAS .(2018A7PS0157P)

Student Write-up

Short Summary of work done : The team at Takshila Learning had the objective of developing a video conferencing platform to conduct live online classes. My task was chiefly associated with the deployment of the platform on the Amazon Web Services cloud.

PS-I experience: PS-I was an absolutely engaging experience, despite the fact that it was conducted remotely. Six weeks of work seemed hardly enough to successfully arrive at our targets, but the process of work and learning was very enjoyable. I worked alone in my domain, but was in constant touch with the rest of the team. We had regular meetings where we provided updates on our work, which were followed by feedback from the teachers and mentors. By the end of PS-I, I had learnt a lot of new things, which I'm sure, will help me in my career in the future.

Learning Outcome : In the course of my work pertaining to deployment and monitoring of infrastructure, I learnt about several networking concepts and protocols which were previously unknown to me. In addition, I was exposed to several tools and techniques adopted by professionals on the field to solve various kinds of problems.

Name: SRINATH SWAMINATHAN .(2018A7PS0204P)

Student Write-up

Short Summary of work done : The domain is development of a video conferencing software for live/online classes. Throughout the PS I researched features that are necessary for live classes and integrated them into an open-source video conferencing software called Jitsi-Meet. We then branched this version of Jitsi-Meet into the organization's main website.

PS-I experience: Initially it was very tough as i was the only one working on the feature development aspect of the project. There was no help from anyone on how to install required software and the community help from jitsi was also minimal. But once i had a grip on these basics, i enjoyed working on the project and collaborating with various teams like marketing. On the whole, it was a wonderful experience, and I'm grateful to everyone who made this possible.

Learning Outcome : The major takeaway was the near-job experience and the extensive collaboration across different teams. I was constantly engaged in calls almost everyday. I also liked working in an open-source platform, which i had not done before. Working on the same codebase for 4-5 weeks prepared me to tackle large platforms, as opposed to the small programs that i was used to.

Name: RAGHURAMA VARMA GONELA .(2018A7PS1120P)

Student Write-up

Short Summary of work done : Created the front end for a video streaming/transcoding application, embedded a Calendar into this application and integrated it with jitsi-meet, an open source video conferencing platform. Also helped develop some target features in jitsi-meet

PS-I experience: It was a good experience in the sense, it gave me the opportunity to experience working under a manager, helped me learn new things in a new domain (Web Development). The Takshila Learning team treated us like full fledged employees and made us work accordingly, which motivated is to work harder and made the PS more successful.

Learning Outcome : I've learnt HTML, CSS, JavaScript, React JS and Node JS. I've learnt to use Redux, React router, atomic design, material-ui components and the Google Calendar API. I've learned to work with others using GitHub, a very popular version control system. I've learnt to make interest capturing presentations using PowerPoint. I've learnt to document and content my code.

PS-I station: TamilNadu Health System Reforms - Data analysis, Chennai

Student

Name: VENKATESHWAR DHARI SINGH .(2018A7PS0246H)

Student Write-up

Short Summary of work done : The project assigned was Disease clustering. It required knowledge of Geographical Information System and Machine Learning. The objective of the project was to identify and predict clusters of diseases.

PS-I experience: The organisation was nice. Meetings were regular at the start to familiarize us with the projects then the frequency were a bit less. The organisation gave us ample material and guidance to help us complete the projects. The mentors were good and helpful.

Learning Outcome : I learnt a lot of things, from how an organization functions to how teams co-ordinate on projects. I studied various new languages and topics, which will be of great help in my future courses and projects.

PS-I station: TamilNadu Health System Reforms - IT, Chennai

Student

Name: PRAVEEN SRIDHAR .(2018A7PS0166G)

Student Write-up

Short Summary of work done : We developed an everyday medication reminder app as our PS1 project. For developing the app, we learnt java and android studio. The app

was designed keeping in mind the fact that in today's fast paced world, people often forget important things. Some of them might have medical issues like diabetes, hypertension, autoimmune disorders and so on, which require constant periodic medication to survive. But unfortunately, due to multiple reasons, we often find that people forget to take their medication because they are in a rush or because they simply don't remember with all sorts of things on their mind. Our simple app sends a reminder to the user at the specified time to take their medication. Some medications might need to be taken daily. Some might need to be taken weekly. Our app has repetition interval provision for that as well. Once the user clicks on the notification, they will be taken back to the app where they can enter the pills they have consumed. This will be used to keep track of the total number of pills consumed during the month as a measure of their regularity. It also has a reset button to reset the count of pills. The user can also delete old reminders once their prescriptions have been updated.

PS-I experience: Working with Tamil Nadu Health System Reforms was a fantastic experience which provided me with a lot of knowledge about how the industry works and how everything is set up in a professional environment. The people working at Tamil Nadu Health System Reforms clearly specified what they expected of us. The guidance of our PS1 faculty was also invaluable. We were able to structure a methodical plan to complete the project and meet our goals within the specified time limit. Every week, we implemented a new functionality in the app, tested it and then started implementing a new functionality the next week. In this manner, what initially seemed like a daunting task, was turned into much smaller volumes which we could handle. Overall, it was a great opportunity and the industry exposure received will be useful forever.

Learning Outcome : In the course of our project, we learnt how to make apps in android studio from scratch. We learnt java for the purpose of android studio and all the associated functionalities necessary for building android apps. We learnt about designing the front end which the user actually interacts with and how to start a new activity and transition smoothly from one activity into another. We also learnt about storing data permanently in android using a database and about using alarms to send notifications at the specified time.

Name: KAZI ABEER REHAMAN .(2018B3A71004H)

Student Write-up

Short Summary of work done : Built a daily medication reminder android app. Users can enter name, date, and time when they have to be reminded and a notification/alarm would be prompted. Monthly pill counter will help patients keep track of their regularity.

PS-I experience: Overall PS-1 was a good learning experience. I learnt to make full fledged android app using java as the programming language, using XML to create layouts and activities, learnt the use of android libraries to add some useful features to the application.

Since this year's PS-1 was a remote PS, it taught me how much teamwork and collaboration is needed in daily life to overcome hurdles.

Learning Outcome : Learnt to build android app in android studio.
Learnt to make cleaner UI for user friendly experience.
Team work and collaboration.

PS-I station: TamilNadu Health System Reforms -Economic Analysis/General Maangement, Chennai

Student

Name: RITWIK HORE .(2018A5PS0499H)

Student Write-up

Short Summary of work done : My project was "Economic Impact of Non Communicable Diseases / Interventions" under the economic analysis domain. We looked into the economic impact non-communicable diseases (NCDs) have on households, healthcare systems and even national economies. We also looked into the interventions of NCDs, how effective certain interventions are, and their economic impact. Along with this, we learnt about tools used for measuring such economic impacts.

PS-I experience: It was a nice experience. I learnt quite a bit about how healthcare systems run.

Learning Outcome : I learnt about economic analysis, NCDs, their economic impact, interventions, various tools used for measuring economic impact.

Name: SHOBIT PANDITA .(2018A5PS0967P)

Student Write-up

Short Summary of work done : Our topic was impact of COVID-19 on GOLDEN HOUR interventions. We had to look at the impact of lock down restrictions on emergencies in the state during the months of March and April.

PS-I experience: It was a good learning experience. Our mentors were helpful. The organization mentors guided us pretty well.

Learning Outcome : We learnt about basic data analytics and how to fit into an organization.

Name: SIDDHI ARORA(2018D2TS1176P)

Student Write-up

Short Summary of work done : I performed Economic Analysis of beneficiaries utilizing growth hormone therapy under CMCHIS, which was study and analysis of the people who opted for growth hormone therapy and how much cost effective it was for an individual.

PS-I experience: I have attained skills and knowledge in the best possible way in the times of COVID-19 through PS-I. So, overall, it was a great experience.

Learning Outcome : Through PS-I, I learned different ways to examine various data, perform cross sectional study, how to perform cost analysis and how to derive outcomes and connecting pattern from a set of data provided.

PS-I station: Telangana e-governance, Hyderabad

Student

Name: AAYUSH KUMAR AGARWAL .(2018A8PS0425P)

Student Write-up

Short Summary of work done : Our project was to design an API gateway along with a security service through which users register themselves, an admin service through which the admin service could handle the user database. These were implemented on the Spring Boot framework, based on Java. The endpoints for these services were accessed through a API gateway where mechanisms such as authorization and log generation took place. We used an open source tool named Kong as the gateway. We also implemented the elastic stack which is used for monitoring and logging the performance of our applications. The elastic stack comprises Logstash, ElasticSearch and Kibana. All of these were implemented in docker containers. In the later stage of our project, these were migrated to a Kubernetes cluster through Pods. Lastly a Version control and Continuous Integration pipeline was set up using GitLab.

PS-I experience: It was a good working experience in a group project. Our mentor was very supportive and he trained us on the various technologies prevalent in the industry.

Learning Outcome : I learned backend architecture, concepts of DevOps and softwares like SpingBoot, Docker and Kubernetes. I learned the industry operation and got useful insights.

PS-I station: TIBIL Computer Solutions Pvt.Ltd., Bangalore

Student

Name: NITIN GOPALA KRISHNA SONTINENI(2018A7PS0262H)

Student Write-up

Short Summary of work done : Wind power prediction using historical data.

PS-I experience: This has been truly a great learning experience. This six weeks with TIBIL allowed me to grow personally and also helped me to gain new skills.

Learning Outcome : Time series forecasting using ARIMA and neural networks

Name: VIKRAM S HARITAS .(2018A7PS0302H)

Student Write-up

Short Summary of work done : Our work was on predictive maintenance where we were trying to predict a machine breakdown prior to it occurring. We worked on 2 datasets and produced various results. Despite both the datasets being artificial datasets which also required a lot of cleaning, we were able to produce decent results. With the first dataset, we weren't able to make a model but we did find some interesting correlations between the features. With the second dataset, not only were we able to find interesting correlations, but also make actual working models to predict breakdown with the best model giving 90% accuracy.

PS-I experience: It was an interesting experience where we learnt quite a lot not just about predictive maintenance and machine learning, but also about how the companies such as TIBIL function. We also got to interact with senior members in the company. Overall, it was an interesting experience.

Learning Outcome : Learnt quite a bit more about data engineering and machine learning.

Also understood how such companies function internally.

Name: PATE AMEY VINAYAK.(2018A7PS0393P)

Student Write-up

Short Summary of work done : Project Domain: Deep Learning / Time Series Analysis
My project was to develop a solution towards wind speed forecasting. Based on the historical data provided, we had to predict the value of wind speed 15 days in advance. Emphasis was given on improving the prediction performance to cope with the requirements of the energy markets.

The major challenge was the dynamic nature of wind. We had to perform a lot of analysis into the dataset to identify if it was standardized, and if there was any seasonality or trend present in the data. It was a new experience to work with such a large dataset. We even had to use Spark for a few data handling operations. The whole coding aspect of the project was in Python language. We used Jupyter notebook and Google COLAB.

We proceeded to decompose the data into linear and non-linear series and handle each part separately. For the linear part, we used the rolling ARIMA model for time series analysis. The non-linear part was handled by training neural networks. We tried different Artificial Neural Networks like Deep NN, Recursive NN, LSTM(Long Short Term Memory).

Finally we combined the predictions using their residues and model ensembling techniques.

In six week's time, we could complete the end-goal of our project and we submitted a model that gives a decent accuracy of 84% in predicting the wind speed 15 days in advance.

PS-I experience: The technical skills that I have learnt during this internship have made me fall in love with the idea of data-driven solutions. May it be time series models like ARIMA or deep neural networks like LSTM, I have certainly improved my knowledge of machine learning and that too by actually implementing all these on a practical level!

The mentors were extremely helpful and were always ready to give their perspective on any problems faced. We were even supervised by the top-tier officials from the company, and their motivation really helped me stay dedicated throughout. The best part was that many of the top-tier officials of the company are BITS Pilani Alumni, so they were all very friendly and expected a lot from us.

The projects offered were interesting, the data provided was extensive, and we were encouraged to think on our own and come up with our own solutions and approaches. I would say that TIBIL offers a highly conducive environment for someone who wants to learn and explore more in the fields of Data Analytics, Machine Learning and Data Engineering.

Learning Outcome : Frameworks/Languages: Python, Tensorflow, Spark, Keras, Pandas, Matplotlib, Scipy

1. I gained an exposure to forecasting principles in general. Forecasting is a vast field expanding from weather prediction to the stock market trend predictions.
2. I learnt how different time series analysis techniques like ARIMA models work, and also implemented them on real-world data. ARIMA models can be found in the statsmodels library.
3. I also got a chance to study and implement several neural network models like DNN, RNN, LSTM. I made use of Tensorflow, Keras and Scikit-learn for the implementations.
4. I further went on to learn how to ensemble models to create the most robust prediction model.

Name: RISHI GHOSH .(2018B2A40491P)

Student Write-up

Short Summary of work done : Our project was to do predictive maintenance of cnc machines using data analysis and machine learning. The objective was to find the remaining usable life of the spindle depending on the historical timestamp sensor values of cnc machines.

PS-I experience: The PS-1 experience was a good one in terms of project and team work, but industry exposure was limited.

Learning Outcome : I was able to learn how to use data analysis and machine learning to do predictive maintenance analysis as well as work as a team in a supposedly office environment.

PS-I station: TNSTC - Digital Content - Astronomy, Chennai

Student

Name: RAGHAV BHUTRA(2018B5A30941P)

Student Write-up

Short Summary of work done : We developed a web application for the kiosk that would be displayed at their centre which would give visiting students information about astronomy and various astronomical objects. We made it editable and developed it through front end (HTML CSS and JavaScript)

PS-I experience: The experience was nice. I learnt lot of things, technical such as web development and also soft skills such as presenting and making reports.

Learning Outcome : Being my first experience as a web developer, it was good!! I learnt new things, used creativity and just tried to achieve the desired outcome.

PS-I station: TNSTC - Digital Content - Bio Technology, Chennai

Student

Name: LOKESH MEHRA .(2018A7PS0268H)

Student Write-up

Short Summary of work done : My group was comprised up of 5 people and we were given a work of creating a website for the TNSTC and our topic was biotechnology. They told us about how the website should look like and the website was mainly for school students from which they can interact very easily with the topics and we were told to arrange one quiz section for the students as well. The work was quite challenging for us as we never had any experience regarding web development but we worked as a

team and was able to complete our work and tried our best to make the website more interactive and attractive.

PS-I experience: The experience was quite amazing as during this lockdown PS-I was the only thing which kept us working and got to learn a lot about web development and also learnt how to work in a team. our mentors kept us motivated and helped us in every aspect of our work.

Learning Outcome : learnt web development(front end + back end both)

Name: SHUBHAM DALVI.(2018A7PS0565G)

Student Write-up

Short Summary of work done : TNSCTC is an organisation which strives to promote and encourage young people towards scientific learning, for this we designed a complete interactive website which would attract attention of young children and impart knowledge to them. The site was complete with animations, flipbooks, videos and quizzes. This was made complete by a backend server and a database so that the content of site could be changed as needed

PS-I experience: It was a good experience where I got to learn much about technology and teamwork both.

Learning Outcome : As this was a work from home PS, I got to learn much about remote work, and to coordinate with team. I also learnt much about full stack web development.

Name: MUTHINENI ABIGNA.(2018B1A20747H)

Student Write-up

Short Summary of work done : We developed a website where we have to use frontend and backend development and create some questions with information which is useful for school students.

PS-I experience: It was good and learnt many things.

Learning Outcome : Learnt web development.

Name: NEHA RAJ SRIRAM .(2018B1AB1126P)

Student Write-up

Short Summary of work done : Our project during PS-1 was digital content in Biotechnology. We were asked to make a website for children of standards 5-10. This website had content for a few topics in the field of biotechnology which were arranged in the form of flipbooks, which had content as well as visual media. After going through the flipbook, students could take a quiz on the topic that they had learned about.

We created the website from scratch, finishing both the front end as well as the back end. We also created a user manual and made the site accessible and editable as per the needs of the organisation for the future.

PS-I experience: It was a good experience overall. I learnt about web development and team cooperation in a work setting.

Learning Outcome : I learnt about what went into the forming of a website, and the languages and methods involved. I also learnt alot from my team members.

PS-I station: TNSTC - Digital Content - Geology, Chennai

Student

Name: SIGIREDDI AMAR .(2017A2PS0794P)

Student Write-up

Short Summary of work done : I worked on project designing a website prototype to TNSTC. I was one among a group of 5. We were asked to design a complete website based on topic geology.

As we all never knew nothing about web designing, we started learning from scratch and pulled off the task perfectly.

PS-I experience: This project made me enthusiastic towards the html part. I worked with great passion and commitment which turned me into an intermediate at web design from a beginner stage.

Learning Outcome : I learned a lot about web development and html coding all by myself. My part of job is designing the front end of a website, I pretty pulled it off successfully.

PS-I station: TNSTC - Digital Content - Nuclear Power, Chennai

Student

Name: RATNESH DAWAR .(2018A4PS0629H)

Student Write-up

Short Summary of work done : We developed a website providing digital content on nuclear power for the museum of Tamil Nadu Science and Technology Center.

we have created all the content for the website like videos ,flip book , quiz and text in it. So the work was important to for students to complete on time and we accomplished the task and TNSC was delighted by our work.

I have created all the content for all the website including flip books and content for all the articles for write up and videos.

Online PS was a great learning opportunity for me and it doesn't feel like there was a gap in learning. communication was very efficient They constantly keep track on our progress and had regular meetings and we learned a lot of things during this period web development is one of them , managing the team and submitting the work before deadline.

PS-I experience: It was a good experience and learnt that team work very important. Everyone specializes in different way and together our expertise combine to deliver the best we could.

Learning Outcome :

1. How to make a website .
2. Working in a team and helping each other.
- 3.Managing time and how to communicate efficiently.
4. languages like JavaScript,HTML,CSS, J query.
5. How to make java script Quiz and flip-book.

PS-I station: TNSC - Digital Content - Space Research, Chennai

Student

Name: AASHAY GARG .(2018A7PS0004P)

Student Write-up

Short Summary of work done : Designing a responsive website to be locally hosted on kiosks at TNSC planetariums, museums, etc on the domain of space research. Also designing a flipbook software and quizzes for children to interact.

PS-I experience: My experience was satisfactory, since i believe the PS was very heavy, although the PS taught many things, specially how to coordinate a group and

work together with team members. I also learnt a lot about different domains or relevant to the website.

Learning Outcome : I learnt web development, along with working in a team with others.

Name: KIRTIKAR ATHARV ASHISH .(2018A7PS0107G)

Student Write-up

Short Summary of work done : Created digital content in various forms related to space research.

Built a local website to host said content, which included creating a file system to store data.

Converted the Website content into a flip book format for easier browsing.

PS-I experience: PS1 from home made for a different experience than previous years.

Working for TNSSTC was nevertheless a comfortable experience thanks to the efforts of our mentors.

We had to do most of the research with regards to the project ourselves, but overall it was a satisfying experience.

Learning Outcome : Learnt how to create and curate digital content for a website.

Learnt how to create a functional offline website using a simple HTTP server.

Learnt how to store files in an easily editable modular way.

Learnt how to create helpful tutorial and readme files for applications.

Name: HARSH BANSAL .(2018B5A40316P)

Student Write-up

Short Summary of work done : Making a interactive website for children with quizzes and flip book data base. Our topic was digital content space research.

PS-I experience: Developing soft and technical skills with group of exciting random people all with different skill set.

Learning Outcome : Group coordination to make a fabulous outcome with experience of industry.

PS-I station: TNSTC - Digital Content - Tools for Innovation Hub, Chennai

Student

Name: SHRUTI ANAND .(2018A7PS0249P)

Student Write-up

Short Summary of work done : We had to make an interactive website for students. It had contents related to biotech and innovation tool with quiz.

PS-I experience: It was really nice. I learnt new concept related to full stack web development.

Learning Outcome : Front end and backend development.

PS-I station: TNSTC - Digital Content - Transport Technology Development, Chennai

Student

Name: YASHRAJ SHARMA .(2018A2PS0735P)

Student Write-up

Short Summary of work done : We had Google meets with the instructor and we discussed the requirements of the allotted project i.e. construction of modifiable database to store contents including visual, art, research work etc. After every 3 days, we reported about our project status to the instructor & he helped us managing the work.

We were required to make a flipbook version to depict the evolution & history of modes of transportation. The work load was not heavy and neither the schedule was hectic.

PS-I experience: Overall, I was kind of satisfied by the work load and the type of project allotted. The allotted instructor was always there to help us. Though it was a Work from Home internship, but all the evaluatives were managed nicely.

Learning Outcome : Got to learn about the mode of transportation & their evolution. Also, learned about the technical aspects such as Flipbook software, construction of database etc

Name: CHIMMILI SAI SAKETH .(2018A7PS0287H)

Student Write-up

Short Summary of work done : Our project is to create Digital Content for Gallery. So, we worked on Evolution of Road, Air and Water ways and made a PDF along with a video and combined them in Flip-Book Software available online.

PS-I experience: Overall It is a good industry experience, although it is done online. we had got good understanding about working in a team and completing the work within the deadline. Industry mentor and the Instructor were very much helpful in understanding our project and clearing our doubts with out any delay. This PS - 1 gave some good

understanding about software that I am not familiar with before, like Flip-Book software and video editing software.

Learning Outcome : I had acquired good communication skills while discussing about our project details with our Industry mentor and Instructor. I learned how to work in a team and how to divide work among a team and complete the work before the deadline. Developed soft skills and learned how to edit videos with software like Adobe premium pro and windows media editor. Also learned about Flip-book software that are available online which help us making our PDF more creative by combining Photos and videos in our PDF.

PS-I station: TNSTC - Digital Content - Virology - Covid 19 facts, Chennai

Student

Name: AMIT .(2018A5PS0986P)

Student Write-up

Short Summary of work done : The project is to design and develop a DIGITAL FLIPBOOK which can be used to present COVID-19 facts and information at the gallery of Tamil Nadu Science and Technology Center, Chennai.

The technostacks used to develop the digital flipbook are HTML, CSS, Javascript. To give the real page turn animation to the book we also used jQuery. We were asked to keep the site responsive so that if any reader is more interested into it then they can also access it in their mobile by scanning the QR code. We were further asked to add hand motion detection in front of the camera to turn the pages of the flipbook instead of touch/click function. For motion detection we used the openCV tool and implemented it using Python.

The main focus of the project is to provide information, facts, precautionary measures in a visually appealing manner by extending it to videos, interactive graphs and more detailed information. These data collection part was done by the other group.

PS-I experience: Good experience about the project.

Learning Outcome : The project helped me in getting better at front end development (HTML, CSS ,Javascript). Learnt basic jQuery and openCV implementation in python.

Name: MANIKYA VARSHNEY .(2018B1A10629P)

Student Write-up

Short Summary of work done : This project aims to “Design and Develop a DIGITAL FLIPBOOK, which can be used to present COVID-19 facts and information at Tamil Nadu Science and Technology Center, Chennai ”.

The project was mainly oriented towards HTML, JS, CSS usage for the development of flipbook. OpenCV is also used to add hand detection functionality and triggering page turn function.

PS-I experience: The overall experience was excellent. PS faculty, as well as industry mentor, are cooperative and was always ready to help.

Learning Outcome : Able to learn a lot of new things like image processing.

Name: NETRATVASHEEL TRIPATHI .(2018B1A20444P)

Student Write-up

Short Summary of work done : Created a flipbook in which user can turn pages with hand gestures for their exhibition which contained data on COVID-19

PS-I experience: Got to learn web development and data collection

Learning Outcome : Web development and content creation

PS-I station: TNS TC - Quantum computing software, Chennai

Student

Name: SARTHAK KASAT .(2018B3A70787G)

Student Write-up

Short Summary of work done : Learnt about qiskit and implementing the ml code on quantum computer via cloud.

PS-I experience: The professor is very supportive due to which I had a great time at my station

Learning Outcome : Learnt about ml which was new for me.

PS-I station: TNS TC - Remote Mouse Operation, Chennai

Student

Name: GONDHALEKAR KEYUR BHALCHANDRA(2018A7PS0118G)

Student Write-up

Short Summary of work done : I was supposed to create an AR application which would allow for users to use a wall as an interactive display. Different screens would be projected onto the wall and the user would tap parts of the wall for different things to

happen. The project was mostly centered around using Unity and an AR software called Vuforia.

PS-I experience: My PS experience was pretty good overall. The people at TNSTC communicated what they wanted from the project well, and gave inputs whenever needed. There wasn't really any sort of tutoring given for the programs to be used. The course ran smoothly and there were no problems for the evaluation components

Learning Outcome : I learnt how to use Unity for applications other than games and learnt the necessary C# to use it properly. Besides that, as lots of images were required to be used, I learnt about different image editing software and how to appropriately use them.

PS-I station: TNSTC - virtual interactive video software, Chennai

Student

Name: ARYAN GUPTA .(2018A7PS0152P)

Student Write-up

Short Summary of work done : I have build virtual interactive video software based on Augmented Reality

PS-I experience: It was a good experience . I have come to know about Augmented Reality and its scope in future. By interacting with company officials and mentors it give me a sense of belief in public speaking.

Learning Outcome : 1. Public speaking
2. How to cooperatively Work with team members.

PS-I station: TNSTC -Creating virtual contents, Chennai

Student

Name: PIYUSH RANJAN DEB .(2018A7PS0217G)

Student Write-up

Short Summary of work done : Our project was "Creating virtual classrooms", with some additional AR features that would help to enhance the learning experience. This project has immense applications, especially as physical interactions have been severely limited across the globe. Our app can host 25+ people in a single video call, and features a single teacher carrying out a presentation in front of his entire classroom. The login email and password can be set by the host for every participant, and has to be entered by every student joining the classroom.

PS-I experience: Despite the challenges faced because of working at home and our relative inexperience in the project domain, we were able to effectively communicate with all the students in our project to create an app for conducting virtual classes. Both our PS faculty teacher and TNSTC mentor helped us with the problems we faced, and enabled us to build the required app.

Learning Outcome : This experience improved our knowledge in app development, with a more hands-on approach. We learnt more about AR and its applications as we integrated it into our video call app. It also helped my social skills as we had to properly coordinate with the TNSTC faculties and effectively distribute the workload amongst us.

Name: PRAKHAR MISHRA .(2018A7PS0257P)

Student Write-up

Short Summary of work done : Our group worked on developing an online teaching web application which along with standard features like video streaming, virtual whiteboard, screen sharing etc. would have AR support i.e. teachers would be able to load 3D models related to topics being explained and augment it on their video feed,

enabling them to explain better. In the 6 week timeframe, we were able to develop the video streaming and the AR function separately using various new technologies that we learnt as we developed it. We were unable to integrate the two, but the work done was still a major milestone and a huge learning chance for us.

PS-I experience: My PS-1 experience was a very exciting one. I was initially skeptical of the efficiency of online mode of internship, but it was resolved quickly. I got to work with a great Science Centre on an industry level to build an actual project for deployment. The mentor assigned by the station was very helpful and helped us resolve many of the difficulties we faced. I got to bond with batchmates from other campuses and work in a professional environment. Finally, our PS faculty Mam was also extremely helpful and supportive. She was flexible with deadlines, our working methods etc. and thus we were able to achieve significant progress in our project.

Learning Outcome : I acquired a variety of hard and soft skills throughout this course. Our project was web development oriented, so at the core I learned JavaScript, its various frameworks like React, and its use in front-end development. I learned about WebRTC, and about using it to develop video streaming applications. I also learned about Augmented Reality, its uses and how to develop it on web using various JS frameworks and libraries like A-frame and AR.js. Apart from this technical knowledge, I acquired various soft skills, like presentation, GD, teamwork etc.

PS-I station: UST Global - Application of IPFS, Trivandrum

Student

Name: SIDDHANT LAKHAIYAR.(2018B5A70583G)

Student Write-up

Short Summary of work done : We developed an audio sharing web app to generate transcripts on the fly and share it on IPFS.

So, whenever the user interacts with the IPFS node (which includes the audio sharing web app and a NodeJs script), the web app starts recording the audio. Simultaneously, a NodeJs script starts running which exposes a Web Socket that transfers the audio chunks to the NodeJs script in real time. NodeJs then uses Mozilla DeepSpeech (an open source Speech to Text Engine) to generate the transcript which is then shared on the IPFS network in real time.

PS-I experience: In the beginning, I was a complete novice when it comes to the development side of things. But I got introduced to it and learnt quite a lot of new things. Although, I feel it would have been more beneficial if it wasn't a Work from Home scenario. Yet, I got the much needed exposure to new technologies that are developing really fast.

So, overall, it was a good experience in the end.

Learning Outcome : The Web App that we developed actually helped us determine the Edge compute capabilities of IPFS (like whether it's suitable for real time applications or not).

PS-I station: UST Global - Blockchain, Trivandrum

Student

Name: ASHWIN KIRAN GODBOLE .(2018B5A70423P)

Student Write-up

Short Summary of work done : Our PS-I work was closely based on the concepts of Blockchain. Since none of the students admitted to this technology were familiar with it, the first half of PS-I saw us researching and understanding the theory that Blockchain is based on. We had to look into and fully understand the now famous 2009 Bitcoin Whitepaper from Satoshi nakamoto, followed by the Ethereum Whitepaper from Vitalik Buterin. Along with this , we looked into many new (well, they were new to us) interesting topics in the fields of cryptography, distributed networking and data compression.

In the second half of PS-I, we used a DLT (Distributed Ledger Technology) platform named Corda to design a solution for the supply chain industry. We had to learn a lot of theory that made Corda different from regular Blockchain technology and also

learn how to write code using their libraries and tools to implement our solution. We had about a week to make ourselves fluent in the Kotlin programming language because the Corda library is written in that language.

In the end, we were able to make a simple application in the form of a very basic supply chain management solution.

PS-I experience: PS-I was a great experience overall.

I learnt a lot of things while working on our project, both in terms of soft skills as well as technical skills. When it comes to soft skills, my teamwork and leadership skills were obviously challenged. For one, we were supposed to collaborate with students from other campuses, who we had never met before. Getting to know them enough to work effectively with them was a challenge we all were able to overcome. We learnt each others coding styles and how each of us thought and understood different things differently.

As far as technical skills are concerned, everything that we did was new to us so almost all of the knowledge that we were able to soak in and retain is all really a technical skill boost. We learn a new programming language and learn to use libraries that other people had written just by inspecting their documentation.

In all that we did, we had full support from our faculty in charge as well as our mentor..

Learning Outcome : As I've said before, everything that we were able to do, was a major learning for us. Using other people's open source libraries, setting up project structures the way they are set in a professional environment, a thorough understanding of blockchain as well as a decent understanding of all the mathematical and computer science related concepts involved in this field were all major learning outcomes. Add to that the skill of writing reports quickly and concisely while not losing any details and while keeping in mind that not everyone who will read our report will have a full working knowledge of the technology we have explored. This was also a major learning outcome for me. Working with people remotely, maintaining a collaborative and friendly environment, etc. were also learning outcomes that I am very happy to have experienced.

Name: AMAN JAIN(2018B5A70868G)

Student Write-up

Short Summary of work done : The project domain allotted to us was Blockchain. We were given full liberty to choose the project topic and we decided to make a Supply Chain

Management System. I learned about Blockchains from scratch and its wide-ranged applications. I then learned how to work on Corda, which is a blockchain/DLT platform that allowed us to create the application for our test case. I learned the basics of Kotlin, got familiar with working on IntelliJ IDEA, and collaborate on Git. Towards the end, we successfully designed our models and ran it on our systems.

PS-I experience: I had a wonderful experience during my PS-1. Though, it was completely remote, I never felt the distance since any doubts we had were immediately resolved by our industry mentor and our faculty. My mentor was in fact a BITS alumni and thus, he really understood us very well and guided us in the best possible manner throughout the PS-1. The various seminars and group discussions that took place helped me in learning how to present my ideas in a very skillful manner and also improved my communication skills. The best thing that came out of PS-1 was the amazing bond which I shared with my fellow colleagues. All of us helped each other a lot and brainstormed many ideas which made me learn how working together in a group can make work so much easier and interesting.

Learning Outcome : I learned about Blockchain and its wide scope. I was successfully able to make a Supply Chain Management System implemented on a Blockchain. I now feel comfortable in working with Corda to build Blockchain projects. This internship gave me the chance to think about any problem in the real world and to come up with a solution for it. It equipped me with a critical thinking approach.

PS-I station: UST Global - Computer Vision & Speech Processing, Trivandrum

Student

Name: PRANJAL SINGH CHAUHAN .(2018A7PS0288P)

Student Write-up

Short Summary of work done : During my PS-I, I built a model for segmentation of brain tumors from MRI in the BraTS2018 dataset using the UNet model for segmentation. The work was based on growing field of medical image analysis using

deep learning. The work of the model was to produce an image which segments the tumor from MRI scan when passed through the model.

PS-I experience: The experience was quite good. I got to work on a real life challenging deep learning model which usually is not learned through the courses on different websites. Best part was, the mentors from the industry were our seniors. They guided us a lot during the course. The course helped my build my foundation in deep learning. I also learned how industries work on a research based projects.

Learning Outcome : I was successfully able to build a segmentation model for segmentation of brain tumor on BraTS2018 dataset with a dice score of 0.87.

Name: HRITIK SINGH KUSHWAH .(2018A7PS0323H)

Student Write-up

Short Summary of work done : Implementation of Visual SLAM using only camera and image data. My work was mainly focused on analysing different monocular depth estimation models and their architecture and to test them on sample images.

PS-I experience: Deep learning field was fairly new to me. So, it took me about 3-4 weeks to understand the theory. The mentors were good but due to the online- factor I was unable to learn that efficiently.

Learning Outcome : Got a good understanding of neural networks (specifically CNN) and basic Object detection models.

Name: ATHREYA KRISHNAN .(2018B4A70809G)

Student Write-up

Short Summary of work done : Built a language detection model that could accurately classify three different languages based on spoken utterances using mel-frequency cepstral coefficients taken from various different voice notes. Learnt about various audio extraction methods such as MFCCs, mel-spectrograms and how one obtains the data for the ML model from the audio clips that we have initially. Was able to understand Convolutional Neural Networks and Long Short Term Memory Networks and how to implement them in the framework of tensorflow and also understood the various commands and modules in keras. Was under the Computer Vision and Speech Processing vertical so learnt about other use cases in those areas as well, such as SLAM, Object Detection, and Medical Image Analysis.

PS-I experience: Overall, PS-I was a very illuminating experience that helped me understand a lot of concepts that were daunting to me before the internship began. Having a specific project to do was helpful as it showed me the ropes and helped me understand how one would go about learning to implement in a specific use case. My mentors sent immensely valuable resources and were there to guide us through all the issues and troubles we faced. However, as it was online, the corporate exposure one might have obtained through an internship like this was stifled. But it was overall a good learning experience and also taught me teamwork and cooperation skills.

Learning Outcome : I got a hands-on working experience in the field of deep learning, and different models and techniques that are used to extract data from audio files. I also learnt about how one would go about improving a model to suit one's needs regarding a particular problem.

PS-I station: UST Global - Distributed Computing, Trivandrum

Student

Name: SPARSH KASANA(2018A7PS0247P)

Student Write-up

Short Summary of work done : I had opted for the Distributed Computing project from the multiple projects available in the PS station list for UST Global.

Our project involved video-streaming and transcoding streams. The end goal of the project was to be able to receive streams from CCTVs or other such devices and run ML algorithms on them, like crowd detection. The project involved RTSP, WebRTC and Kurento Media Server.

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 protocols for real time data streaming, WebRTC in general and web socket connections. The remote work limited the ways in which our mentor could help us out, so he aided us mainly through resource exchange and video meets for doubts.

Name: ARPIT JAIN(2018A7PS0267P)

Student Write-up

Short Summary of work done : I worked on distributed computing, read research papers and implemented the intended application. I was asked to read on media streaming protocols and use the Kurento media server.

PS-I experience: It was nice and structured learning experience.

Learning Outcome : I learned Javascript, Nodejs(both on my own for the project) got a bit of project experience and got familiar with git.

PS-I station: UST Global - Hybrid Quantum Classical Computation,
Trivandrum

Student

Name: MANKRIT SINGH .(2018A7PS0192P)

Student Write-up

Short Summary of work done : I was part of the Hybrid Quantum Classical Computation project wherein we analysed some Hybrid Quantum Machine Learning algorithms and tried to find their applications in the near term. We then worked on optimising the Quantum version of the Support Vector Machine algorithm to study the accuracy as well as run time by varying the input parameters and simulators.

PS-I experience: I would say I was very lucky to have this opportunity and it was one of the most exciting things I have worked on. I gained a lot of valuable exposure and I'm grateful for the same. Before this, I was not aware of this extension in Quantum Computing (which has been an interest of mine) and when I saw this project being offered, I knew it was for me.

Learning Outcome : Quantum Machine Learning and its near term applications. Team work in projects. Professional etiquette.

Name: AMEYA AJAY THETE .(2018B5A70885G)

Student Write-up

Short Summary of work done : My work involved performing extensive research on near-term quantum optimisation algorithms as well as a few quantum machine learning algorithms, followed by selecting a relevant use case to implement them. We developed a gene-level breast cancer classifier using the quantum support vector machine and compared the model's performance with its classical counterpart. In addition, we also qualitatively studied the QSVM's behaviour on noisy backend simulators and different feature maps.

PS-I experience: PS-I was a rather prodigious and remarkable experience — offering an insight into the functioning of corporate entities and associated responsibilities while

simultaneously allowing sufficient room to explore, experiment, and most importantly: falter and err. Although I believe that 6 weeks were inadequate to do complete justice to the topic considering its complex nature, I have certainly learnt and understood more about the field and its commercial applications than what I could solely from a class. We were paired with a great industry mentor who had extensive knowledge about the field of study and was extremely proactive in resolving any issues or questions that arose. The online mode might have posed some disruptions and taken away, perhaps partially, from completely fulfilling the objective of the program to provide a complete immersion into the industry setting, but I believe that my experience was positive and constructive.

Learning Outcome : I learnt about various quantum machine learning and optimisation algorithms and how their utility differs from classical ones; and I learnt some cornerstone concepts in machine learning and quantum computing. I also learnt IBM's Qiskit API; the implementation of commonly used ML algorithms, and the processes involved in building such predictive models.

Apart from that, I understood the importance of teamwork and effective communication.

PS-I station: UST Global - NLP, Trivandrum

Student

Name: BHAVYAM KAMAL .(2018A7PS0112G)

Student Write-up

Short Summary of work done : Trained a Neural Machine Translation model. Using Transformer architecture to train NMT models via the NMT - Keras toolkit. Also look up dataset sources for indic languages.

PS-I experience: Being new to both Machine Learning and NLP, I was skeptical of my ability to perform to the company's expectation. But the mentor was in constant touch and was always available for help. Good resources were shared and it was not hard to follow the set course to learning. It was a great learning experience and an amazing hands on introduction to a new field to me.

Learning Outcome : Learnt the basic of NLP and learnt the workings and details of NMT in specific. Learnt about encoder-decoder architecture, RNNs and Transformers

Name: DEEPAK GEORGE DOMINIC .(2018A7PS0244H)

Student Write-up

Short Summary of work done : Before PS-1, I had very little knowledge of Machine Learning in general. My PS involved us understanding and training various Neural Machine Translation models and optimizing their performance. Hence, in the course of the practice school I learned a great deal about deep learning, optimization and natural language processing. I went through a good number of research paper and materials online to familiarize myself with the field and the latest state-of-the-art technologies. At the end, we went through implementations, identified data sources of parallel corpora for various source and target languages and trained NMT-Keras transformer and attention-encoder-decoder models on various language pairs, and attempted to optimize their performance. Competitive results were obtained with respect the latest cutting edge technologies available in this field.

PS-I experience: PS-1 was a great learning experience. My industry mentor was very helpful, and shared resources that were appropriate to our level of understanding. The material shared helped me gain an intuitive grasp of various cutting edge technologies and their implementations. My PS-1 Faculty In Charge was also extremely supportive and guided us in the best possible way, encouraging us to read research papers and maintain extensive documentation of our project progress.

Learning Outcome : Learned about deep learning - specifically Natural Language Processing and Neural Machine Translation, various frameworks and tools used like google colab. Also improved on my communication skills as a result of the Seminar/GD components.

PS-I station: UST Global - Quantum Computing, Trivandrum

Student

Name: PRANITH S KALLAKURI.(2018A7PS0249H)

Student Write-up

Short Summary of work done : The project allotted to my team was "Simulation of Noisy Quantum Computers". We started off by gaining a better understanding of the Linear Algebra required for Quantum Computing. From there on we were given a few tasks by our mentor to test and improve our understanding of the subject.

We then worked on some already implemented noisy simulators. We conducted Noise Analyses of some famous Quantum Algorithms and documented the results. We also found alternative noise simulators that would improve compatibility to our use-case. Finally during the last week of our PS, we started exploring quantum control protocols and how to create them and then implement them in quantum hardware.

PS-I experience: PS-1 was very exciting. Although I would have preferred to actually be present at the PS Station, I was still able to have fun. The mentor allotted to my team was very friendly and always ready to help. He shared useful resources with us throughout our stint with UST Global and was a very approachable person.

Our project was very interesting and exciting as well. Quantum Computing is an upcoming computer science field and has a lot of potential in the future. This exciting nature of the field kept us motivated to learn more about it.

All in all, PS-1 was an unforgettable experience. We were exposed to an industry environment and picked up many valuable qualities that will surely help us in future endeavors.

Learning Outcome : I learnt a lot about Quantum Computing, and what a revolutionary field it is turning out to be. My curiosity about the inner workings of a Quantum Processor and how its different than a Classical one were pretty satiated. I however, still wish to learn more about the field. It really is very exciting.

My soft skills were also improved thanks to the multiple Group Discussions and Seminars our PS 1 Instructors organized. Our meetings with our mentor about the project also allowed me to understand the way things work at UST Global, and gave me a taste of the corporate world.

Taking all these into consideration, I think I learnt a lot from my time at UST Global.

Name: RUTHVIK REDDY S(2018B4A70701H)

Student Write-up

Short Summary of work done : Our work initially started off with research in building softwares for simulation of noisy quantum devices. Then to test our knowledge, we built a noise simulator of our own. And implemented noise analysis of few quantum algorithms.

PS-I experience: UST Global is good option to choose if you are trying to explore your interests through the projects they offer, if you are into them. My experience has been pretty good, the instructors were friendly and approachable. I really wished I visited the company in-person and had a hands-on experience with the crew. Overall, PS1 at UST Global helped not only me but also my project teammates know more about our interests in Quantum Computing.

Learning Outcome : I've explored my interests in Quantum Computing and Quantum Information. Definitely learnt the basics which I believe will be really helpful in my research work in future, if any.

PS-I station: UST Global - Quantum Distribution Network, Trivandrum

Student

Name: THOKALA NITHYA(2018A7PS0242H)

Student Write-up

Short Summary of work done : I worked on Quantum Distribution network. I didn't know anything related to it but later our instructor gave us topics to read and helped us research our domain. Later we started to co-relate all topics we learnt and came up with a solution for our project.

PS-I experience: Learnt something new which I started to gain interest in.

Learning Outcome : Learnt about a new topic.

Name: NAMIT NEGI(2018B3A70905H)

Student Write-up

Short Summary of work done : The work involved reading up on research papers to learn the existing security infrastructure and cryptographic algorithms like the PKI, RSA, AES, QAES, etc.

The project also involved Quantum Key Distribution(QKD) and its theoretical aspects. We had to design security solutions involving QKD to make Electronic Health Records(EHR) quantum secure. The group was able to come up with cloud, blockchain quantum solutions.

PS-I experience: Most of the work assigned was theoretical and involved reading up several research papers. The mentor assigned was extremely helpful and he made the learning process really easy. Quantum cryptography is an upcoming field and this project gave us the much needed first hand experience in the field.

Learning Outcome : The major learning outcomes of this project involves:

Symmetric Key Encryption, Public Key Encryption, Public Key Infrastructure, Access Based Encryption, Quantum Key Distribution, Quantum Random Number Generator, Kerberos Authentication Model, QCaaS(Quantum Computing As A Service), Shor's Algorithm, Cloud based security protocols, Qiskit.

Name: ISHA NILESH GOHEL .(2018B4A70454H)

Student Write-up

Short Summary of work done : I was allotted the project on Quantum Distribution Network in UST Global.I researched about how computer networks work and also learned about the Key Encryption ,PKI,QKD(Quantum Key Distribution).Our Team was working on designing a quantum safe solution for implementing Blockchain in Electronic Health Records(EHRs). I started by researching about Blockchain and how it gets affected by Quantum computing.I also read about the threats in EHRs due to quantum computing.I finally presented a lattice based signature scheme for post quantum blockchain network.

PS-I experience: The overall experience of PS 1 was good.I got exposure to a lot of new knowledge and we always got positive feedback and encouragement from our PS mentor.The PS instructor guided us till the end.Working with new people and my teammates was a great experience.

Learning Outcome : I researched and learned a lot about Quantum security,computer networks, Blockchain,Electronic Health Records.

PS-I station: Wipro - Attendance capturing system using GPS location, Bangalore

Student

Name: NANDISH HITENDRA CHHEDA .(2018A7PS0113G)

Student Write-up

Short Summary of work done : I was a part of the Attendance Capturing System project. We had to develop an android application that would capture the attendance of students using their GPS locations along with face authentication. We also had to maintain a record of students attendance so that the teacher can query for the attendance of a particular class.

PS-I experience: Despite being a work from home intership, it was a pretty good experience.

Learning Outcome : Android Studio, Tensorflow, Keras, Flask

Name: Nalin Deepak(2018A7PS0223P)

Student Write-up

Short Summary of work done : We had to design an Android Application to capture the attendance of students who are undergoing training from Wipro. We were divided into three teams - Face verification, backend and GPS integration. I was a part of the face recognition team.

PS-I experience: PS-I with Wipro was a very learning experience for me. It taught me about how work goes on in big MNCs like Wipro.

Learning Outcome : I only knew the basics of machine learning before the PS. During the PS, I had an opportunity to learn more on Deep Learning, particularly computer vision as we designed a face recognition system.

Name: Vishesh Badjatya .(2018A7PS0270H)

Student Write-up

Short Summary of work done : Our project was to make an attendance capturing android application using GPS. Our team decided to add face verification also in the app to cross verify the person.

I worked in the face verification and database management team. We created a sqlite database using Django Rest framework and a face recognition model using api and gave their endpoints to be used in the app and integrated the app.

PS-I experience: I liked the PS-1 overall. Obviously, the on-site experience would have been great. But, the showing the weekly progress of our work , learning new things everyday to continue the project and the deadlines gave a sense of real time workload.

Learning Outcome : I learnt how the framework works upon a database mode and how API's work with each other in the real time.

Name: BANG LAKSHYA YOGESHKUMAR(2018B1A70622P)

Student Write-up

Short Summary of work done : My project was to build an android application which marks the attendance of the user using his/her GPS location, the app also had face recognition service for more reliable attendance marking.

PS-I experience: It is good, the instructor was really humble and supportive.

Learning Outcome : I now can build commercial apps for android.

PS-I station: Wipro - Chatbot development, Bangalore

Student

Name: ASHRYA AGRAWAL .(2018A7PS0210P)

Student Write-up

Short Summary of work done : We prepared a chatbot to automate answering of queries of wipro employees about BITS-wipro collaborative programs

PS-I experience: It was good. There was a focus on soft skills as well as technical skills.

Learning Outcome : Learnt about usage of BERT and language models in FAQ answering.

Name: ANIRUDH G .(2018A7PS0217H)

Student Write-up

Short Summary of work done : We developed a chatbot to automate the Student Query answering system using AI and ML. The user asks his/her query to the chatbot. The query text is analysed using the Intent Classifier. Appropriate question is found and sent based on the query. The endpoint after processing the sentence generates a database query. The response from the database is passed back to the user after appropriate formatting. The database that we used consists of the queries provided by the organisation.

PS-I experience: I had a good learning opportunity and exposure to ML and back-end development. The faculty assigned to us was very helpful and he was interacting regularly to guide us.

Learning Outcome : We learned how to request data from an API endpoint using HTTP clients, create databases using Django and communicate using REST framework. We also learned implementation of ML models using various frameworks such as pytorch, scikit-learn, and nltk.

Name: CHIRAG SINGHAL .(2018A7PS0219P)

Student Write-up

Short Summary of work done : We have successfully developed a chatbot which can be used to answer student queries. The backend including the API service and the SQL queries for extracting data from the database have been developed in the process. We have developed an android application as well as a web based solution.

PS-I experience: We have learnt various new technologies and had great learning experiences in Wipro. Wipro is an amazing organization with helpful and cooperative employees. They have helped us along with our PS faculty in every step we were stuck in our project. We got to understand how a project is seeded, proceeded and finished in real world industry.

Learning Outcome : Got industry exposure and learnt various new technologies.

Name: LAKSHAYA GOEL .(2018B1A70631P)

Student Write-up

Short Summary of work done : During my PS1 project, we were supposed to build a web enabled chatbot and an android application. We used the bert model to create the NLP (Natural language processing) engine of the chatbot. Android studio had been used to create an android application whereas HTML, CSS3 and jQuery (Javascript library) were utilized to create the interface of chatbot for the web application. I worked on the frontend and backend module of the chatbot wherein we used Django framework for the backend module and integrated all the components together via an API endpoints. There were 4 primary components of chatbot: Frontend & Backend module, NLP Engine, Response Generator and Database.

PS-I experience: It was a great learning experience as I got an opportunity to interact with the industry mentors from Wipro. The resource material provided on Canvas was quite handy while working on the project. PS1 faculty helped and guided us very well along the complete project from the inception.

Learning Outcome : I gained a hands on experience of working on a live team project. I learnt team collaboration, time management and working of an IT industry like Wipro at all levels. I was even able to enhance my soft skills and actively participated in the group discussion that took place during the project. On technical front, I got detailed understanding of Web development and working of chatbot. Apart from that, I learnt about various key technologies like cloud server, NLP engine etc. during the project. Overall, it was a complete learning experience in terms of both technical and non-technical skills.

Name: GUPTA AARYAMAN PRAMOD KUMAR .(2018B3A70727G)

Student Write-up

Short Summary of work done : We were a team of 10 who designed an FAQ chatbot from scratch. The chatbot was meant to answer student queries in Wipro's student programs. We were divided in 4 sub-teams: development(frontend + backend), NLP, response generation and database management.

PS-I experience: It was a great experience to work in an IT environment although it was done remotely.

Learning Outcome : Obviously we gained the technical skills which go into building a chatbot. But the biggest learning outcome was to collaborate and build an IT project from scratch, working in a deadline based professional environment.

Name: KAPADIA SANJEET JAIDEEP .(2018B4A70137P)

Student Write-up

Short Summary of work done : We had to create a chatbot for Wipro to answer student queries. It was an FAQ based model so the answers were predefined. Our main task was to match the input the user gives to the predefined questions using NLP.

PS-I experience: The PS1 experience was fine but since it was work from home, we were not able to meet as much as required.

Learning Outcome : Learnt many technical skills such as python, ML, NLP. Also learnt about teamwork and collaboration

Name: SOMIL SINGLA .(2018B4A70854P)

Student Write-up

Short Summary of work done : Chatbot Development - We had to develop a FAQ model chatbot which will answer general queries of students enrolled in various courses. This chatbot is developed for an android application and a web application. It also uses Natural Language Processing to match the user query in the database and finding the correct response.

PS-I experience: Overall experience was good, learned a lot about teamwork and how to work on project, to make plan, setting deadlines and then finishing the project. Very less involvement of the Company mentors and also they were allotted at a very later stage when the project was about to end.

Learning Outcome : Learned many technical and soft skills.

Name: AMAN MAHESHWARI .(2018B4A70906P)

Student Write-up

Short Summary of work done : We built a chatbot for wipro. We were a team of 10 students. My main job was of response generator, i.e, using intent, I needed to search the database and return to the user the response to his query. The chatbot was both web and android based and we successfully built it according to the specifications mentioned by mentor under the guidance of ps instructor

PS-I experience: I got to learn new technologies a lot. Team work was something that I got more knowledge about.

Learning Outcome : New technologies like machine learning, deep learning, NLP, python.

PS-I station: Wipro - Data analytics for decision making, Bangalore

Student

Name: ABHINAV SHANKAR .(2018A7PS0105G)

Student Write-up

Short Summary of work done : My project was in the field of data analytics. The aim of the project was to create a decision making tool that helps firms make better strategic decisions based on the data fed into the tool. We made the tool interactive, giving the power of choice to the user, to decide on the attributes by which he wishes to see the data segregated and presented. We used Python and Tableau as our platforms for the project. The project involved 3 main aspects: data handling, dashboarding and decision making. We used MySQL as the database server to help in storing and modifying the datasets provided to us. The data was first cleaned and filtered based on filters provided by the user. Then, it was used in dashboards made in Tableau for data visualisation. Finally, machine learning algorithms implemented in Python provided suggestions to make decisions. We used the TabPy library to integrate Python and Tableau. We demonstrated our tool by using it to recommend the best candidates for recruiters based on various parameters of the candidates given in the dataset.

PS-I experience: I had a good experience working as an intern for Wipro. I was able to explore a new domain (data analytics) and gained valuable insights about the field. I learnt to manage my time and resources effectively to increase productivity.

Learning Outcome : I learnt to work efficiently in a big team. I also learnt soft skills like presenting a project and engaging in a group discussion.

Name: ADITYA ANAND BANGALORE .(2018A7PS0265P)

Student Write-up

Short Summary of work done : Create a data analytics dashboard with ml extensions

PS-I experience: The PS started with us having to make a basic dashboard inside of tableau and adding more and more capabilities onto it as the PS progressed. It involved the use of basic ml algorithms from scikit and integrating them into the tableau workflow. At the end, we had to make a decision making model for our particular dataset. We received most of our guidance from our instructor.

Learning Outcome : Learnt how to work in a team and sort of understood what goes into developing a product.

Name: SHREYAS R.(2018A7PS0430H)

Student Write-up

Short Summary of work done : Data analysis is an important element responsible for making good decisions in every businesses and organisations. Proper analysis and understanding of data allows individuals and companies to make meaningful decisions in their workflow. When an organisation hires a student for employment, it takes into

consideration the various curricular and non-curricular activities of the student, so that the student with the perfect fit for the job profile is hired.

Our responsibility was to build a data analytics tool, which would take a certain number of parameters(the parameters being the academic and non-academic activities of the student), and predicts the probability of him/her getting hired by a particular firm. The minimum requirements of each firm can be set, and the students who stand eligible for further consideration, are assigned the probability percentage of getting hired, by taking into consideration the performance of his/her peers. The extent of proficiency of a student in a particular technology/skill/area of study was given a value, in the range depending on that particular skill. Additionally, the tool would provide a visual representation of the skillset vs number of placed students who were proficient of that skillset.

PS-I experience: In the beginning, the idea of a remote PS seemed to be impossible and inefficient. But thanks to our instructors and mentors, the 6-week long programme turned out to be very useful in learning new skills, and getting a brief idea about working as an engineer in a corporate world. The regular interaction with our instructors, the motivation given to us to work and learn, and the insights provided to us by the mentors from Wipro, proved to be very fruitful both in terms of successfully completing the project and getting deep insights into the area of the project(Data Analytics).

Also, this was helpful in connecting with peers from all the three campuses, which provided a way to interact, learn from each other, coordinate and collaborate as a team towards the project, and make it a success.

Learning Outcome : 1. Database management and extraction through pipelines in Python

2. Various analytics and visualisation tools

3. Integration of Tableau with ML models written in Python using TabPy

4. Analysis, hyper-parameter tuning and optimisation of various ML models

Name: SAMARTH KRISHNA MURTHY .(2018B2A70362P)

Student Write-up

Short Summary of work done : A data analytical tool had to be created in order to predict chances of recruitment for candidates into a company. Dashboards were created to visualize data using Tableau and Machine Learning algorithms were implemented using Python and TabPy.

PS-I experience: PS-1 gave a chance to learn more about my area of interest. Ideal guidance was provided by the instructor in charge to help us throughout the duration of PS-1. New skills were gained in the field of data science as a result of this project.

Learning Outcome : Learnt data analysis using Python and creating interactive dashboards using Tableau.

Name: LAKSHAY SHARMA(2018B3A70803P)

Student Write-up

Short Summary of work done : Built a decision making engine to help in the recruitment process

PS-I experience: Learned about the Data Analytics domain.

Learning Outcome : Learned some concepts of machine learning and tools such as Tableau.

Name: KATE SHUBHANKAR RAVINDRA .(2018B4A70786G)

Student Write-up

Short Summary of work done : My project was "Data Analytics for Decision Making". We were supposed to build a tool that had the capabilities to predict an outcome based on past data using Machine learning algorithms, and also have an Analytics engine to study the data and draw inferences from it. We built our own data (it was not given to

us) by having student data that have sat for placements and were recruited or not. Our prediction parameter was whether the student should be recruited or not.

To store the data, we used a MySQL database, from where the data was called using a Python script and then loaded into a pandas dataframe. To segregate the student on parameters like CGPA, Work experience, etc, we had an interactive feature where the user can not only define the values on which the students are sorted, but also can choose the parameters itself on which the students are being sorted. Then the final data was pushed back into the database for the rest of the tools to use.

The cleaned data was used for building dashboards in Tableau to identify the relevant parameters. Each parameter was compared with the recruitment status to identify which parameter actually governs whether the student is suitable or not. These charts were dynamically changing whenever any parameter was changed. We also carried out PCA analysis and a basic decision tree model in Tableau for the same.

We then tried 5 classification techniques for our ML model and identified the best performing one. To tackle the problem of which student has priority over which in the recruitment process, we built a regression model to assign a "score" (based on the most correlated parameters) to generate a ranking system. Finally using TabPy library, we managed to run our Python script in the back-end, and link it into an interactive dashboard. We built two, one where the dataset can be used and the other where values could be manually entered to get a result.

PS-I experience: It was a wonderful experience for me. I and one other student in my group had taken the initiative of being the group representative. This was my first project where I was leading the group. The only bad thing was that there were almost next to no interactions from Wipro's side. All interactions happened through our PS instructor. It was only because he was so energetic that all our queries were resolved. Our PS started almost a week late because there was no communication from Wipro's side. Also, our industry mentor was assigned to us after the midterm report was submitted. Both mentors were incredibly helpful after being assigned to us and gave us good advice regarding our project. If Wipro was as invested in this project as us, then this would have been an ideal real-world industry project.

Learning Outcome : I was never that interested in Data analytics, but I learnt a lot about it. I learnt about taking timely decisions, and some soft skills. If Wipro would have guided us more, then maybe I would have learnt a lot more. We had to find most of the materials and work around every detail by ourselves. Had these been resolved by our industry mentor in time, then maybe the project, as well as our individual learning, would have gone way further than expected.

Name: GEET SAHITYA DULAM .(2018B4A70797H)

Student Write-up

Short Summary of work done : Our project was to make a decision-making engine to help with the shortlisting of candidates. We had to integrate multiple databases and import the data after which it was wrangled and sent into the decision-making engine. We used ML Algorithms to build the model and trained it using some sample data that we created and then tested it. Database Integration, Data Wrangling and the model were built using Python and it was integrated with Tableau, which is an open-source tool with a wide range of interactive Data Visualizations for Analytics. The user enters the parameters and their limits according to their requirements after which the candidates who satisfy the criteria are selected and then the decision-making engine ranks them and categorizes them into two categories - recruit/ don't recruit.

PS-I experience: Overall, the PS experience was nice. I was able to increase my technical knowledge through learning new concepts which were part of our work during this period. Our PS Instructor was very helpful and was available at all times to clear any doubts we had.

Learning Outcome : PS offered me an opportunity to understand how the industry works and how things are done. Through interacting with the mentors we learned quite a bit about how things work and how to get tasks done.

PS-I station: Wipro - Independent assessment engine, Bangalore

Student

Name: AJITH P J .(2018A7PS0040H)

Student Write-up

Short Summary of work done : Independent Assessment Engine, strives to solve the problem of the inaccessibility of a suitable platform to conduct examinations. The project aims to develop a reliable, secure, and well-functioning web-based independent

assessment engine, which can be deployed by organizations to conduct online examinations and assessments.

PS-I experience: PS-I experience was good .It showed me how to work in a team and take responsibilities.

Learning Outcome : Node.js, working with API's and MongoDB

Name: ANIRUDH AGRAWAL .(2018A7PS0099H)

Student Write-up

Short Summary of work done : Independent Assessment Engine.

It was a web development project in which we had to build an assessment platform which had MCQs (both single and multiple correct types), fill-ups types question and some coding based problems,i.e., given a question submit the code for it, to assess the user on different skills required by the company. We were divided into frontend and backend teams and were assigned tasks accordingly. I was in the backend team. Our subgroup was working to make the Database Access Layer and Service layer to perform the business logic. We had to build different database models for storing various information related to users, questions, and exams and also to write the function for inserting, retrieving, modifying, deleting these data into the database. We also wrote the functions at the service layer for

- Creating/Registering for the exam.
- Submitting the answers.
- Checking the answers and calculating the results.

PS-I experience: We learned about various technologies and built a responsive website. The industry mentors were very helpful, and we gained much knowledge about the latest web development technologies used in the market from them. The fellow batchmates were very helpful and supportive. Overall it was a great learning experience at the PS station.

Learning Outcome : Our group role at PS station was to implement a Database Access Layer and Service Layer to perform the business logic operation. So, I learned about MongoDB - NoSQL database and its features and also learned about different

packages like mongoose ODM, mocha, chai, express, and some packages for validating the input data. We also used npm for managing and installing the packages.

Name: MANU GUPTA .(2018A7PS0316H)

Student Write-up

Short Summary of work done : Our project was developing Independent Assessment Engine. It is a web application for conducting online examination. We were divided in two subgroups frontend and backend development.

PS-I experience: It was a good experience developing a project as a team.

Learning Outcome : Node.js, JavaScript, API development using Express.js, MongoDB and Git.

Name: AARYAN GUPTA .(2018B1A70775H)

Student Write-up

Short Summary of work done : The project aimed to develop a reliable, secure, and well-functioning web-based independent assessment engine, which can be deployed by organizations to conduct online examinations and assessments. The platform was expected to support both 1.Admins – to set up exams and questions, and 2. Candidates – who would attempt the exams. The project took its inspiration from web platforms like BITSAT to build a production-ready platform. The project makes use of modern tools and frameworks like ReactJS, NodeJS, and Firebase to deliver a sound and consistent platform.

PS-I experience: Wipro Limited is our PS-1 Station is an Indian multinational corporation which provides IT, consulting and business process services and works in the fields of cognitive computing, hyper-automation, robotics, cloud, analytics and emerging technologies. Wipro has a framework called Trend. NXT which helped us in understanding the Independent assessment engine project. It had an extensive partnership with various esteemed organizations like Microsoft, Adobe, Google and IBM with which they have worked on multiple projects and collaborated efficiently. We got our Wipro ADIDs and logged on to the Wipro's website, through our intern accounts on 25th May 2020. Our Project topic was- "Independent Assessment Engine for MCQs using Java/JavaScript/HTML/CSS/React etc., Domain is- "Mobile & Web App Development". I was allotted to the Frontend part and learnt about that. The aim was to create a Self-Learning Quiz web-app which will have the testing ability just like BYJU's and Aakash Institute do regularly.

Work From Home was a significant challenge in the COVID times as it was difficult to understand the various aspects of our project on just video conferencing as we were not able to get the exact environment of learning as we weren't in the same atmosphere of the office. But still, WIPRO Limited and PS Division (BITS Pilani) provided us with such an excellent opportunity to work and add to our experience through this rigorous internship in an esteemed organization in challenging times like these.

Learning Outcome : I learnt more of HTML, CSS, JavaScript, ReactJS, We all project members divided ourselves into 5+5(Backend Frontend) for the development of the web-app, We also collaborated on GitHub, whenever we needed to change the code slightly.

Name: HARSH JHUNJHUNWALA .(2018B5A70691P)

Student Write-up

Short Summary of work done : I was working in the backend team of the Independent Assessment Engine project. We had to make a web application to take an assessment test for employees also scalable for exams at the college level. The mentors from WIPRO explained the purpose of the project quite well.

In the backend team, we used the NodeJS framework with MongoDB as a database framework and passport for authentication. For the first layer of the project, our main focus was MCQ type questions only and for the second layer, it was the incorporation for online code execution for our exams like CP for which we initially used Judge0 API and later on shifted to Jdoodle API. The frontend team used the React framework for the project.

PS-I experience: My PS-1 experience was quite good, I enjoyed working a lot. Our professor was very helpful and flexible in terms of submission deadlines and diary submission.

The mentors from WIPRO's side were also helpful and they gave useful suggestions.

Learning Outcome : We got to learn many languages in a very short duration of time which was challenging but also very amazing. The execution of everything like making the schemas, deciding the workflow, and finally integrating with frontend was quite tough but we completed it successfully. Also as it was completely online we did not have any resources from the station's side to assist, of course, mentors are there to help but to learn a language, and then executing it without error is what was worthy to learn.

PS-1 helped me communicate better with my team members since proper teamwork was required for the completion of the project. Moreover, it helped me learn the lesson that sometimes we have to take initiatives and learn and try to come up with a solution on our own.

PS-I station: Wipro - Online written examination system using AI and ML, Bangalore

Student

Name: PIYUSH MAHESHWARI(2018A7PS0153G)

Student Write-up

Short Summary of work done : I worked on an online examination system. It is a web application built using React and Flask. I built face verification and eye tracking components for detecting unfair means at any point during the examination. These components process the videos of the examinees, captured from their webcam. The suspicious frames are then saved as images for the examiner to review. The application can evaluate subjective answers using NLP, while also checking for internal as well as external plagiarism.

PS-I experience: It was a good experience. We learnt many things from working in a corporate environment. A significant part of the internship was frequent presentations, discussions and reports. Apart from these, learning the required skills in a short duration, understanding the mentor's expectations from the project and finding ways to realise them were the major challenges.

Learning Outcome : I learnt how to make softwares using deep learning models. I have also developed a basic understanding of how large softwares work, and how different components are integrated into a single software. Apart from these, I volunteered to be the representative of my team. Taking the responsibility helped me to work on my leadership qualities and speaking skills. It also helped me develop interpersonal skills.

Name: KRITI JETHLIA .(2018A7PS0223H)

Student Write-up

Short Summary of work done : Our project was online examination using AI and ML and we were expected to make a prototype with an actual examination environment along with the evaluation of subjective answers and checking plagiarism between the answers of students and also from the internet using online API's. Also random display of few questions out of the question database. The technologies we were expected to use were just basic frontend application through templating or React or Angular , Flask or Django for the backend and Python for the ML part.

PS-I experience: It was a nice experience but it could have been a better experience if it hadn't been a work from home thing.

Learning Outcome : Got to learn about ML applications, Web Dev including REACT and Flask as a combination.

Name: TARIGOPULA PRANAY .(2018A7PS0237H)

Student Write-up

Short Summary of work done : Over the course of PS-1, we developed a prototype of an online examination system that performs online proctoring, auto-evaluation and plagiarism checking of subjective answers.

PS-I experience: My PS-1 was pretty productive, given the circumstances. It gave me a chance to explore more about the areas I was interested in.

Learning Outcome : Learnt basics of Full stack Development (MERN and Flask). Introduced myself to Deep Learning concepts.(Namely, Convolutional Neural nets and Recurrent Neural net architectures).

Name: MOHAMMAD SAIF .(2018B3A70750P)

Student Write-up

Short Summary of work done : The majority of work included developing a complete online examination service. This includes online proctoring through webcam, automatic grading of the subjective answer written by the examinee, a question paper setting mechanism which randomly generates question papers from a question bank and a web interface encapsulating it all.

PS-I experience: The experience in PS-I was great. The discussions with Wipro personnel was the guiding force in the project. The PS faculty was always motivating us and helping us when we were stuck and giving ideas on how to implement a lot of features.

Learning Outcome : The learning experience at Wipro was great. This was the first corporate experience for us and a great one.

Name: MANASA REDDY BOLLAVARAM .(2018B4A70774H)

Student Write-up

Short Summary of work done : We built an online written examination system using AI & ML. We had to make a web application for the same. It used ML for proctoring and auto-grading.

PS-I experience: The PS instructor was great and kept regular meets.

Learning Outcome : ML, web application development

Name: SUYASH CHOUDHARY .(2018B5A70712P)

Student Write-up

Short Summary of work done : The project that I worked upon was development of a "Online Examination System using AI/ML". I was a part of a team responsible for handling the proctoring part of the project (checking for suspicious activity during the exam by the candidate). We did it by two ways - conducting face verification of the candidate at some certain intervals during the exam and conducting the eye tracking of the candidate to know where the candidate is looking during the exam.

PS-I experience: It was a good experience working with new people and collaborating in a online way of communication . I learned a lot of things during the whole duration of PS-1 including both the technical and non-technical skills which gave a good exposure about how the industry works.

Learning Outcome : I got to know about how the industry works and the whole structure of big organisations along with some technical skills and enhancement of soft skills, etc.
