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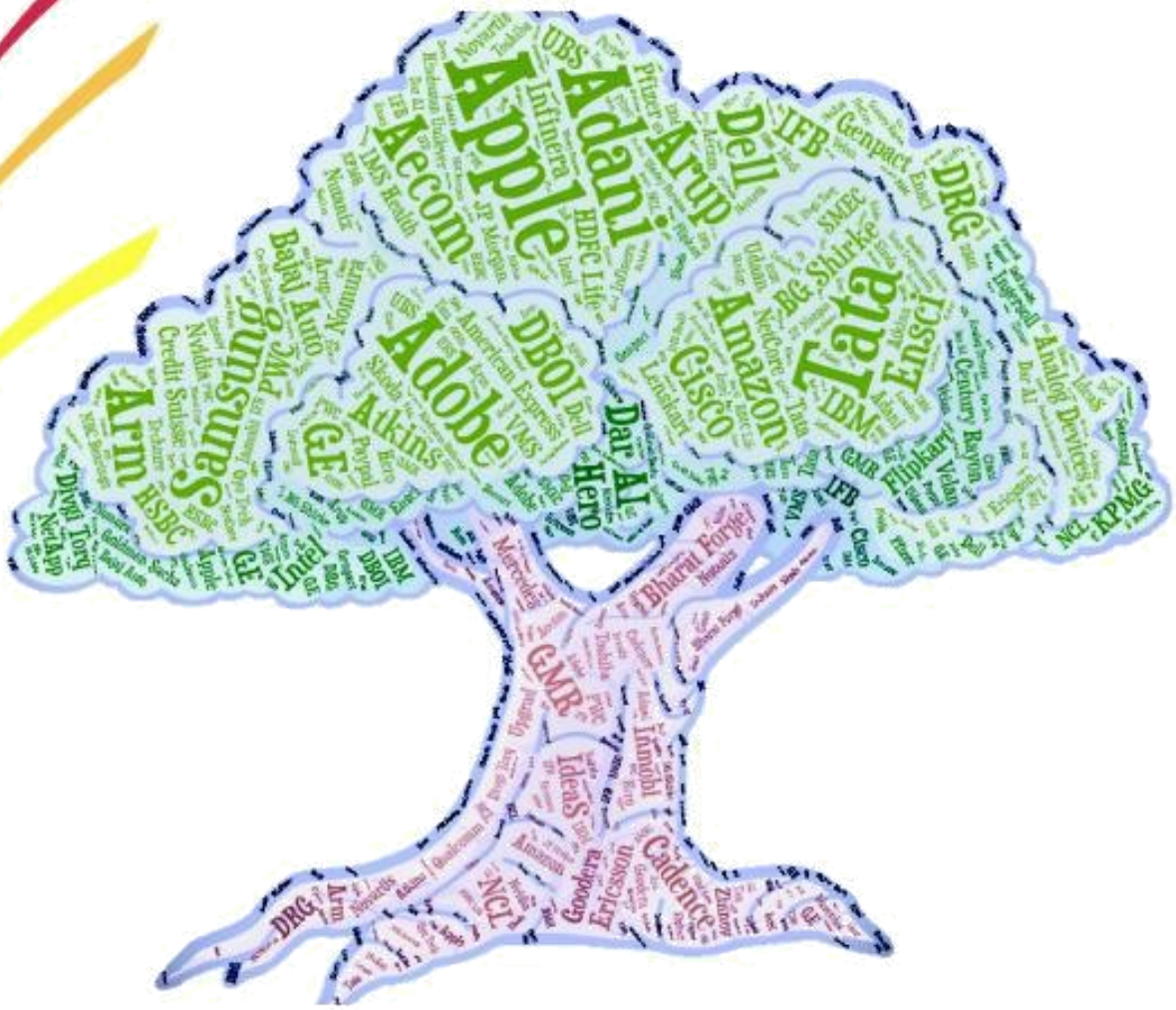
Practice School Division

PRACTICE SCHOOL - II

CHRONICLES



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– Practice School Division

From the Desk of the Editor

It is my great pleasure to bring forth the 10th edition of the PS-II Chronicles. This edition features over 608 articles from mentors, students and PS faculty sharing their experience from the I Semester of 2020-2021. This huge increase in numbers is a testimony to the usefulness of the PS- II Chronicles and its increasing popularity.

The primary aim of the PS-II Chronicles is to record the overall PS-II experience of all the stakeholders – the students, the PS faculty and the Industry mentors.

The objectives of this Chronicle are manifold

- Prospective PS-II students can get to know about the experience of their seniors, currently at PS – thereby increasing awareness in the student community.
- Increasing awareness among faculty about the nature of work happening in various PS-II stations.
- Bring back the experience gained in PS-II into academics - making the curriculum more industry relevant.

I would like to thank everyone who has participated in this activity - the students, the industry mentors and the faculties for sharing their experiences. Thanks for making the 9th edition an even more bigger and better experiences.

I would also like to thank Prof. Arun Maity, Prof. S Murugesan and Prof. Mahesh Kumar Hamirwasia for reviewing the articles. I would also extend my thanks to Mr. Om Prakash Singh Shekhawat and Mr. Varun Singh of the Practice School Division of BITS Pilani – Pilani Campus for their help in bringing out the edition of PS-II 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

From the Desk of the Editor 2
PS-II Station: ACSZ Tech Pvt. Ltd., Chennai 54
Faculty 54
Name: Chennupati Rakesh Prasanna 54
Student 54
Name: SAURABH RAJ (2016A7PS0094P) 54
PS-II Station: Aditya Birla Group - Data and Analytics, Bangalore 55
Faculty 55
Name: Sonika Chandrakant Rathi 55
Student 55
Name: DUDHAVAT KUNAL MADANKUMAR (2017A8PS0371P) 55
PS-II Station: Aditya Birla Insulators, Halol 57
Faculty 57
Name: Sudeep Kumar Pradhan 57
Student 57
Name: NIMISHA JAIN (2016B4A10504P) 57
Name: AGARWAL ARCHIT PRADEEP (2017A7PS1917G) 58
PS-II Station: Aditya Birla Science & Technology Company Ltd., Mumbai..... 59
Faculty 59
Name: K Santosh Sopanrao 59
Student 59
Name: ANKITHA ATHREYA RAMACHANDRAN (2017A1PS0524G) 59
PS-II Station: AFour Technologies Pvt. Ltd., Pune 60
Faculty 60
Name: Sonika Chandrakant Rathi 60
Student 60
Name: SHIVAM BHALLA (2016B1A40941P) 60
PS-II Station: Agami Realty, Mumbai 62
Faculty 62
Name: Pavan Kumar Potdar 62

Student 62
Name: LAWANKAR SAMEER MANISH (2017A2PS0098P) 62
PS-II Station: Airmeet, Bangalore 63
Faculty 63
Name: Anjani Srikanth Koka 63
Student 63
Name: MONIS MUSHTAQUE (2016B1A40658P) 63
Name: NIKHIL JACOB GEORGE (2017A4PS0210G) 64
Name: PRANJAL SRIVASTAVA (2017A4PS0910G) 65
PS-II Station: Alien Developers, Hyderabad 66
Faculty 66
Name: Mahesh K Hamirwasia 66
Student 66
Name: VELURI SAI MANISH (2017A2PS0913P) 66
PS-II Station: AlmaConnect, Gurgaon 67
Faculty 67
Name: Gaurav Nagpal 67
Student 67
Name: ROHIT PRASAD KULKARNI (2016B1A10924P) 67
Name: ANANT KUMAR TRIPATHI (2016B2A30903P) 69
PS-II Station: AltMat, Ahmedabad 69
Faculty 69
Name: R S Reosekar 69
Student 70
Name: JIANDANI RAUNAQ JITENDRA (2017A1PS0716P) 70
PS-II Station: ALW Lighting India Pvt. Ltd., Ludhiana 71
Faculty 71
Name: Pawan Sharma 71
Student 71
Name: MALDE CHINTAN KIRIT (2017A4PS0273P) 71
Name: HARSHWARDHAN DILIP SHIRODKAR (2017AAPS0169G) 72
Name: AYUSH RANJAN (2017A1PS0729G) 73

PS-II Station: Amazon - Machine Learning, Hyderabad 74
Faculty 74
Name: Seetha Parameswaran 74
Student 74
Name: YASHDEEP SINGH DAHIYA (2016B3A70471H) 74
PS-II Station: Amazon Development Center, Bangalore 75
Faculty 75
Name: H. Viswanathan 75
Student 75
Name: Mayank Jasoria (2016B1A70703P) 75
Name: SAMARTH GUPTA (2016B4A70369G) 76
Name: ANIRUDH BUVANESH (2016B4A70614P) 78
Name: BHARAT BHARGAVA (2017A7PS0025P) 78
Name: JAIN SIDDHARTH MUKESH (2017A7PS0180H) 79
Name: JAY PANKAJ GALA (2017A7PS0396G) 81
PS-II Station: Amazon Development Center, Chennai 82
Faculty 82
Name: T Venkateswara Rao 82
Student 82
Name: PRAKARSH PARASHAR (2016B4A70776G) 82
Name: PRAKHAR SRIVASTAVA (2016B5A70438G) 83
Name: LAVANYA SONI (2017A7PS0151P) 84
Name: SANAND DANGE (2017A7PS1685H) 86
PS-II Station: Amazon Development Center, Hyderabad 86
Faculty 86
Name: T Venkateswara Rao 86
Student 87
Name: SHENOY VIGHNESH VIJAY (2016B4A70927H) 87
Name: MADHUR PANWAR (2016B4A70933P) 88
PS-II Station: Amazon Professional Services, Delhi..... 89
Faculty 90
Name: Preethi N. G 90

Student 90
Name: SHYAM JAYESH KUMAR JESALPURA (2016B3A70441H) 90
Name: AAYUSH AGARWAL (2016B5A70716P) 91
PS-II Station: ANS Commerce - Non tech, Gurgaon 91
Faculty 91
Name: Sandeep Kayastha 91
Student 92
Name: MANDALAM TARUN (2016B2A10583G) 92
Name: SOHAM BHATIA (2016B3A40274G) 93
Name: SAYAN SAHAY (2017A1PS1025H)..... 93
Name: SAYAN SAHAY (2017A1PS1025H)..... 94
Name: NIKHIL BHASIN (2017A4PS1208H) 95
PS-II Station: ANS Commerce - Tech, Gurgaon 96
Faculty 96
Name: Jyotsana Grover 96
Student 97
Name: JIGYASHU AGGARWAL (2016B2A10914P) 97
PS-II Station: Apollo Tele Health Services (ATHS), Hyderabad 97
Faculty 97
Name: Rekha A 97
Student 98
Name: VYSYAKH A (2017A2PS0089P) 98
PS-II Station: Apple India Pvt. Ltd., Hyderabad 99
Faculty 99
Name: T Venkateswara Rao 99
Student 99
Name: JAINA PARESH SHAH (2016B4A70496H) 99
Name: RISHABH JAIN (2016B4A70729P) 100
Name: JAYANTH TUMMALAPENTA (2017A7PS0075P) 101
Name: ABHINAV RAMACHANDRAN (2017A7PS1176P) 102
PS-II Station: Arm Soft Technologies, Chennai 103
Faculty 103

Name: Akshaya G 103
Student 103
Name: KSHITIJ KARUNESH (2016B2A80141P) 103
Name: NAYAK ARUJ (2017A7PS0107G) 104
PS-II Station: ASCO Numatics India Pvt. Ltd., (Emerson Automation Solutions), Chennai 105
Faculty 105
Name: Raghuraman S 105
Student 105
Name: VISHWESH MUDALIAR (2017A4PS0286H) 105
PS-II Station: Asteria Aerospace Pvt. Ltd., Bangalore 107
Faculty 107
Name: Seetha Parameswaran 107
Student 107
Name: VISHNU NARAYANAN (2017A8PS0356P) 107
PS-II Station: Atyati Technologies, Bangalore 109
Faculty 109
Name: Febin A Vahab..... 109
Student 109
Name: PRATEEK CHANDORIKAR (2016B3AB0454H) 109
PS-II Station: Bharat Forge Ltd., Pune 110
Faculty 110
Name: Naga V K Jasti 110
Student 110
Name: Rohan Barbade (2017A4PS0342H) 110
PS-II Station: Birla Carbon, SKI Carbon Black (India) Pvt. Ltd., Renukoot 111
Faculty 111
Name: Samir Kale 111
Student 111
Name: SHUBHANG SRIVASTAVA (2017A7PS0073H) 111
PS-II Station: Blue Jeans Network India Pvt. Ltd., Bangalore 112
Faculty 112

Name: Akshaya G 112
Student 112
Name: METLAPALLI VENKATA SAI KARTHIK (2017A7PS0260H) 113
PS-II Station: Blue Yonder (JDA), Bangalore 114
Faculty 114
Name: Vineet Kumar Garg 114
Student 114
Name: MEENAL MANSINGHANI (2016B1A10640P) 114
Name: ARUSHI CHOUDHARY (2016B2A80872P) 115
Name: AASHI AGGARWAL (2017A3PS0574H) 116
Name: SIDDHANT SINGH (2017A4PS0579G)..... 117
Name: SISTLA SOUMYA (2017AAPS0302H) 118
Name: P G PADMA VILOCHANI (2017ABPS0353P) 119
PS-II Station: BNY Mellon Technology, Pune..... 120
Faculty 120
Name: Sonika Chandrakant Rathi 120
Student 120
Name: ANSHUL SHRIVASTAVA (2016B2A70602G) 120
Name: LIPI DEEPAAKSHI PATNAIK (2016B2AA0898H) 120
Name: DEEPAK DIVYA TEJASWI (2016B3A70320G) 121
Name: MILONI MITTAL (2017A3PS0243P) 122
Name: MOHAMMED MUNIR BURK (2017A3PS0604H) 123
Name: ISHAAN TIWARI (2017A3PS0866P)..... 124
Name: SUJEET SRIVASTAVA (2017A4PS0503P) 125
Name: SHUBHAM JAJU (2017A4PS0819H) 125
Name: MEHUL AGRAWAL (2017A7PS0054H) 126
Name: Rohan Kumar Rohil (2017B4TS1214P) 127
PS-II Station: Bosch Research and Technology center, Bangalore 129
Faculty 129
Name: Akanksha Bharadwaj 129
Student 129
Name: ARYA BHATTACHARYYA (2016A7PS0068P) 129

Name: J. LAKSHMI TEJA (2017A7PS0068P) 130
Name: SISTLA NAGA SAI MANEESH SARMA (2017A7PS0238H) 130
PS-II Station: Bridge Your Network Inc, Bangalore 131
Faculty 131
Name: Ashish Narang 131
Student 131
Name: KRISHNA DATTA (2017A7PS0007G) 132
Name: SATYA SANTOSHA SUMANASA SOMU (2017A7PS0114H) 133
PS-II Station: Bunch Microtechnologies Pvt. Ltd., Noida 134
Faculty 135
Name: Sandeep Kayastha 135
Student 135
Name: DIVYE PRAKASH (2017A2PS1131H) 135
PS-II Station: Burncal Healthcare Pvt. Ltd., Ahmedabad 136
Faculty 136
Name: Lucy J. Gudino..... 136
Student 136
Name: JESWIN ELDHO (2017A3PS0399G) 136
Name: NAIK PRANAV RAJEEV (2017A8PS0658G) 137
PS-II Station: CASHe, Hyderabad 138
Faculty 138
Name: Uma Maheswari N 138
Student 138
Name: YASH AIREN (2017A8PS0981G) 138
PS-II Station: Central Electronics Engineering Research Institute (CEERI), Pilani 139
Faculty 139
Name: Pawan Sharma 139
Student 139
Name: TANVI PRASHANT GANU (2017A3PS1901G) 139
Name: GOVIND SINGH (2017A4PS0554P) 140
Name: ATHARVA MAHESHWARI DHARWA (2017AAPS0266G) 141
PS-II Station: Central Leather Research Institute (CLRI), Chennai 142

Faculty 142
Name: Glynn John 142
Student 142
Name: OMKAR SANDEEP KULKARNI (2017A7PS1920G) 142
PS-II Station: Centre for Development of Advanced Computing (CDAC), Pune 143
Faculty 143
Name: Ankur Pachauri 143
Student 143
Name: AAYUSH ATUL VERMA (2017A7PS0061P) 143
Name: JATIN BHATNAGAR (2017A7PS0072G) 145
Name: PRATIK RAJESH KAKADE(2017A7PS0086P) 145
Name: DESHMUKH ADVAIT MAHESH (2017A7PS0155P) 146
PS-II Station: Cisco Systems (India) Pvt. Ltd., - Software Engineering, Bangalore 148
Faculty 148
Name: Raja Vadhana P 148
Student 148
Name: RAYYAN SHAIKH (2017A3PS0351H) 148
Name: ISHAN BANSAL (2017AAPS0356G) 149
Name: VENKATA SAI KARTHIK JAGINI (2017AAPS0371H) 149
PS-II Station: Cisco Systems (India) Pvt. Ltd., - Hardware, Bangalore 150
Faculty 150
Name: Raja Vadhana P 151
Student 151
Name: KISLAYA KUMAR (2016B2A30754P) 151
Name: AGASTYA SAMPATH (2017A3PS0359P) 152
PS-II Station: Classplus, Noida 153
Faculty 153
Name: Sugata Ghosal 153
Student 153
Name: SAKSHAM MAHESHWARI (2017A3PS0568H) 153
PS-II Station: Clearpack Automation Pvt. Ltd., Noida 154
Faculty 154

Name: Mohammad Saleem J Bagewadi 154
Student 154
Name: BODEPUDI HARSHAVARDHAN (2017A4PS0546H) 154
PS-II Station: ClearTax, Bangalore 155
Faculty 155
Name: Vijayalakshmi Anand 155
Student 155
Name: SANCHIT AHUJA (2017A3PS0216P) 155
Name: KUMPATLA JNANA VEERA VENKATA SAIRAM SATISH (2017AAPS0284H) 155
Name: D SRIRAM (2017AAPS0396H) 156
PS-II Station: Code Argo, Hyderabad 157
Faculty 157
Name: Pradheep Kumar K 157
Student 157
Name: SEGANTI RUTHVIK (2017A7PS0171H) 157
PS-II Station: Congruent Solutions, Web Development, Chennai 158
Faculty 158
Name: Febin A Vahab 158
Student 158
Name: MRINAL JHA (2016B4A10501H) 158
PS-II Station: Couture AI, Bangalore 159
Faculty 159
Name: Preethi N. G 159
Student 159
Name: ADRIAN MIRANDA (2016B4A70500H)..... 159
Name: ARCHITA SUKHWANI (2016B4A70741G) 160
Name: JAIN KUSH RAMESH (2017A3PS0425G) 161
Name: SAMANVAY LAMBA (2017A7PS0022P) 162
Name: PRAFFULLA TRIPATHI (2017A7PS0933G) 163
PS-II Station: CriticalRiver Technologies Pvt. Ltd., Hyderabad 164
Faculty 164
Name: Chennupati Rakesh Prasanna 164

Student 164
Name: RITWIK SHARMA (2017A7PS0242H) 164
PS-II Station: CueMath Learn Pvt. Ltd., Bangalore 165
Faculty 165
Name: Febin A Vahab 165
Student 165
Name: SHIVAM AGRAWAL (2016B4A40602P) 166
Name: JAIN AMEY MANOJKUMAR (2017A1PS0864G) 166
Name: PRATYUSH PARETA (2017A2PS0064P) 167
Name: RIKIN JAIN (2017A2PS0923P)..... 168
Name: VATSALYA ANAND (2017A2PS1579H) 169
Name: C MOHAN (2017A3PS0330H) 170
Name: ACHARLA MEGHANA (2017A5PS1170H) 171
Name: JYOTI RANJAN PAGODA (2017B4PS0506P) 172
PS-II Station: DBOI - Automation, Pune 173
Faculty 173
Name: Krishnamurthy Bindumadhavan 173
Student 173
Name: UTKARSH AGARWAL (2016B3A70581P) 174
PS-II Station: DBOI - Automation Control, Pune 174
Faculty 174
Name: Krishnamurthy Bindumadhavan 174
Student 175
Name: KARRA PRAVEEN (2016B3A40372G) 175
PS-II Station: DBOI - Business Finance, Mumbai 176
Faculty 176
Name: Krishnamurthy Bindumadhavan 176
Student 176
Name: RISHABH ANEJA (2017A2PS1029P) 176
Name: SREERAM M (2017A4PS0185G) 177
Name: SANGHVI JASH VIPUL (2017A4PS0904G) 177
Name: JAGTAP PRATHMESH RAJENDRA (2017A4PS1737H) 179

Name: VITHUN ATHREYA (2017ABPS1375H) 180
PS-II Station: DBOI - Counterparty Credit Ratings, Mumbai 180
Faculty 181
Name: Krishnamurthy Bindumadhavan 181
Student 181
Name: GURSAHAJ SINGH (2016B1A10628G) 181
Name: RAVI MOTWANI (2016B3AA0379G) 182
Name: YASH NIRUPAM GAUR (2016B3AB0494H) 182
PS-II Station: DBOI - Financial Analytics, Pune 183
Faculty 183
Name: Krishnamurthy Bindumadhavan 183
Student 183
Name: SAUMITRA VATSAL PANDEY (2016B3A20565P) 183
PS-II Station: DBOI - Market Risk Analysis & Control, Mumbai 184
Faculty 184
Name: Krishnamurthy Bindumadhavan 184
Student 184
Name: JOSHI ATHARVA NITIN (2017A1PS0801G) 184
Name: ANEESH VINIT WAGLE (2017A2PS0970H) 185
Name: HARSH KALRA (2017A4PS0169P) 187
Name: GOKHALE CHINMAY SANDEEP (2017A4PS0906G) 187
Name: ANTRIKSH JAIN (2017ABPS0782P) 188
Name: UJJWAL SHARMA (2017B3TS1201P) 189
PS-II Station: DBOI - Risk Metrics Analytics, Pune 190
Faculty 191
Name: Krishnamurthy Bindumadhavan 191
Student 191
Name: SHREYANSH JAIN (2016B3AA0429G) 191
Name: SHREYANSH JAIN (2016B3AA0429G) 192
PS-II Station: Decimal Technologies, Gurgaon 193
Faculty 193
Name: Preethi N. G 193

Student 193
Name: CHINASANI KAVYASREE (2017AAPS0315H) 193
PS-II Station: DemandMatrix, Pune 194
Faculty 194
Name: Pravin Yashwant Pawar 194
Student 194
Name: SHEFALI TRIPATHI (2017A7PS0139P) 194
PS-II Station: Dhruva Space Pvt. Ltd., Hyderabad 195
Faculty 195
Name: Naga V K Jasti 195
Student 195
Name: ANISH M (2017A8PS0605H) 195
PS-II Station: Divgi TorqTransfer Systems Pvt. Ltd., - Bhosari, Pune 196
Faculty 196
Name: R S Reosekar 196
Student 196
Name: HARSHRAJ KAUSHIK (2017ABPS1046P) 196
PS-II Station: Dixon Technologies India Ltd., Noida 197
Faculty 197
Name: Pawan Sharma 197
Student 197
Name: PULKIT AGGARWAL (2016A7PS0060P) 197
Name: PRASHANT AGRAWAL (2016B5A40748G) 198
PS-II Station: DMI Finance Pvt. Ltd., New delhi 199
Faculty 199
Name: Gaurav Nagpal 199
Student 199
Name: VISHESH ARORA (2017A3PS0299P) 199
Name: SHASHANK MADISHETTI (2017A8PS0797H) 200
PS-II Station: Door Sabha Nigam Ltd., Chennai 201
Faculty 201
Name: Gopala Krishna Koneru 201

Student 201
Name: ADITYA LADIA (2017ABPS0361P) 202
PS-II Station: Dunzo Digital Pvt. Ltd., Bangalore 203
Faculty 203
Name: Anjani Srikanth Koka 203
Student 203
Name: RONAK AGRAWAL (2017A2PS1590H) 203
Name: MOHIT DHAWAN (2017A3PS0223P) 204
Name: KRUTARTH LALIT SARASWAT (2017A4PS0248P) 205
Name: RYAN ROBY (2017A4PS0438P) 206
PS-II Station: E2open Inc., Bangalore 207
Faculty 207
Name: Seetha Parameswaran 207
Student 207
Name: MUNGAD AYUSH RAJENDRA (2016B3A70523P) 207
Name: TAGWALE SWAPNIL VIJAY (2016B4A70551H) 208
PS-II Station: E-Connect Solutions Pvt. Ltd., Udaipur 209
Faculty 209
Name: K Venkatasubramanian 209
Student 209
Name: HEMANT DHAMIJA (2016A7PS0031G) 209
Name: KONDA NIKHITHA (2017A7PS0001H) 210
Name: RITIK KANDORIA (2017A7PS0009P) 211
Name: VEGGALAM YOGA SAIKANTH (2017A7PS0215H) 211
Name: UTKARSH GROVER (2017A7PS1428H) 212
Name: AKSHAT GUPTA (2017A7PS1699H) 213
PS-II Station: eGovernments Foundation, Bangalore 214
Faculty 214
Name: Preethi N. G 214
Student 214
Name: SHASHWAT MISHRA (2016B1A30568G) 214
Name: AKSHITA SOI (2016B1A30626G) 215

Name: SHAHAPURKAR SARVESH MUKESH (2017A3PS0164G) 216
PS-II Station: Emptycup Innovation Pvt. Ltd., - Non-tech, Bangalore 217
Faculty 217
Name: Shekhar Rajagopalan 217
Student 217
Name: PRAKHAR MUNDE (2017A4PS0538P) 217
PS-II Station: Enterpreneurship Development and Innovation Institute (EDII), Chennai . 218
Faculty 218
Name: Anjani Srikanth Koka 218
Student 218
Name: KUMAR ANKIT (2016B5A10746G) 219
Name: MRITYUNJAY MAHESHWARI (2017B3TS1213P) 219
PS-II Station: Everwell Health Solution, Bangalore 220
Faculty 220
Name: Sonika Chandrakant Rathi 220
Student 221
Name: AYUSH PRANJAL (2017A7PS0117G) 221
PS-II Station: Experian, Hyderabad 221
Faculty 221
Name: Kranthi Kumar Palavalasa 222
Student 222
Name: PIDUGU VAISHNAVI PRIYANKA (2017A7PS0017H) 222
Name: SABBISETTI JASWANTH (2017A7PS0126H) 222
PS-II Station: Express Stores - Tech, Gurgaon 223
Faculty 223
Name: Pravin Yashwant Pawar 223
Student 224
Name: PANCHUMARTHI PRANAV (2017A7PS0153P) 224
PS-II Station: Express Stores – Non-Tech - Onsite, Gurgaon 225
Faculty 225
Name: Sandeep Kayastha 225
Student 225

Name: KUMAR SHIVAM (2016B5A10668P) 225
Name: ABHISHEK JHA (2017A2PS0071P) 226
Name: AMAAN HAKIM (2017A4PS0903G) 227
Name: AMAAN HAKIM (2017A4PS0903G) 228
PS-II Station: Eyenetlabs, Trivandrum 228
Faculty 228
Name: Sindhu S 228
Student 228
Name: PONNOLU YASESHWINI REDDY (2017A8PS0825H) 229
PS-II Station: Flipkart (Business Development), Bangalore 229
Faculty 229
Name: Vineet Kumar Garg 229
Student 230
Name: Anurag Pandey (2017A1PS0891G) 230
PS-II Station: FlipSpaces Technology Labs Pvt. Ltd., Mumbai 231
Faculty 231
Name: Sandeep Kayastha 231
Student 231
Name: SARTHAK GUPTA (2016A1PS0753P) 231
PS-II Station: Flyboat, Hyderabad 232
Faculty 232
Name: Sandeep Kayastha 232
Student 232
Name: ALBRITE BEN (2017A1PS0341G) 232
Name: JOSHI AKHILESH SUNIL (2017A8PS0706G) 233
PS-II Station: GenY Medium, Hyderabad 234
Faculty 234
Name: Anjani Srikanth Koka 234
Student 234
Name: PRATIK MISHRA (2017A2PS0926P) 234
Name: PATWARDHAN NISHAD SUBODH (2017A4PS0410G) 235
PS-II Station: Glocol Networks (IOT and AI), California 236

Faculty 236
Name: H. Viswanathan 236
Student 236
Name: SATYAM SUMAN (2016A7PS0061P) 236
Name: PITTALA TRINATH SAI SUBHASH REDDY (2017A7PS0228H) 237
PS-II Station: Goodera, Bangalore 238
Faculty 238
Name: Mohammad Saleem J Bagewadi 238
Student 238
Name: NIMISH GOYAL (2016B4A20463P) 238
Name: LUNAWAT RAJAT RAKESH (2017A1PS0700P) 239
Name: RANE DEVASHISH SATYAJIT (2017A3PS0330G) 240
PS-II Station: Goscale Technologies Pvt. Ltd., - IT, Bangalore 242
Faculty 242
Name: H. Viswanathan 242
Student 242
Name: JOSHI ABHISHEK MEHUL (2017A7PS0950G) 242
PS-II Station: Grasim Industries Ltd., Nagda 243
Faculty 243
Name: Arun Maity 243
Student 243
Name: PATNAIKUNI DIVIJ PRITHVI (2015A1PS0721H) 243
Name: PRATHAM JAIN (2017A1PS0846P) 244
Name: SHAH PARTH CHIRAG (2017A4PS0917G) 245
PS-II Station: Grey Orange Robotics Pvt. Ltd., New delhi 246
Faculty 246
Name: Nithin Tom Mathew 246
Student 246
Name: ADITYA RAMACHANDRAN (2017A3PS0339P) 246
Name: HEMANTH VARMA ALLURI (2017A7PS1170P) 247
PS-II Station: Groww - Software Development, Bangalore 248
Faculty 248

Name: Akanksha Bharadwaj 248
Student 248
Name: ANSHUMAN PATI (2016B4A70470H) 248
Name: PRATIK (2016B4A70549H) 249
PS-II Station: HealthCubed - Onsite, Bangalore 250
Faculty 250
Name: Bharathi R 250
Student 250
Name: AYUSHMAAN PANDEY (2016B1AB0707H) 250
PS-II Station: HealthRx by Bajaj Finserv Health Ltd., Pune 252
Faculty 252
Name: Vijayalakshmi Anand 252
Student 252
Name: HARSHAL S KULKARNI (2016B2AA0605G) 252
Name: KUMAR UTKARSH (2017A3PS0350P) 253
Name: ANIRUDDHA MAHAJAN (2017A7PS0145P) 254
PS-II Station: HelloThinkster, Bangalore 255
Faculty 255
Name: Uma Maheswari N 255
Student 255
Name: AVIRAL BAJPAI (2016B1A40755G) 255
Name: ISHAAN KOCHAR(2016B2AA0589G) 256
Name: MANASVI AGARWAL (2017A8PS0542P) 257
Name: ASHISH SINHA (2017AAPS0400G) 258
PS-II Station: Heraizen Technologies Pvt. Ltd., Bangalore 258
Faculty 259
Name: Vineet Kumar Garg 259
Student 259
Name: DEEPANSHU SHARMA (2017A1PS0674P) 259
Name: KAMAL KHEMKA (2017A1PS0691P) 260
Name: BHOSLE MANTHAN AJIT (2017A3PS0543H) 261
Name: SARTHAK SHAH (2017A4PS0586G) 261

Name: SANYAM JAIN (2017A7PS0014P) 262
PS-II Station: Hevo Technologies India Pvt. Ltd., Bangalore 263
Faculty 263
Name: Jyotsana Grover 264
Student 264
Name: NIKHIL L (2016B4A70507H) 264
PS-II Station: Hindustan Times, Delhi 264
Faculty 265
Name: Y V K Ravi Kumar 265
Student 265
Name: P PRIYANKA (2016B1A30701H) 265
Name: GOGULA VINAY (2016B2AA0646H) 266
Name: MAANVESH JINDAL (2017A8PS0393P) 266
PS-II Station: Hourglass Research, Mumbai 267
Faculty 267
Name: Manoj Subhash Kakade 267
Student 267
Name: SANTOSH RAGHAV SRIVATSAN (2017A8PS1924G) 267
PS-II Station: i-exceed Technology Solutions, Bangalore 268
Faculty 268
Name: Mohammad Saleem J Bagewadi 268
Student 269
Name: PRADHIT ONGOLE (2017A3PS0188P) 269
PS-II Station: IMarc Services, Noida 269
Faculty 269
Name: Sandeep Kayastha 269
Student 270
Name: JOSON MATHEW JOSE (2017A1PS0659P) 270
Name: AARYAN GOYAL (2017A4PS0505G) 270
Name: MOHAMMED SADATH ULLAH KHAN (2017A4PS0592H) 271
PS-II Station: Indian Electrical & Electronics Manufacturers - Association, New Delhi ... 272
Faculty 272

Name: Rajesh Kumar Tiwary 272
Student 272
Name: AYUSH HINGER (2017A3PS0445G) 272
PS-II Station: Indian Institute of Petroleum (IIP), Dehradun 273
Faculty 273
Name: K Santosh Sopanrao 273
Student 273
Name: JUNNARKAR JUI SUBHASH (2017A1PS0320G) 273
Name: LAGHUVARAPU SRINIVAS NAVEEN (2017A1PS0801P) 275
Name: SHUBH BIRLA (2017A1PS0802P) 275
Name: SHREYA JOHRI (2017A1PS0878P) 276
Name: CHANDA SAI KARTHEEK (2017A1PS1010H) 277
PS-II Station: Indian Institute of Remote Sensing (IIRS), Dehradun 278
Faculty 278
Name: Rekha A 278
Student 279
Name: GANGURI SRI CHAND (2017A7PS0272H) 279
PS-II Station: Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam 279
Faculty 279
Name: Sindhu S 280
Student 280
Name: SUBHRATAVA MANDAL (2017A3PS0415G) 280
Name: ISHAN PATEL (2017A3PS0431G) 281
Name: BADDULA NEERAJ (2017AAPS0436H)..... 282
PS-II Station: Indium Software, Chennai 283
Faculty 283
Name: Lucy J. Gudino..... 283
Student 283
Name: RUSHIL GUPTA (2016B1A40631G) 283
Name: MUSAIYAB ALI MIRZA (2016B4A40466H) 283
Name: SHASHWAT PREM (2017A1PS1068H) 284
Name: HRITANK SINGHAL (2017A2PS0060P) 285

Name: DESHMUKH CHINMAY TUSHAR (2017A3PS0254G) 286
PS-II Station: Indogulf Fertilizers Ltd., Jagdishpur 287
Faculty 287
Name: Samir Kale 287
Student 287
Name: ABHINAV KUMAR SINGH (2017A1PS0813P) 287
PS-II Station: Innoviti Payment Solutions Pvt. Ltd., Bangalore 288
Faculty 288
Name: Pravin Yashwant Pawar 288
Student 288
Name: BONAGIRI SAILENDRA AKASH (2017AAPS0455H) 288
PS-II Station: Insights Alpha, Delhi 289
Faculty 289
Name: Sandeep Kayastha 289
Student 289
Name: SHREYA RAI (2017A1PS0728G) 289
PS-II Station: Integrated Active Monitoring Pvt. Ltd., - Product & Business Development, Pune 291
Faculty 291
Name: Manoj Subhash Kakade 291
Student 291
Name: ATHARVA DUBEY (2017ABPS0973P) 291
PS-II Station: Integrated Active Monitoring Pvt. Ltd., Pune 292
Faculty 292
Name: Manoj Subhash Kakade 292
Student 292
Name: NISHANT RAMAN (2017A3PS0226P) 292
PS-II Station: Intel India Technology, Bangalore 293
Faculty 293
Name: Swapna S Kulkarni 294
Student 294
Name: NIBHRIT MOHANTY (2016B2AA0855H) 294

Name: PARTH GOYAL (2016B3A80483P) 295
Name: ANSHU MISHRA (2016B4A70107G) 296
Name: KARTIKEYA ARYAN AGARWAL (2017A3PS0253P) 297
Name: SHIKHAR SHARMA (2017A7PS0102G) 298
Name: ADITYA MITHAL (2017A7PS0157P) 299
Name: SHREYAS SRIKRISHNA (2017A7PS0162P)..... 300
Name: VENKATA RAJESWARA ADITYA KOTA (2017A7PS0245H) 301
Name: AYUSH AGRAWAL (2017A7PS0926G) 302
Name: NIHAL SINGH (2017A7PS0934G) 303
Name: SOURYAANSH AGARWAL (2017A7PS1578H) 304
Name: RITTVIK SARAN J (2017A8PS0251P) 305
Name: OM ADITYA PALIWAL (2017A8PS0557H) 306
Name: SHAH UTSAV MANOJ (2017A8PS0656H) 307
Name: KSHITIJ CHHABRA (2017A8PS0691G) 308
Name: CHALLA SUMANTH REDDY (2017A8PS0706H) 309
Name: ANHADVEER DASMIT SINGH KHOKAR (2017A8PS0714G) 310
Name: GOWAIKAR OMKAR MUKUL (2017A8PS0846H) 311
Name: GOWAIKAR OMKAR MUKUL (2017A8PS0846H) 312
Name: KAARTHIK S R (2017AAPS0292H) 312
PS-II Station: Invento Markerspaces Pvt. Ltd., Bangalore 314
Faculty 314
Name: Rejesh N A 314
Student 314
Name: KISHORE SUNDARA MOORTHY (2017A3PS1156P) 314
Name: KARTHIK B NAIR (2017A4PS0229P) 314
PS-II Station: JPMS - GR&C AM Investment Market & Principle Risk, Bangalore 316
Faculty 316
Name: Sidharth Mishra 316
Student 316
Name: SAARTHAK MODI (2017A3PS0287G) 316
PS-II Station: JPMS (Fintech) CIB R&A Banking (CRG), Mumbai 317
Faculty 317

Name: Shekhar Rajagopalan 317
Student 317
Name: ADVAIT SAMIR PATIL (2017A7PS0048G) 317
PS-II Station: JPMS (Technology - IT) GR&C Wholesale Credit Solutions - Data Science - Fintech, Mumbai 318
Faculty 319
Name: Shekhar Rajagopalan 319
Student 319
Name: APURV BAJAJ (2016B3A70549P) 319
Name: KUSHAGRA AGRAWAL (2017A7PS0107P)..... 320
PS-II Station: JPMS CIB R&A - Markets (Derivatives Analyst Group), Mumbai 321
Faculty 321
Name: Shekhar Rajagopalan 321
Student 321
Name: PARV V PANTHARI (2016B3A30550P) 321
PS-II Station: JPMS CIB R&A Global Research, Mumbai 322
Faculty 323
Name: Shekhar Rajagopalan 323
Student 323
Name: JASH ASHISH PATW(2016A4B30292G) 323
Name: NIDHI BEERAVOLU (2016B3A30480H) 324
Name: VISHAKHA (2016B3A30547P) 325
Name: SHRAJAL JAIN (2016B3A30557P) 326
Name: VIGYNESH BHATT (2016B3A80465P) 327
Name: VIVEK GUPTA (2016B3A80481P) 328
Name: SHRUTI DASH (2016B3AA0434G) 329
PS-II Station: JPMS CIB R&A Markets- Equity Derivatives Trading & Structuring, Mumbai 330
Faculty 330
Name: Shekhar Rajagopalan 330
Student 330
Name: DAFTARY NEEL SUNIL (2017A3PS0322G) 330

Name: GUDUGUNTLA VENKATA SAI SUMANTH (2017A3PS0561H) 331
Name: SHANTANU GUPTA (2017A7PS0137H) 332
PS-II Station: JPMS GR&C Auto Risk Strategy Analytics, Bangalore 333
Faculty 333
Name: Sidharth Mishra 334
Student 334
Name: CHADALAVADA KHYATHI KIRAN (2016B3A40467H) 334
PS-II Station: JPMS GR&C Cards Risk Strategy Analytics, Bangalore 335
Faculty 335
Name: Sidharth Mishra 335
Student 335
Name: MOHAMMED ANJAL (2016B3A70238G) 335
Name: LAKSHITH D (2016B3AA0357H) 336
PS-II Station: JPMS GR&C CCB Business Banking Reporting Strategy, Bangalore 337
Faculty 337
Name: Sidharth Mishra 337
Student 337
Name: SEHAJDEEP SINGH ARORA (2017A2PS0796P) 337
PS-II Station: JPMS GR&C CCB Chase 360 Strategy, Bangalore 339
Faculty 339
Name: Sidharth Mishra 339
Student 339
Name: ASHISH K MATHEW (2016B3A30482H) 339
PS-II Station: JPMS GR&C Corporate Risk - Risk Project Solutions, Mumbai 340
Faculty 340
Name: Shekhar Rajagopalan 340
Student 340
Name: RWEETAM BHATTACHARYA (2016B1A20938H) 340
PS-II Station: JPMS GR&C Corporate Risk - Firm Wide Risk Reporting, Bangalore 341
Faculty 341
Name: Sidharth Mishra 341
Student 341

Name: TATIREDDY SAI CHARAN KUMAR REDDY (2017A4PS0667H) 341
PS-II Station: JPMS GR&C Credit Forecasting Strategy, Bangalore 342
Faculty 342
Name: Sidharth Mishra 342
Student 342
Name: YASH PALIWAL (2016B3A80289G) 342
Name: SALONI MISHRA (2016B5A20566H) 343
PS-II Station: JPMS GR&C Credit Risk-Counterparty Credit Infrastructure & Capital, Mumbai 344
Faculty 344
Name: Shekhar Rajagopalan 344
Student 344
Name: CHEEMALAMARRY SAI KARTHIK (2016B3A10374H) 344
PS-II Station: JPMS GR&C Quantitative Research - Fintech, Mumbai 345
Faculty 345
Name: Shekhar Rajagopalan 345
Student 345
Name: KUMAR SAPTARSHI (2016B3A70419G) 345
Name: DAKSH GUPTA (2016B3A70500P) 346
Name: MUKUNDHAN JAYARAMAN (2016B4A70355H) 347
Name: SAI SRAVANTHI KANAKAMEDALA (2016B5A70591H) 348
Name: SHUBHAM SAXENA (2017A7PS0302P) 349
PS-II Station: JPMS GR&C WCS - Credit Portfolio Analytics, Mumbai 350
Faculty 350
Name: Shekhar Rajagopalan 350
Student 350
Name: CHALLA MAHADEV SAI KARTHIK (2016B2AA0605H) 350
PS-II Station: JPMS GR&C Wealth Management - Data Science - Credit Risk, Mumbai .. 351
Faculty 351
Name: Shekhar Rajagopalan 351
Student 352
Name: AYUSH VACHASPATI (2016B3A70398P) 352

PS-II Station: Jupiter, Mumbai 352
Faculty 352
Name: Ashish Narang 353
Student 353
Name: MALAIKA RASTOGI (2016B1A70926P)..... 353
Name: NAYAN NILESH (2017A3PS0190P) 354
Name: MANTHAN ATULBHAI MEHTA (2017A4PS0408P) 356
PS-II Station: Kerala Infrastructure and Technogy for Education (KITE), Trivandrum 357
Faculty 357
Name: Sindhu S 357
Student 357
Name: DODDAKA SAI PHANI DEEPAK (2017A7PS0010H) 357
Name: SHREYAS SHASHANK PATIL (2017A7PS1568H) 358
PS-II Station: Keysight Technologies India Pvt. Ltd., Kolkata 359
Faculty 359
Name: Vineet Kumar Garg 360
Student 360
Name: VASANTH MARGABANDHU (2016B2A80737G)..... 360
Name: MOHIT BHATIA (2017A8PS0611P) 360
PS-II Station: Knolskape Solutions Pvt. Ltd., Bangalore 361
Faculty 361
Name: Mohammad Saleem J Bagewadi 361
Student 362
Name: KAUSHIK PERIKA (2017A7PS0207H) 362
Name: NIMMAGADDA BHARGAV (2017A7PS1574H) 363
Name: NIMMAGADDA BHARGAV (2017A7PS1574H) 363
PS-II Station: Kovax Abrasives South Asia Pvt. Ltd., Chennai 364
Faculty 364
Name: Sandeep Kayastha 364
Student 364
Name: ISHAAN (2016B5AB0704P) 364
PS-II Station: LOGIQ Labs Pvt. Ltd., (e-Shipz.com), Bangalore 365

Faculty 365
Name: Satya Sudhakar Yedlapalli 365
Student 365
Name: PARTH SAMNANI (2017A3PS0298P) 365
Name: PARTH SAMNANI (2017A3PS0298P) 366
PS-II Station: MapMyIndia - Software, New Delhi 367
Faculty 367
Name: Ashish Narang 367
Student 367
Name: ISHAN SHARMA (2016B2A70773P) 367
Name: KEDIA MOHIT RAJEEV (2016B2AB0921P) 368
Name: PRUTHVIRAJ SINH RATHOD (2016B3A30211G) 369
Name: SHROFF YASH SURESH (2016B4A80495G) 370
Name: SRI PRIYANKA KARRI (2017A3PS0567H) 371
Name: BEKKEM SAI MAHITH REDDY (2017A7PS0028H) 372
Name: AJITABH RAWAT (2017A8PS0258P) 373
Name: PRANAV NAIR (2017A8PS0607H) 373
Name: SHIKHAR SRIVASTAVA (2017A8PS0794H) 374
PS-II Station: MapMyIndia, Bangalore 375
Faculty 375
Name: Ashish Narang 375
Student 375
Name: AVTANSH PANDEY (2017AAPS0368G) 375
PS-II Station: Matdev Investment Advisers Pvt. Ltd., Bangalore 376
Faculty 376
Name: Akanksha Bharadwaj 376
Student 377
Name: SHUBHAM SINGH (2016B5A20720P) 377
Name: VENKAT AKSHAT BOLLAPRAGADA (2017A8PS0500G) 378
PS-II Station: MBB Labs Pvt. Ltd., Bangalore 378
Faculty 379
Name: Akshaya G 379

Student 379
Name: YASHAS CHANDRA (2016B4AA0430H) 379
PS-II Station: MEL Systems and Services Ltd., Chennai 380
Faculty 380
Name: Kranthi Kumar Palavalasa 380
Student 380
Name: NITHIN P M (2016A4PS0298P) 380
PS-II Station: Melio, Bangalore 381
Faculty 381
Name: Rekha A 381
Student 381
Name: RITWIK PRABHAT (2017A1PS0629G) 381
Name: MOHIT KULHARI (2017B4TS1206P) 382
PS-II Station: Millet & More Foods, Pune 384
Faculty 384
Name: K Venkatasubramanian 384
Student 384
Name: SHINDE JAY DATTATRAY (2016B2A10554G) 384
PS-II Station: Mobileum, Bangalore 385
Faculty 385
Name: Mohammad Saleem J Bagewadi 385
Student 385
Name: S SAI KRISHNA (2017A7PS0092G) 385
Name: DARSHAN AGRAWAL (2017A7PS0233P) 386
PS-II Station: Mocxa Health Pvt. Ltd., - Tech, Bangalore 387
Faculty 387
Name: Kranthi Kumar Palavalasa 387
Student 387
Name: GAURAV PATEL (2016B2A30745P) 387
Name: NIPUN GUPTA (2016B5A30559H) 388
Name: PARVATHY UNNIKRISHNAN (2017A3PS0149P) 388
Name: NAMAN AGGARWAL (2017A5PS1110P) 389

PS-II Station: Molde Analytics India Pvt. Ltd., Hyderabad 390
Faculty 390
Name: Gopala Krishna Koneru 390
Student 390
Name: RANGA SRIRAM (2017A7PS0047P) 390
PS-II Station: Morgan Stanley Advantage Services, Mumbai 391
Faculty 391
Name: Chetana Anoop Gavankar G 391
Student 392
Name: PRANSHU KABRA (2016B3A70595H)..... 392
Name: ROHAN DUDEJA (2016B4A30516P) 393
PS-II Station: Morningstar - Index Data Calculation, Mumbai 393
Faculty 393
Name: Krishnamurthy Bindumadhavan 394
Student 394
Name: MAHIR VIRAL PATRAWALA (2017A7PS1327H) 394
PS-II Station: Morningstar - Indexes - Data and Content, Navi Mumbai 395
Faculty 395
Name: Krishnamurthy Bindumadhavan 395
Student 395
Name: MUSKAN AGARWAL (2017A1PS0863G) 395
PS-II Station: Morningstar - Indexes Product and Sales Operations (IPSO), Mumbai 396
Faculty 396
Name: Krishnamurthy Bindumadhavan 396
Student 396
Name: HARSHWARDHAN MUKUL MITTAL (2016B2A40856P) 396
PS-II Station: MSCI Index and Research, Mumbai 397
Faculty 397
Name: Krishnamurthy Bindumadhavan 397
Student 397
Name: PRAGYA GUPTA (2016B3A40529P) 397
PS-II Station: My Smart Price – Non-Tech, Hyderabad 398

Faculty 398
Name: Anjani Srikanth Koka 398
Student 398
Name: ADITYA MISHRA (2016B4AB0532H) 398
Name: ADITYA MISHRA (2016B4AB0532H) 399
Name: AQIL MOHAMED ARSHAD (2017A4PS0439G) 400
Name: SUNKARA AAKASH (2017A4PS0729H) 401
PS-II Station: My Smart Price - Tech, Hyderabad 401
Faculty 402
Name: Rekha A 402
Student 402
Name: AYUSH KUMAR SINHA (2017A1PS0839P) 402
Name: PRASHANT GUPTA (2017A4PS0509P) 403
PS-II Station: MyHQ & (JustWork Technologies Pvt. Ltd., - Tech, New Delhi 403
Faculty 404
Name: Pravin Yashwant Pawar 404
Student 404
Name: BHUMIKA NAYYAR (2016B2A30874P) 404
PS-II Station: MyHQ (Justwork Technologies Pvt. Ltd., - Non-Tech - Onsite, New Delhi . 405
Faculty 405
Name: Gaurav Nagpal 405
Student 405
Name: AKHIL VERMA (2016B4A10483G) 405
Name: DIVYANSH SHARMA (2017A4PS0421G) 406
PS-II Station: Nable IT Consultancy Services Pvt. Ltd., New Delhi 407
Faculty 407
Name: Preethi N. G 407
Student 407
Name: MUKKAMALA VENKAT SAI RAM (2017A7PS0133P) 407
PS-II Station: National Chemical Laboratory (NCL), Pune 408
Faculty 408
Name: K Santosh Sopanrao 408

Student 408
Name: UTKARSH TIWARI (2017A1PS0542G) 408
Name: RITVIK HEGDE (2017A1PS0743G) 409
Name: VIGNESH SATHYASEELAN (2017A1PS0744G) 410
PS-II Station: National Council for Cement and Building Materials (NCCBM), Ballabgarh 411
Faculty 411
Name: Mahesh K Hamirwasia 411
Student 411
Name: RAHUL SAINI (2016A2PS0610H) 411
Name: RAHUL SAINI (2016A2PS0610H) 412
PS-II Station: National Institute of Rural Development and Panchayati Raj, Hyderabad . 413
Faculty 413
Name: Naga V K Jasti 413
Student 413
Name: KALIGOTLA S S V SHIVA KRISHNA (2017A7PS0076P) 413
Name: ADITHYA VIMALAN (2017A7PS0123G) 414
Name: GAJULA SAI SARATH KRISHNA (2017A7PS0154P) 415
Name: AREPALLE HIMA SIVA KALYAN REDDY (2017A7PS0235P) 416
Name: BHUBHANSHU GURJAR (2017A7PS0951G) 417
Name: BUDARAJU NAGA SAI PREETHAM (2017A7PS0967G) 417
PS-II Station: National Institute of Science, Technology and Development Studies (NISTADS), New delhi 418
Faculty 418
Name: Shree Prasad Maruthi 418
Student 418
Name: NARLAGIRI SHILPA (2017B3PS1251H) 418
PS-II Station: NBC Bearings, Jaipur 419
Faculty 419
Name: Nithin Tom Mathew 420
Student 420
Name: SETTY PRANEETH (2017A4PS0798H) 420

PS-II Station: NetApp, Bangalore 421
Faculty 421
Name: Mohammad Saleem J Bagewadi 421
Student 421
Name: Meet Kanani (2017A7PS0128P) 421
PS-II Station: NewCo Inc., California 421
Faculty 422
Name: Rejesh N A 422
Student 422
Name: KAUSTUBH (2017A4PS0417P) 422
PS-II Station: Niyo Solutions, Bangalore 423
Faculty 423
Name: Pravin Yashwant Pawar 423
Student 423
Name: PRATEEK SHARMA (2017A7PS0171P) 423
PS-II Station: Niyo Solutions Non-Tech, Bangalore 424
Faculty 424
Name: Sandeep Kayastha 424
Student 424
Name: AKANKSHA SINGH (2016A8B30261G) 424
PS-II Station: Nomura - Change Management Team, Mumbai 425
Faculty 425
Name: Ambatipudi Vamsidhar 425
Student 425
Name: SAURABH TIWARI (2016B3A70352G) 425
PS-II Station: Nomura - FinTech, Mumbai 426
Faculty 426
Name: Ambatipudi Vamsidhar 426
Student 426
Name: GANDHI GAURAV MEHUL (2017A8PS0724G) 426
PS-II Station: Nomura Global Markets, Mumbai 427
Faculty 427

Name: Ambatipudi Vamsidhar 427
Student 428
Name: SHANTANU TOMER (2016B3A30461P) 428
Name: HRISHAV RAJ (2016B3A40555P) 428
PS-II Station: Nomura Global Risk, Mumbai 430
Faculty 430
Name: Ambatipudi Vamsidhar 430
Student 430
Name: HIMANSHU AGARWAL (2016B3A30570P) 430
PS-II Station: Nucleus Software Export Ltd., Noida..... 431
Faculty 431
Name: Ritu Arora 431
Student 431
Name: YADURAJ GUPTA (2016B3AA0459H) 431
Name: GANGULA NIKHIL REDDY (2017A3PS0526H)..... 432
Name: ANSHUMAN SRIVASTAVA (2017A8PS0241P)..... 433
Name: SHASHWAT KHARE (2017A8PS0249P) 433
PS-II Station: Nurture.farm (A Subisidiary of UPL Ltd.,), Bangalore 434
Faculty 434
Name: Kranthi Kumar Palavalasa 435
Student 435
Name: RAHUL SINHA (2016B1A80773G) 435
PS-II Station: Nutanix Technologies India Pvt. Ltd., Bangalore..... 435
Faculty 435
Name: Chandra Shekar R K 436
Student 436
Name: G ADITYAN (2016B1A70929P) 436
Name: TUSSANK GUPTA (2016B3A70528P)..... 436
Name: ABHISHEK DASS (2016B3A70550G) 438
Name: KABRA AKASH PRASAD (2016B3A70562P) 438
Name: ABHISHEK GUPTA (2016B3A70576P) 440
Name: SAMARTH SINGH (2016B3A70609H) 441

Name: VIKRAMJIT SINGH (2016B3A70866P) 441
Name: INDER RAJ SINGH KHOKHAR (2016B4A70473H) 442
Name: HASAN NAQVI (2016B5A70452P) 443
Name: BHAVESH RANJIT CHAND (2016B5A70715P) 444
Name: DAIVAT BHATT (2016B5A70952H) 445
Name: AADARSH MOHTA (2017A3PS0823P) 446
Name: SUBHAM KUMAR DASH (2017A7PS0004P) 447
Name: ANIRUDH ANILKUMAR GOYAL (2017A7PS0031P) 448
Name: SAURAV VIRMANI (2017A7PS0090P) 449
Name: Rohit Jain (2017A7PS0122P) 450
Name: Shubham Jain (2017AAPS0283G) 451
PS-II Station: NutriPal Healthcare Pvt. Ltd., - Non-Tech, Ghaziabad 452
Faculty 452
Name: Sandeep Kayastha 452
Student 452
Name: PRANJAL GAIKWAD (2017A4PS0647G) 453
Name: ANUJITH BEERAKAYALA (2017A3PS1202H) 454
PS-II Station: Nvidia Graphics - Hardware, Bangalore 455
Faculty 455
Name: Brajabandhu Mishra 455
Student 455
Name: MAYANK KUMAR (2016B1AA0624G) 455
Name: SHENDE VIJAYENDRA DNYANESHWAR (2016B3A30458P) 456
Name: UTKARSH KEDIA (2016B5A80713P) 457
Name: SAKSHI AGARWAL (2017A3PS0217P) 458
Name: Mainak Mandal (2017A3PS0259P) 459
Name: KARTIK WARDHAN (2017A3PS0301P) 460
Name: ABHISHEK TYAGI (2017A3PS0323P) 461
Name: HARSH PANWAR (2017A3PS0490H) 463
Name: ACHYUTH E M (2017AAPS0235G) 463
PS-II Station: Nvidia Graphics - Software, Bangalore 464
Faculty 464

Name: Brajabandhu Mishra 464
Student 464
Name: CHITTINENI SUSMITHA (2016B3A30460P) 464
Name: SHARAN RANJIT S (2017A8PS0506G) 466
PS-II Station: Oracle India Pvt. Ltd., Bangalore 466
Faculty 467
Name: Akanksha Bharadwaj 467
Student 467
Name: CHIRAGÂ KRISHNASWAMYÂ (2016B4A70752G) 467
Name: DRISHTI MAMTANI (2016B5A70574H) 468
PS-II Station: Oracle India Pvt. Ltd., Hyderabad 470
Faculty 470
Name: T Venkateswara Rao 470
Student 470
Name: HARSH BHOOT (2016B3A70507P) 470
Name: SANJEET MALHOTRA (2016B4A70601P) 471
Name: YASH SANJEEV BARANWAL (2017A7PS0138G) 472
Name: SHREYASH CHAUDHARI (2017A7PS0941G) 473
PS-II Station: Oyla Inc, California..... 474
Faculty 474
Name: Rejesh N A 474
Student 474
Name: V V N PRIYANKA (2017AAPS0343H) 474
PS-II Station: Pepper Content Pvt. Ltd., Mumbai 475
Faculty 476
Name: Ankur Pachauri 476
Student 476
Name: BONAGIRI SAI PUNEETH (2017A7PS0013H) 476
PS-II Station: Perfios Software Solutions Pvt. Ltd., Bangalore..... 477
Faculty 477
Name: Ashish Narang 477
Student 477

Name: MADHAV SASIKUMAR (2016B5A70479G) 477
Name: SAYAPPARAJU KARTHIK SATYA VISHAL VARMA (2017A7PS0088G) 478
PS-II Station: Petasense - Services & App Development, Bangalore 479
Faculty 479
Name: Raja Vadhana P 479
Student 479
Name: UTKARSH VERMA (2016B1A70893P) 479
Name: RAJAT GUPTA (2016B3A70394G) 480
PS-II Station: Petasense Technologies Pvt. Ltd., Hyderabad 481
Faculty 481
Name: Raja Vadhana P 481
Student 481
Name: DOSAPATI SRI HARSHITH (2017AAPS0434H) 481
PS-II Station: PharmEasy, Bangalore 482
Faculty 482
Name: Ankur Pachauri 482
Student 482
Name: SUDHANSHU (2016B4AA0324G) 482
Name: DHRUV MODI (2017A3PS0319P) 483
Name: RAHUL PANJWANI (2017A3PS0591H) 484
Name: TANYA KHERA (2017AAPS0299G) 485
PS-II Station: Pilani AtmaNirbhar Resource Center (PARC), Pilani 485
Faculty 486
Name: Mohammad Saleem J Bagewadi 486
Student 486
Name: GUNJAN SAMTANI (2017A1PS0402G) 486
PS-II Station: Pixcy - Computer Vision, Bangalore 486
Faculty 487
Name: Rejesh N A 487
Student 487
Name: ILLA DURGA VARA SIVA TEJA (2017A3PS0570H)..... 487
PS-II Station: Pixcy - Marketing Designing, Bangalore 488

Faculty 488
Name: Rejesh N A 488
Student 488
Name: M ABHIJIT (2017ABPS0343P) 488
PS-II Station: Pixcy, Bangalore 489
Faculty 489
Name: Rejesh N A 489
Student 489
Name: SANCHAY JAIN (2016B5A80712P) 489
PS-II Station: Pixxel (Syzygy Space Technologies Pvt. Ltd.,), Bangalore 490
Faculty 490
Name: Lucy J. Gudino 490
Student 490
Name: JASPREET KAUR PAWA (2016B1A30902P) 490
Name: SHANTANU NIGAM (2017A8PS0399P) 491
PS-II Station: Plastic Water Labs, Hyderabad 492
Faculty 492
Name: Shree Prasad Maruthi 492
Student 492
Name: GURNOOR SINGH (2016B2A40813P) 492
Name: NAVNEET RAGHUNATH (2017A3PS1902G) 493
PS-II Station: PM School (Absorb Technologies Pvt. Ltd.,) Non-Tech, Mumbai 494
Faculty 494
Name: Manoj Subhash Kakade 494
Student 494
Name: LIKITHA MADALA (2017A5PS1099P) 494
PS-II Station: Process 9 - Neural Machine Translation, Gurgaon 495
Faculty 495
Name: Pradheep Kumar K 495
Student 495
Name: SIDDHARTH TRIPATHI (2017ABPS0348P) 496
PS-II Station: Pushstart Media Network Pvt. Ltd., Mumbai 496

Faculty 496
Name: Manoj Subhash Kakade 496
Student 497
Name: SHAH AAYUSH JAYESH (2017A4PS0536G) 497
PS-II Station: Qubole, Bangalore 497
Faculty 497
Name: Uma Maheswari N 498
Student 498
Name: AKUL GUPTA (2016B3A70298G) 498
Name: SARTHAK GOEL (2016B3A70334G) 499
Name: UPPARA HARSHASRI (2017A7PS0204H) 499
PS-II Station: Quintessential Design, Hyderabad 500
Faculty 500
Name: Saikishor Jangiti 500
Student 500
Name: VARGHESE MANNAMPALLI (2016B4A70176G) 500
PS-II Station: Referral Yogi Technologies Pvt. Ltd., Chennai 502
Faculty 502
Name: Akshaya G 502
Student 502
Name: JUNUTHULA SATYA SRI VIRINCHI (2017A4PS0652G) 502
PS-II Station: Reflexis Systems India Pvt. Ltd., Pune 503
Faculty 503
Name: Vijayalakshmi Anand 503
Student 503
Name: SHIKHAR SAHU (2016B1A80632G) 503
Name: JAYESH NARAYAN (2016B1A80928P) 504
Name: PRANAV JHAWER (2016B2A30663H) 505
Name: RACHIT RASTOGI (2016B3A80358G) 505
PS-II Station: Reild Residential Properties Pvt. Ltd., Hyderabad..... 506
Faculty 506
Name: Ramakrishna Dantu 506

Student 507
Name: SASHANK GUNDA (2016B1A80957H) 507
Name: AVIGYAN DASGUPTA (2017AAPS0328G) 507
Name: SUMANTH N (2017AAPS0445H) 508
PS-II Station: Resolvity Inc., Texas 509
Faculty 509
Name: Rekha A 510
Student 510
Name: ADITYA SAXENA (2017A7PS0166P) 510
Name: ALAVALA MOUNIKA (2017A8PS0685H) 511
PS-II Station: Rite Infotech Pvt. Ltd., Faridabad 512
Faculty 512
Name: Chennupati Rakesh Prasanna 512
Student 512
Name: SURAJ KUMAR (2017A8PS0519P) 512
Name: UNDAMATLA NAGA KALI KRISHNA (2017AAPS0312H) 513
PS-II Station: Rivigo Tech, Gurgaon 514
Faculty 514
Name: Ritu Arora 514
Student 514
Name: SHUBHAM SHANKER (2016B3A30446P) 514
Name: ANUJ HYDRABADI (2017A8PS0420P) 515
PS-II Station: Rupifi Non-Tech, Bangalore 516
Faculty 516
Name: Sandeep Kayastha 516
Student 516
Name: JANUPALA GNANESHWAR REDDY (2016B4A40512H) 516
Name: SAI DHEERAJ GOPALA (2016B5A20565H) 517
Name: UTKARSH RAJ (2017A1PS0895G) 518
Name: K SIDDHARTH (2017A4PS0666H) 519
PS-II Station: Rupifi Tech, Bangalore 521
Faculty 521

Name: Chetana Anoop Gavankar g 521
Student 521
Name: AYUSH SARDA (2017A3PS0226G) 521
Name: RAMACHANDREN SHANKAR (2017A7PS1171P) 522
PS-II Station: Saffrongrid Ltd., - Artificial Intelligence Department, Hyderabad 523
Faculty 523
Name: Ramakrishna Dantu 523
Student 523
Name: SIDDHANT KHANDELWAL (2017A7PS0127P) 523
PS-II Station: Samsung Semiconductor India R&D Center-Hardware, Bangalore 524
Faculty 524
Name: Anita Ramachandran 524
Student 524
Name: ANKIT KUMAR PATRA (2016B4A30605P) 524
Name: KUMAR DIVIJ (2016B4A30606P) 525
Name: KUMAR DIVIJ (2016B4A30606P) 526
Name: VISHAL SINGH DEOLEYA (2016B4A30625P) 527
Name: ARPIT SAHU (2016B5A30451G) 527
Name: K PRANATH REDDY (2016B5A30572H) 528
Name: ALAUKIK JOSHI (2016B5A30611H) 529
Name: VAIDYA ADITYA AJIT (2016B5A30744G) 530
Name: ABHINAV AGRAWAL (2016B5A30900H) 531
Name: ANUP R BHAT (2016B5A80476H) 532
PS-II Station: Samsung Semiconductor India Research -Software, Bangalore 533
Faculty 533
Name: Anita Ramachandran 533
Student 533
Name: HARSHVARDHAN AGRAWAL (2016B4A30479P) 533
Name: NAMAN K GUPTA (2016B4A30491G) 534
Name: SAMEER AGARWAL (2016B5A30216P) 535
Name: PATANKAR AKHILESH SUDHIR (2016B5A30553H) 535
Name: AKARSH CHATURVEDI (2016B5A80582P) 536

PS-II Station: Samyojya, Bangalore 537
Faculty 537
Name: Ashish Narang 537
Student 537
Name: AADITYA KUMAR (2017A3PS0332P) 537
PS-II Station: SAP Labs, Bangalore 538
Faculty 538
Name: Seetha Parameswaran 538
Student 538
Name: BOXWALLA BURHAN SHABBIR (2017A7PS0097P) 538
Name: PATEL RAHUL MANISHKUMAR (2017A7PS1306H) 539
Name: JAIN JAI SANDEEP (2017A7PS1585H) 540
PS-II Station: Saras Analytics – Non-Tech, Hyderabad 541
Faculty 541
Name: Ambatipudi Vamsidhar 541
Student 541
Name: SAMIKSHA GUPTA (2016B2A40876P) 541
Name: SAHIL PORWAL (2016B2A80612G) 542
Name: AAKASH SRIVASTAVA (2016B2A80648H) 543
PS-II Station: Scovelo Consulting, Chennai 544
Faculty 544
Name: Sandeep Kayastha 544
Student 544
Name: KEVIN ARNAV ROSHAN (2017A4PS0303P) 544
PS-II Station: Sensei Technologies Pvt. Ltd., Bangalore 545
Faculty 546
Name: Lucy J. Gudino 546
Student 546
Name: MUPPA MANISH (2017A7PS0128H) 546
PS-II Station: SequelOne Solutions Pvt. Ltd., Gurgaon 546
Faculty 546
Name: Jyotsana Grover 547

Student 547
Name: SHAURYA BANERJEE (2017A3PS0176G) 547
Name: RONDLA SURYA PRATHAP REDDY (2017AAPS0447H) 548
PS-II Station: ShortHills Tech Pvt. Ltd., (Non-Tech), Gurgaon 548
Faculty 548
Name: Sandeep Kayastha 548
Student 549
Name: PRATIK SRIVASTAVA (2017A1PS0901P) 549
Name: SHIVANI (2017A1PS1543H) 550
Name: MAHIMA KHANDHAR (2017A2PS1436H) 551
PS-II Station: ShortHills Tech Pvt. Ltd., Gurgaon 552
Faculty 552
Name: Ritu Arora 552
Student 552
Name: ABDUL REHMAN (2017A2PS1022P) 552
Name: ABDUL REHMAN (2017A2PS1022P) 553
Name: GUPTA PRANEK RAJKUMAR (2017A7PS0047H) 554
Name: SHASHVAT SHUKLA (2017A7PS0064G) 555
Name: SURAVARAPU V SUBRAHMANYA KRISHNA SASTRY (2017A7PS0237P) 556
PS-II Station: Sirius MotorSports, Chennai 557
Faculty 557
Name: Raghuraman S 557
Student 557
Name: NAYINI VENKAT AASHRAY (2017A4PS0187P) 557
Name: GUTURU UDAYA SAI SRI VENKATA SIVA KOUSHIK (2017A4PS0741H) 558
PS-II Station: Snap Deal, Gurgaon 559
Faculty 559
Name: Rajesh Kumar Tiwary 559
Student 559
Name: DOMALE ROHAN VAIJNATH (2016B1AB0669P) 560
PS-II Station: Sopan, Ahmedabad 560
Faculty 560

Name: Satya Sudhakar Yedlapalli 561
Student 561
Name: TAAHA T NIZAM (2017A8PS0582G) 561
PS-II Station: Stowe Research (India) Pvt. Ltd., Faridabad 562
Faculty 562
Name: Rajesh Kumar Tiwary 562
Student 562
Name: SANYOG GHOSH (2016B1A10635G) 562
Name: HARSH SINGH (2017A8PS0980G) 563
PS-II Station: Sun Mobility, Bangalore 564
Faculty 564
Name: Preethi N. G 564
Student 564
Name: SARVESH KUMAR (2017A3PS0443G) 564
PS-II Station: Synchrony, Hyderabad 565
Faculty 565
Name: Saikishor Jangiti 565
Student 565
Name: SRAJAN DADHICH (2016B1AA0735G)..... 565
Name: KUMAR SUYASH SANJEEV (2016B2A30888P) 566
Name: BHALERAO AMEYA SHRIPAD (2017A3PS0263P) 567
PS-II Station: Takshila Learning Pvt. Ltd., (Non-Tech), Delhi 568
Faculty 568
Name: Anjani Srikanth Koka 568
Student 568
Name: AAKASH DWIVEDI (2017A1PS1072H) 568
Name: KOTHAPALLI VIVEK VARMA (2017A2PS0904H) 569
PS-II Station: Tata Digital Health, Bangalore 570
Faculty 570
Name: H. Viswanathan 570
Student 570
Name: Madhumita Ramesh (2017A1PS0323G) 570

Name: DHANANJAY SINGH SAWNER (2017A3PS0295P) 571
Name: HARSH RAJ (2017A7PS0942G) 572
PS-II Station: Texas Instruments (I) Pvt. Ltd., - Analog, Bangalore 573
Faculty 573
Name: Satya Sudhakar Yedlapalli 574
Student 574
Name: R S BALAJEE (2017AAPS0212G) 574
PS-II Station: Texmaco Rail & Engineering Ltd., Kolkata 574
Faculty 574
Name: Arun Maity 575
Student 575
Name: SOUVIK ROY (2017A4PS0460P) 575
PS-II Station: Thomson Reuters, Hyderabad 576
Faculty 577
Name: Gopala Krishna Koneru 577
Student 577
Name: MURLIKRISHNAN TRIPATHI (2016B4A70329H) 577
Name: NEELABH SINHA (2016B5A80600P) 578
PS-II Station: Thorogood, Bangalore 580
Faculty 580
Name: Sandeep Kayastha 580
Student 580
Name: HIMANSHU GOYAL (2017A1PS0814P) 580
Name: NISHCHAY GOYAL (2017A2PS0978P) 581
PS-II Station: TNSTC, Chennai 582
Faculty 582
Name: Pradheep Kumar K 582
Student 582
Name: RISHABH (2017A3PS0547H) 582
Name: UMANG GUPTA (2017A8PS0510G) 583
PS-II Station: Trell Experiences Pvt. Ltd., (Non tech-Operations), Bangalore 584
Faculty 584

Name: Sidharth Mishra 584
Student 584
Name: BUDARAJU ARAVIND (2016A1PS0501G) 584
Name: YASH BANSAL (2016A8PS0259G) 585
Name: PRAGYAN SHUKLA (2016B1A40954H) 586
Name: PRANAV LATHI (2016B3A10540P) 586
Name: MAYUR PAMNANI (2017A3PS0284P) 587
Name: UTKARSH GUPTA (2017A3PS0346P) 588
Name: KOPPANATHI MANISH (2017A3PS0465H) 589
Name: SPARSH PORWAL (2017A4PS0186P) 590
Name: GAURAV SHARMA (2017A5PS1092P) 591
Name: SAGAR SHARMA (2017A8PS0520G) 592
Name: U ASWATHY (2017ABPS1051P) 593
Name: AVANI GUPTA (2016A5PS0737H) 593
PS-II Station: Trell Experiences Pvt. Ltd., Bangalore 594
Faculty 594
Name: Vimal S P 594
Student 594
Name: VARGHESE ROY (2017A3PS0366G)..... 595
Name: MEHUL MOHAN (2017A7PS0935G)..... 596
Name: SHRIYA CHOUDHARY (2017AAPS0409H) 597
PS-II Station: Trifacta Inc, Bangalore 598
Faculty 598
Name: Vimal S P 598
Student 598
Name: INDRANEEL GHOSH (2016B1A70938P) 598
Name: ANIRUDH VIJAY (2016B3A70525P) 599
PS-II Station: Tvami Technologies Pvt. Ltd., Bangalore 599
Faculty 599
Name: Sugata Ghosal 600
Student 600
Name: GLEN FERNANDES (2016B3A40380G) 600

Name: DEVIKA JANGID (2017B5TS1222P) 601
PS-II Station: TVS Motors, Hosur 602
Faculty 602
Name: Shashank Mohan Tiwari 602
Student 602
Name: KALIMI VENKATA YASHWANTH KUMAR REDDY (2017A3PS0221P) 602
Name: KODIGANTI SUSHANTH (2017A4PS0135P) 603
Name: SAYEED AHMED (2017A4PS0331P) 604
Name: DEV RAJ KHANDELWAL (2017A4PS0477P) 605
Name: DHAWAL JAIN (2017A8PS0832H) 606
PS-II Station: UBS - Group Compliance, Pune 607
Faculty 607
Name: Bandi Venkata Prasad 608
Student 608
Name: ASHISH SINGH (2017ABPS1572H) 608
PS-II Station: UBS - Group RISK, Mumbai 609
Faculty 609
Name: Bandi Venkata Prasad 609
Student 609
Name: AASHISH AGGARWAL (2016B3A10578P) 609
PS-II Station: UBS Business Solutions (India) Pvt. Ltd., - Group Operations, Pune 610
Faculty 610
Name: Bandi Venkata Prasad 610
Student 610
Name: VIDIT MEHTA (2017A1PS0740G) 610
Name: AKHIL MAHAJAN (2017A4PS0820H)..... 611
PS-II Station: UBS Business Solutions (India) Pvt. Ltd., - RAS Finance, Pune 612
Faculty 612
Name: Bandi Venkata Prasad 612
Student 612
Name: SHUBHAM SRIVASTAVA (2017A2PS1480H) 612
Name: BALPREET SINGH (2017A4PS1338H) 613

PS-II Station: UBS Business Solutions (India) Pvt. Ltd.,- Group Operations, Mumbai 614
Faculty 614
Name: Bandi Venkata Prasad 614
Student 614
Name: YOGIT AGARWAL (2017A2PS0984H) 614
PS-II Station: UBS Group Finance – Hyderabad / Pune, Hyderabad 616
Faculty 616
Name: Bandi Venkata Prasad 616
Student 616
Name: ANSH NITIN GUPTA (2017A3PS0294P) 616
PS-II Station: Udaan, Bangalore 617
Faculty 617
Name: Annapoorna Gopal.... 617
Student 617
Name: NAMAN DEEP SRIVASTAVA (2016B4A70891P) 617
Name: ABHISHEK JAIN (2017A1PS0793P) 618
Name: NISHANT PARIHAR (2017A2PS0056P) 619
Name: NAMAN KANSAL (2017A4PS0508P) 620
Name: PRANEET KANNAN (2017A4PS0645H) 621
PS-II Station: Udhyam Learning Foundatation, Bangalore 622
Faculty 622
Name: Rekha A 622
Student 622
Name: AMOL AGARWAL (2017A1PS0703P) 622
PS-II Station: Upgrad, Mumbai 623
Faculty 623
Name: Swarna Chaudhary 623
Student 623
Name: Anway Patil (2016B5A10608P) 623
Name: JITENDRA POTNURU (2017A1PS1030H) 624
Name: HITESH HARISH SHETTY (2017A7PS1541H) 625
Name: KANTIPUDI JYOTHIRMAI (2017AAPS0290H) 626

Name: KANTIPUDI JYOTHIRMAI (2017AAPS0290H) 627
PS-II Station: Upgrad1, Mumbai 628
Faculty 628
Name: Dinesh W Wagh 628
Student 628
Name: YASH LATURIYA (2016B1A40829P) 628
Name: ANIK JINDAL (2017A2PS0706P) 629
Name: SAPTARSHI SENGUPTA (2017A2PS0917H) 630
Name: CHANDAN UDGATA (2017A2PS0961H) 631
Name: SHASHANK SHEKHAR MANI (2017A4PS0874H) 632
PS-II Station: VCTIP Pvt. Ltd., (Market Data Forecast) Research Associate, Hyderabad. 633
Faculty 633
Name: Anjani Srikanth Koka 633
Student 633
Name: ASHER NIRAV YOGESH (2017A5PS1066P) 633
PS-II Station: Versa Cloud ERP Inc. – Non-Tech, Portland 634
Faculty 634
Name: Gaurav Nagpal 634
Student 634
Name: SHIVAM THUKRAL (2017A8PS0974G) 634
PS-II Station: Versa Cloud ERP Inc. - Tech, Portland 635
Faculty 635
Name: Pawan Sharma 635
Student 635
Name: PRASANN AGARWAL (2016B2A80592G) 635
Name: KALAPARTY V VISHNU PRASAD (2017A8PS0770H) 636
PS-II Station: Viacom18 Media Pvt. Ltd., - Corporate Strategy, Mumbai 637
Faculty 637
Name: Ambatipudi Vamsidhar 637
Student 637
Name: ISHIKA SUNIL KUMAR GUPTA (2017A1PS0855G) 637
Name: SHIRIN KAUSHIK (2017AAPS0229G) 638

PS-II Station: Vinilok Solutions Pvt. Ltd., Indore 639
Faculty 639
Name: Akshaya G 639
Student 639
Name: MADUGUNDU VENKAT AMRIT (2017A7PS1212H) 639
PS-II Station: VMware Software India Pvt. Ltd., Bangalore 640
Faculty 640
Name: Chandra Shekar R K 640
Student 640
Name: AKSHAT GOVIL (2016B4A70502H) 641
Name: Shubham Tiwari (2016B4A70935P) 642
Name: BIPIN SAI NARWA (2017A7PS0030H) 643
Name: MADDI SUHAS GUPTHA (2017A7PS0232H) 644
Name: MADDI SUHAS GUPTHA (2017A7PS0232H) 645
PS-II Station: Voziq India Pvt. Ltd., Hyderabad 646
Faculty 646
Name: Vimal S P 646
Student 646
Name: NITIN VINAYAK AGRAWAL (2017A4PS0415P) 646
Name: SHERYALA SAI DHARMA SRINIDHI (2017AAPS0357H) 647
PS-II Station: Vymo, Bangalore 648
Faculty 648
Name: Chennupati Rakesh Prasanna 648
Student 648
Name: AMAN GARG (2016B4A70584P)..... 648
PS-II Station: Wake-up Technology Pvt. Ltd., - Onsite, Gurgaon 649
Faculty 649
Name: Ritu Arora 649
Student 649
Name: AKSHAT AGRAWAL (2016B3AB0459P) 649
PS-II Station: Wavelabs Technologies, Hyderabad 650
Faculty 650

Name: Ramakrishna Dantu 650
Student 650
Name: WAGHMARE SUKRUT PRASANNA (2016B4A80513P) 650
Name: TANISHK AGARWAL (2017A7PS0105H) 651
Name: SHREYANSA SUNDER DAS (2017A8PS0552G) 652
Name: DHRUV RAJEEV DWIVEDI (2017A8PS0642G) 653
Name: BHASKARA VENKATA RAMANA GARBHAM (2017AAPS0159G) 654
PS-II Station: Wealthy, Bangalore 655
Faculty 655
Name: H. Viswanathan 655
Student 655
Name: ATHALYE OM ASHOK (2014B4A80605G) 655
Name: PONDUGULA SRI CHARAN REDDY (2017A7PS0098H) 656
PS-II Station: Weir Minerals India Pvt. Ltd., Bangalore 657
Faculty 657
Name: Naga V K Jasti 657
Student 657
Name: AMBUJ UPADHYAY (2016B1AB0819P) 657
PS-II Station: Wheebox, Gurgaon 658
Faculty 658
Name: Ankur Pachauri 659
Student 659
Name: PURANI DAIVIK MANISHKUMAR (2017A7PS0166H) 659
PS-II Station: William O Neil India Pvt. Ltd., Bangalore 659
Faculty 659
Name: Gaurav Nagpal 659
Student 660
Name: MR. SAMYAK JAIN (2017A2PS0052P) 660
Name: SAURABH SHAHDADPURI (2017A4PS0915G) 660
PS-II Station: Xilinx India Technology Services Pvt. Ltd., Hyderabad..... 661
Faculty 662
Name: Krishnendu Mondal 662

Student 662
Name: MANSI NAHAR (2016B2A30538G) 662
Name: SHARAD NAG (2016B2A30738G) 663
Name: ANIKET AVINASH GAIKWAD (2016B4A30548P) 663
Name: PARAS VAISH (2016B5A30860H) 664
PS-II Station: Zaggle Prepaid Ocean Services Pvt. Ltd., - Onsite, Hyderabad 665
Faculty 665
Name: Chetana Anoop Gavankar G 665
Student 665
Name: SAILAB SWARNIM (2017A8PS0618P) 665
PS-II Station: Zaggle Prepaid Ocean Services Pvt. Ltd., Hyderabad 666
Faculty 666
Name: Y V K Ravi Kumar 666
Student 666
Name: SHIKHAR SINGH (2016B1A80943P) 666
Name: NITIN GUPTA (2017A3PS0484H) 667
Name: UDAY SURYAKANT SHAHAPUR (2017A7PS0136H) 668
Name: PONUGOTI UTTEJ KUMAR (2017A8PS0265P) 669
Name: HARKARAN SINGH TANDON (2017AAPS0259G) 670
PS-II Station: Zinnov Management Consulting Pvt. Ltd., (IT Project), Bangalore..... 671
Faculty 671
Name: Pradheep Kumar K 671
Student 671
Name: MANIT BASER (2017A3PS0370P) 671
PS-II Station: Zinnov Management Consulting Pvt. Ltd., Bangalore 672
Faculty 672
Name: Annapoorna Gopal..... 672
Student 672
Name: ANURAG KUMAR (2016B1AA0606G) 672
Name: DISHA JAIN (2016B2A10797P) 673
Name: KISHLAY JHA (2017A1PS0580P) 674
Name: SRIVASTAVA RIA (2017A1PS0770G) 675

Name: ABHIMANYU RAJ SHEKHAR (2017A1PS0790P)....676
Name: PRAHARSHITHA AYITHAPU (2017A1PS0798G)....677
Name: MISBAHUL HAQUE (2017A1PS1038H)....678
Name: NIMBARTE SRUSHTI VINOD (2017A3PS0318G)....679
Name: JIA ABHIRAAJ (2017A3PS0330P)....679
Name: MASADI PRANAVI (2017A8PS0747H)....681
Name: MEHTA IRISH HARESH (2017AAPS0295G)....681
Name: C SRIKRISHNA (2017AAPS0461H)....683
Name: PARAMBIR SINGH CHADHA (2017AAPS0993G)....683
PS-II Station: Zinnov Management Consulting Pvt. Ltd., Gurgaon....684
Faculty....684
Name: Annapoorna Gopal....684
Student....684
Name: JHA UJJWAL RAKESH (2017A1PS0043P)....684
Name: ABHISHEK ANAND (2017A3PS0377G)....685
Name: ASHISH (2017A3PS0407G)....686
PS-II Station: Zluri, Singapore....687
Faculty....687
Name: Manoj Subhash Kakade....687
Student....687
Name: YATHARTH SINGH (2016B2A20845P)....687
PS-II Station: Zwende Design Tech Pvt. Ltd., Bangalore....688
Faculty....688
Name: Srinivas Kota....688
Student....688
Name: JANNU AKASH (2017A2PS0805P)....688
Name: SHRAVAN KUMAR SHETTY N (2017B5PS0559G)....689

PS-II Station: ACSZ Tech Pvt. Ltd., Chennai

Faculty

Name: Chennupati Rakesh Prasanna

Student

Name: SAURABH RAJ (2016A7PS0094P)

Student write-up

Short summary of work done during PS-II: Two projects were given during the duration of the internship. First being bank service SMS clustering and classification using various embeddings such as word2vec, GloVe, Universal Sentence Encoder then they were clustered using algorithms after which various neural network models were trained on these clustered data to enable them to classify new unseen data.
The second project was based on extraction of transaction data from credit card statements that are in PDF format. We used various python libraries such as Tabula, PyMuPDF and Pdfplumber to extract data and then using pattern recognition, regular expression etc. to finally give the output in a CSV file without losing any data in the process.

Tool used (Development tools - H/w, S/w): NLTK, SpaCy, Tabula.

Objectives of the project: Bank service SMS classification and transaction table data extraction.

Major learning outcomes: Natural language processing clustering and classification, table data extraction.

Details of papers / patents: Fetahu, Besnik & Anand, Avishek & Koutraki, Maria. (2019). TableNet: An Approach for Determining Fine-grained Relations for Wikipedia Tables. WWW '19: The World Wide Web Conference. 2736-2742. 10.1145/3308558.3313629.

Brief description of working environment, expectations from the company: The PS-II was "work from home" due to COVID-19 but the mentors that were assigned phenomenal. They provided a very friendly environment and guided me through it all despite all the challenges of working remotely.

The company is a startup working to revolutionize the credit card sector and has many young and enthusiastic people working for it with the hierarchy being very horizontal instead of the vertical one so much so that I even got 2-3 direct sessions with the CEO of the company to present my work and get his personal feedback on it. Overall, it was a very fruitful experience for me as I got to experience the full development cycle from the starting ideas and goals to the final deployment of the project.

Academic courses relevant to the project: Machine learning, Data mining, Information retrieval.

PS-II Station: Aditya Birla Group - Data and Analytics, Bangalore

Faculty

Name: Sonika Chandrakant Rathi

Student

Name: DUDHAVAT KUNAL MADANKUMAR (2017A8PS0371P)

Student write-up

Short summary of work done during PS-II: The main agenda was generating valuable insights from unstructured data for the business using Natural Language Processing (NLP) techniques. I worked on multiple projects related to Named Entity Recognition, Sentiment analysis and Exploratory data analysis. My work involved:

- Developing a competitive intelligence model using spaCy library for the Named Entity Recognition (NER).
- Market sentiment prediction for oil price forecasting from twitter data using BERT transformer model.
- Carrying out an exploratory data analysis on the dataset and building a multilabel Naïve Bayes classification model using sklearn library.
- Built a streamlit app for the elastic search based Q&A system.

Tool used (Development tools - H/w, S/w): Python, spaCy, nltk, streamlit, sklearn.

Objectives of the project: To generate valuable business insights from unstructured data using Natural Language Processing.

Major Learning Outcomes: I was able to apply technical knowledge on real life business problems. I developed an understanding of the business perspectives of a project. I got to improve on my communication and presentation skills. Got an enterprise-level work experience. I was able to learn about product development cycle.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment was wonderful and encouraged continuous learning. They had weekly sessions on technical and business concepts for the interns. Everyone is approachable and always ready to help. Interns are treated almost like employees, projects and data given to them is real confidential ABG data. As an intern at ABG DNA, it was a very good learning experience to understand not only how Data Science can be used to solve business problems, but also how communication happens with senior leaders and the importance of brevity and conciseness in communication.

Academic courses relevant to the project: Neural networks and Fuzzy logic, Foundations of data science.

PS-II Station: Aditya Birla Insulators, Halol

Faculty

Name: Sudeep Kumar Pradhan

Student

Name: NIMISHA JAIN (2016B4A10504P)

Student write-up

Short summary of work done during PS-II: Our project objective was optimizing the design of the railway insulator. The said insulator's design is released by RDSO, so the base design could not be changed. We have to develop a 3D model of the design and calculate stress distributions on it. Accordingly, the thickness of the metal caps on the insulator was altered virtually to get a new stress distribution. We were able to reduce the material used in making the metal parts of the insulator, thus bringing down the manufacturing cost.

Tool used (Development tools - H/w, S/w): Fusion 360.

Objectives of the project: The objective of this project was to re-design the metal fittings for the stay arm insulator, 755080 M1/M2/M3, such that the metal required for construction decreases, along with the overall production cost.

Major learning outcomes: We learnt to use the Fusion 360 software. AutoCAD and Ansys were required too.

Details of papers / patents: No patents / papers.

Brief description of working environment, expectations from the company: The company expects you to deliver output within a set time frame but as long as you stick to the deadlines, you are free to work at your leisure. The people are helpful and understanding.

Academic courses relevant to the project: Process equipment design.

Name: AGARWAL ARCHIT PRADEEP (2017A7PS1917G)

Student write-up

Short summary of work done during PS-II: Work done on making jsp and Java Bean for the given SQL query. The software made were of the product and marketing domain.

Tool used (Development tools - H/w, S/w): Toad, VPN, Eclipse, jsp, Java Bean.

Objectives of the project: Migration to Java.

Major learning outcomes: jsp, Java Bean.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Worked from home using VPN and remote desktop connection.

Academic courses relevant to the project: Object oriented programming, Database management systems.

PS-II Station: Aditya Birla Science & Technology Company Ltd., Mumbai

Faculty

Name: K Santosh Sopanrao

Student

Name: ANKITHA ATHREYA RAMACHANDRAN (2017A1PS0524G)

Student write-up

Short summary of work done during PS-II: Textile industries contain some of the most water-intensive processes and generate huge amounts of wastewater streams. Membrane filtration is a viable option to treat textile effluents. An extensive literature study was carried out to study the feasibility of reducing Total Dissolved Solids (TDS) using polymeric nanofiltration membranes, and Chemical Oxygen Demand (COD) reduction through the use of ceramic membranes. Additionally, a preliminary model of a multistage flash evaporator present in the viscose staple fibre plant has been developed on Aspen Plus V9 to help improve steam economy.

Tool used (Development tools - H/w, S/w): Aspen Plus, Excel, MATLAB.

Objectives of the project: 1. Research the feasibility of using membrane technology to treat textile industry effluents. 2. Develop an Aspen Plus model for a multi-stage flash evaporator in order to improve steam economy.

Major learning outcomes: I was not only introduced to new technical concepts, but I also had the opportunity to revise my academic courses and see how the theories I had learnt are used in industrial applications. I got a very good understanding of membrane filtration: fabrication

methods, separation mechanisms and current research. I also understood the fibre production process, and underlying technical concepts of flash evaporation, vapour liquid equilibrium and heat transfer when I was modelling the equipment.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Despite being a remote internship, the team at ABSTC ensured that I had a very productive learning experience. My mentors were always available for queries, and they were regularly in touch with me for updates. The HR and IT teams also ensured smooth progress of the work from home internship.

Academic courses relevant to the project: Heat transfer, Thermodynamics, Mass transfer, Process design principles.

PS-II Station: AFour Technologies Pvt. Ltd., Pune

Faculty

Name: Sonika Chandrakant Rathi

Student

Name: SHIVAM BHALLA (2016B1A40941P)

Student write-up

Short summary of work done during PS-II: My PS-II consists of 2 projects, which include improving the organization's Leave Management System (LMS) on their ERP and also building a Resume-Builder from scratch, both of these projects are currently up on their ERP portal.
During my PS-II, I worked with technologies such as React.js, Postman, Node.js, Material.UI, Github, Git, Postgres Database. I have improved the space efficiency and color-coding on the LMS, along with adding search options and implementing different dashboards for manager, employee, and DU Head. HR has also given the feature to download the data in the form of a .csv file for future purposes.
Resume-Builder has the feature to store all the data of the employees of the company, so that the information can be revived easily, and can be used for further purpose. The resume can be downloaded and the manager can access the resume of his / her employees. This Project is an assert project and made from scratch by me, and is up running on the ERP portal of the organization.

Tool used (Development tools - H/w, S/w): React.js, Postman, Node.js, Material.UI, Github, Git, Postgres Database, Visual Studio Code.

Objectives of the project: Objective of the project includes Improving the organization's LMS and also building the Resume-Builder, which are assert projects for the organization.

Major learning outcomes: React.js and its libraries from scratch, Git commands, creating SAGA for connecting APIs to the website, deploying the website to the main server, collaborative coding on Github, use of postman to hit API and check its response, understanding organization hierarchy, and also different type of holidays and terms used in real actual organization.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment at Afour is great. Peers are helpful. The manager ensures that the overall internship experience is smooth. Being at home regular video conferences were arranged at Google Meet for proper communication. There was occasional fun meets also arranged.

Academic courses relevant to the project: Object oriented programming, Introduction to data structure and algorithms, Database management system.

PS-II Station: Agami Realty, Mumbai

Faculty

Name: Pavan Kumar Potdar

Student

Name: LAWANKAR SAMEER MANISH (2017A2PS0098P)

Student write-up

Short summary of work done during PS-II: Estimation and scheduling of building projects market research on topics like data centre construction, information on second home villas choosing of offer letters. Working under design team and was a part of some projects like making a plinth beam schedule and column schedule.

Tool used (Development tools - H/w, S/w): AutoCAD, ETABS.

Objectives of the project: Estimation and costing, design of structure elements and market research.

Major learning outcomes: Use of ETABS and AutoCAD for designing / estimation and costing works.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The mentors were very supportive, I was able to ask my doubts to them without any hesitation. The work included different aspects of a real estate company, I was lucky to work in many of those aspects. As a real estate company, I got to know how the quantity of all civil engineering materials required for construction is being estimated and profits are maximized. I even got to work in design cell at agami realty, where I was assigned to design the plinth beams of one of their projects. It was a very good experience. My PS-II was online but it was worth as per WFH level. I may have got more exposure if it had been offline. But anyway, the working environment was good and a lot of things were understood.

Academic courses relevant to the project: Design of reinforced concrete structures | Civil engineering materials | Analysis of structures |

PS-II Station: Airmeet, Bangalore

Faculty

Name: Anjani Srikanth Koka

Student

Name: MONIS MUSHTAQUE (2016B1A40658P)

Student write-up

Short summary of work done during PS-II: Non-tech profile in the airmeet international growth team. Main job was to get contact details of the potential client from the Internet and maintain a database (Google sheet). It was basically manual labor of sorts. Flexible working hours. Not much of work load or upper management pressure.

Tool used (Development tools - H/w, S/w): Mail merge, Google sheets mostly.

Objectives of the project: Target potential clients and schedule a meeting to demonstrate the product.

Major learning outcomes: Sending mails mostly.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Chill working environment. My boss was a BITSian (2013 Goa batch) so he was quite considerate. I joined late so got to work for only about 2 months. Overall, the work environment was great.

Academic courses relevant to the project: None

Name: NIKHIL JACOB GEORGE (2017A4PS0210G)

Student write-up

Short summary of work done during PS-II: Inbound lead nurturing and outbound efforts for user acquisition, sales, data analytics and fortnightly regional review, product walkthroughs and end-to-end account management.

Tool used (Development tools - H/w, S/w): Hubspot, excel.

Objectives of the project: Growth strategies and operations in the North America region.

Major learning outcomes: Structure and functioning of a series-B startup, inbound lead nurturing and outbound efforts for user acquisition, sales, SQL, excel, basic data analytics.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The work environment is pretty vibrant and supportive. There were plenty of community building activities, exercises and teammates were very supportive. Everyone is approachable and there's truly a flat hierarchy system.

Academic courses relevant to the project: None

Name: PRANJAL SRIVASTAVA (2017A4PS0910G)

Student write-up

Short summary of work done during PS-II: Key work includes,
1) Ownership of targets based on growth & revenue numbers; development and tracking of growth metrics and KPI.
2) Understand and shape the company's strategy and mission.

Tool used (Development tools - H/w, S/w): Metabase, Excel, Hubspot, SQL.

Objectives of the project: 1) P/L owner for the geography (APAC). 2) Required to build the business and operations teams for the geography. 3) Responsible for building Airmeet's presence in the geography & work with key stakeholders in the organization. 4) Ownership of targets base

Major learning outcomes: 1) Ability to influence / close communities & clients to drive usage of Airmeet.
2) Relevant industry experience in a SAAS / video technology organization.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Let's talk facts. The world is going remote and the future of work is distributed. In such a world, learning from your peers, engaging with your tribe & building authentic professional relationships would be the key part of every knowledge professional's life.
At airmeet, we are laser-focused on creating the world's best virtual events experience by designing India's next big SaaS product company and building a unicorn (or a decacorn?) in the process. We believe in 100% ownership & flexibility of how & where you work. As a remote-first startup, we look for only the best of the best people around the world.

Academic courses relevant to the project: Creative thinking, effective public speaking.

PS-II Station: Alien Developers, Hyderabad

Faculty

Name: Mahesh K Hamirwasia

Student

Name: VELURI SAI MANISH (2017A2PS0913P)

Student write-up

Short summary of work done during PS-II: My project focused on implementing different methodologies for QA/QC for all construction materials from incoming raw materials to handover of the flats. I also worked on different site execution works using structural drawings.

Tool used (Development tools - H/w, S/w): MS excel, AutoCAD.

Objectives of the project: 1) Methodologies for QA / QC for materials.
2) Improving existing methods for quality check.
3) Learning about site execution works.

Major learning outcomes: 1) Improving the existing methods for better quality.
2) Understood different mistakes on site works and used necessary means to mitigate them. **Details of papers / patents**: N/A

Brief description of working environment, expectations from the company: It was a combination of onsite and WFH so the employees were very helpful. The working environment is a bit harsh but that's part of the job.

Academic courses relevant to the project: Engineering graphics, Civil engineering materials, DRCS.

PS-II Station: AlmaConnect, Gurgaon

Faculty

Name: Gaurav Nagpal

Student

Name: ROHIT PRASAD KULKARNI (2016B1A10924P)

Student write-up

Short summary of work done during PS-II: I was working in the product management department and closely with the development team in the planning and design of features for the platform, testing for bugs, and resolving other inconsistencies to maximize UI/UX of the platform. Testing of features involved checking their robustness in all possible situations that the user may encounter as well as making sure that there is no UI malfunction and that they are working well with other features. In addition to this, sorting, matching, and operating on large data for analytics purposes with the help of MS excel and designing the flow for new features to be deployed was also a part of my job.

Tool used (Development tools - H/w, S/w): MS excel, Metabase, Inspect element for browser, Figma, Miro board

Objectives of the project: The primary objective of the entire PS-II was to continuously improve the UI/UX by consistently resolving bugs and bringing improvements to the current setup through additional features or modification of existing features.

Major learning outcomes: Learnt the process of product management through the use of Agile software, the purpose of a scrum, and designing the flow for the features with the help of Figma and Miro board. Learnt to effectively work in a team and handle tasks between different departments efficiently.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The job was WFH and the work environment, given the situation, was very positive and enthusiastic. The employees in my department were understanding, helpful, and friendly. They explained concepts effectively without overburdening and did not expect too much from me. As the platform is very extensive and complex, great patience was shown by them in teaching me about the workings without making me feel inferior. I was treated as an employee after the initial learning phase and given bigger tasks accordingly.

Academic courses relevant to the project: None

Name: ANANT KUMAR TRIPATHI (2016B2A30903P)

Student write-up

Short summary of work done during PS-II: Data analysis, marketing, handling social media accounts of the firm, creating Ads on Google adwords, LinkedIn, facebook, instagram etc.

Tool used (Development tools - H/w, S/w): Adwords, facebook business manager, keyword planner, etc. Ms excel, word and similar platforms.

Objectives of the project: To collect and analyze data to educate clients make ad campaigns to target potential clients and users.

Major learning outcomes: Data analysis and marketing.

Details of Papers/patents: NA

Brief description of working environment, expectations from the company: It was a work from home and management was efficient.

Academic courses relevant to the project: None

PS-II Station: AltMat, Ahmedabad

Faculty

Name: R S Reosekar

Student

Name: JIANDANI RAUNAQ JITENDRA (2017A1PS0716P)

Student write-up

Short summary of work done during PS-II: AltMat converts agricultural waste into raw materials for textiles. During this conversion process, there is a certain step / chemical treatment where there was a scope for improvement. I had to study the existing literature and find out better chemical treatments so as to improve the current process. Once a suitable chemical method was found out, we conducted experimental trials on the fibers to see the effectiveness of the newly proposed method. Also, the company wanted to expand its reach in the segments of Bio-leather and Natural Fiber Composites (NFCs), so I had to study how prototypes of these could be made and conduct experiments for the same.

Tool used (Development tools - H/w, S/w): No special H/w, S/w tools used as the PS-II involved studying research papers and conducting experiments based on the knowledge acquired through the research.

Objectives of the project: 1)To suggest better chemical treatment to convert the raw fibers into materials that could be spun into textiles.
2) Making prototypes of NFCs and bio-leather.

Major learning outcomes: 1)The projects enhanced my aptitude as well as my confidence to carry out industrial based research.
2) My technical knowledge was increased.
3) Exposure to practical work through experiments was a great learning experience.

Details of papers / patents: None

Brief description of working environment, expectations from the company: AltMat is a start-up and so the working environment here was really nice and free without pressure of hierarchy. We got to share table directly with the CEO of the company. All the staff members there were kind and helpful. The company had reasonable and achievable expectations from us

which was mainly to use our knowledge to understand their current processes, study the literature and suggest some better alternatives and try to develop prototypes for their products.

Academic courses relevant to the project: No specific course was required in detail, but the basic knowledge acquired in chemical engineering and chemistry was used. Material Science is one of the subjects about which if you know or are interested in, then this is a good place to do your internship.

PS-II Station: ALW Lighting (India) Pvt. Ltd., Ludhiana

Faculty

Name: Pawan Sharma

Student

Name: MALDE CHINTAN KIRIT (2017A4PS0273P)

Student write-up

Short summary of work done during PS-II: 1. As a member of the R&D division, researched on non-imaging optics for illumination purposes.
2. Identified, characterized and compiled a repository of commercial off-the-shelf optics for luminaires.
3. Designed, simulated, prototyped and tested proprietary optical solutions for special product using raytracing techniques.
4. Formulated several new product designs in collaboration with the product design team.

Tool used (Development tools - H/w, S/w): Autodesk fusion 360, solidworks, lighttools, TracePro, DiaLUX, Zemax OpticStudio.

Objectives of the project: 1. To study and learn the optical design process 2. To learn illumination design and raytracing methods to evaluate the existing luminaires for inefficiencies and suggest viable changes to enhance the current product lineup. 3. To study and create repos.

Major learning outcomes: I learnt the entire optics design theory and processes. Also how the optical and mechanical design go hand in hand. I learnt the working of product design process and how to come up with new innovative ideas. I also learnt designing for particular processes and how the design afffects the cost and viability of the product.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Since the internship was a remote one due to the ongoing pandemic. The entire work was carried out from home. The mentor is a BITS alumni and he is very helpful and friendly to connect with the pupils. He helped and guided us throught the project as well as our college life. The R&D department is very dynamic place and very new setup so the work was very interesting and has a lot of learning involved. The timings were flexible depending on our convenience which was great.

Academic courses relevant to the project: Machine design and drawing, Production techniques, Optics, Business communiation.

Name: HARSHWARDHAN DILIP SHIRODKAR (2017AAPS0169G)

Student write-up

Short summary of work done during PS-II: Work included researching about sustainable industry practices, industry relevant technology and developing software tools.

Tool used (Development tools - H/w, S/w): Programming languages like Python, C++.

Objectives of the project: To develop a repository management tool.

Major learning outcomes: Learnt to develop a GUI based applications.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Completely work from home, normal festive holidays, sundays off.
Academic courses relevant to the project: Probability and statistics.

Name: AYUSH RANJAN (2017A1PS0729G)

Student write-up

Short summary of work done during PS-II: Analysis of european competitors and work on a strategy to improve our digital presence.

Tool used (Development tools - H/w, S/w): Tableau

Objectives of the project: Increase digital footprint

Major learning outcomes: Secondary and primary research

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Pretty cordial, expectations were that the student should be hard working.

Academic courses relevant to the project: Principles of management.

PS-II Station: Amazon - Machine Learning, Hyderabad

Faculty

Name: Seetha Parameswaran

Student

Name: YASHDEEP SINGH DAHIYA (2016B3A70471H)

Student write-up

Short summary of work done during PS-II: My work was from the domain computer vision. The outcomes of the project was quite blurred at the onset of the internship, but it ended up pretty good. I had to process incoming video recordings from dash-cams of delivery vans and get some meaningful features from there. The project mostly exploited opensource implementations already been developed, but customising them for business use case was challenging.

Tool used (Development tools - H/w, S/w): Pytorch, OpenCV, AWS Sagemaker, EC2, docker.

Objectives of the project: To create a context-aware 3D reconstruction of a scene from RGB 2D frames.

Major learning outcomes: Computer vision, AWS toolkits, can comfortably develop own ML pipelines (neural networks, etc).

Details of papers / patents: N/A (actually I did write a research paper, it could be presented at AMLC next year by my teammates with more revisions).

Brief description of working environment, expectations from the company: Work culture of the company is highly competitive. Lots of focus is on ownership of work. Daily updates on work is required, and less progress during the day is frowned upon. You'll be working with real scientists and thus knowledge gained here is unparalleled to that in college coursework. Make sure to attend seminars, AMLC (Amazon ML Conference) and try doing some free ML courses here specially tailored for amazonians.

Academic courses relevant to the project: Machine learning, Information retrieval.

PS-II Station: Amazon Development Center, Bangalore

Faculty

Name: H. Viswanathan

Student

Name: Mayank Jasoria (2016B1A70703P)

Student write-up

Short summary of work done during PS-II: Initially worked on design and implementation of integration tests for some under-development public APIs. In the later half, worked on conversion of all tier 1 deployment pipelines of the team to work as a fully automated CI/CD pipeline.

Tool used (Development tools - H/w, S/w): AWS - CloudFormation, CloudWatch, DynamoDB + DynamoDB stream, Lambda functions, Kinesis, SQS, SNS; git, TestNG, Java, Ruby, multiple internal frameworks and tools.

Objectives of the project: Design and canary deployment of dynamic budget controls public APIs, conversion of tier 1 team pipelines to full CF.

Major learning outcomes: 1. Integration testing 2. Fault tolerance (in design and code) 3. Collaborative software development 4. Working with AWS 5. Basic DevOps knowledge.

Details of papers / patents: NA

Brief description of working environment, expectations from the company:
Work Environment: Very friendly and healthy work environment in general, with few noteworthy elements. Daily standup meets with entire team where progress, issues, and next steps are discussed. Scheduled 1:1 meets with manager and mentor for discussions regarding direction, and other non-project related concerns. Almost every Amazonian is freely approachable as long as there is a clear agenda for reaching out. Working standards are defined by their leadership principles, which is also used as a performance judgement criteria. Work timings can be slightly tedious.
Expectations: There should be good OOP and DSA knowledge. Candidate should be committed and sincere in working on the project, discussing project related progress and issues with manager and mentor whenever needed, and learn to work according to the leadership principles. Any experience working with AWS is a huge plus, since their newer services run on AWS.

Academic courses relevant to the project: Object oriented programming, Data structures and algorithms, Database systems, Cloud computing (Elective), Logic in computer science.

Name: SAMARTH GUPTA (2016B4A70369G)

Student write-up

Short summary of work done during PS-II: Learnt about the team I was a part of, about the business domain and about advertising. Project 1 - Analysed various metrics and alarms

already set up, to explore how to apply anomaly detection on them. Explored 2 possible ways to proceed, and compared them against each other. Project 2 - Migrated scripts running on obsolete hadoop architecture, which was deprecated and hence out of order, to newer spark framework. Prepared design docs for both projects, and laid out plans on how to proceed.

Tool used (Development tools - H/w, S/w): Amazon internal tools for many things such as software management / development, queries, communications. Also used various Hadoop and spark packages.

Objectives of the project: Project 1 - To analyse and compare the best tool to apply anomaly detection and improve the alarms to be better suited for the needs of the team.
Project 2 - To get the systems back online, and migrate the jobs successfully from Hadoop to spark environment.

Major learning outcomes: Technical learnings include software development, working with packages, environments etc. Soft skills like punctuality, time management, group discussions, making design documents and self review.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Work from home. Expectations from the company are that you perform your work in a timely manner, set realistic goals, plan towards them, then execute, and aim to meet your deadlines etc. Since you set them yourself, you should have no problems meeting them. Allows a certain degree of freedom, but also great work culture, very helpful team members, and variety of internal resources and documentation to help guide you.

Academic courses relevant to the project: Few CS courses are always relevant to any IT / software industry work. I would say, Data structures and algorithms, Database systems, Operating systems are few of them which were applicable for me.

Name: ANIRUDH BUVANESH (2016B4A70614P)

Student write-up

Short summary of work done during PS-II: The domain of the project was centred around writing modules for Amazon advertising. Within the advertising domain, the project focussed on building brand safety products which are a part of Amazon advertising campaigns. The tasks involved the following,

1. Migrating jobs that ran on dedicated Hadoop cluster to EMR.
2. Writing lambdas to collate brand safety signals from different vendors.

Tool used (Development tools - H/w, S/w): AWS EMR, S3, Lamba, RDS, Java, Scala, Pig Latin.

Objectives of the project: 1. Migration of jobs that ran on dedicated Hadoop cluster to EMR.
2. Using Lambda functions to obtain brand safety signals.
3. Visualisation of collated responses.

Major learning outcomes: 1. Programming Languages like Node JS, Pig Latin, Scala 2. AWS technologies like S3, Lambda, EMR 3. Soft skills.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The entire internship was conducted remotely. I was given sufficient time to ramp up on the prerequisites that were part of my project. My mentor was very supportive and guided me with proper resources when I was stuck. I was part of team discussions that helped me learnt a lot.

Academic courses relevant to the project: 1. Parallel computing 2. Cloud computing
3. Computer networks.

Name: BHARAT BHARGAVA (2017A7PS0025P)

Student write-up

Short summary of work done during PS-II: I got an opportunity to work on a project which would directly go into production, in the advertising technology domain.

Tool used (Development tools - H/w, S/w): Predominantly, the services offered by AWS were used - EMR, EC2, DynamoDB, CloudFormation etc.

Objectives of the project: The project focussed on detection and invalidation of fraudulent traffic on Amazon Ad exchange.

Major learning outcomes: I gained considerable exposure to the whereabouts of a live project. The internship has helped me develop an insight into the field of software development, particularly with regard to viewing this field as a career option.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The work environment is really very conducive, and despite working from home, I always felt energised and spirited while working. In my case, my department treated me like an independent employee who is capable of handling situations on his own, instead of a mere intern who requires micromanagement, thus inducing in me a sense of responsibility and ownership towards my work.

Academic courses relevant to the project: N/A

Name: JAIN SIDDHARTH MUKESH (2017A7PS0180H)

Student write-up

Short summary of work done during PS-II: A. REBILL HUB DEFAULT CONFIG-
1.Front end – add background check for default config.

2.Back end- do check for default config so that only supported reasons are displayed on front end

3.Database- add default config for 16 reason id in DB.

B. Integration tests fix -

1.For some of the report generation the time it was taking was too large

2.So need to manually check the best time with try-catch java exceptions

3.And update the code accordingly to make the report generation

successful C. Automate revenue variance report generation Previously-

1.Manually need to run some query and fetch data(Takes 6-7 hours).

2.Run same script 44 times with different parameter values for generating reports.(Takes 14-16 hours).

So, in overall reports generation used to take 2-3 business days of effort. After my implementation-

1.In single click reports would be generated and sent over email. Reduced effort significantly from 3 days to 15 secs!

D.Automate bad debt write off

Currently, the process requires calling “Test” in the API gateway in AWS manually 6 times for 12 accounts, which is 72 in total.

To reduce the effort, designed a method which takes constant value parameters and triggers Lambda, thus fully automating the process.

1.Created Cloudwatch events 2.Created a new Lambda

Tool used (Development tools - H/w, S/w): AWS Lambda, AWS Cloudwatch, AWS S3, AWS DynamoDB, Java, python, Javascript, SQL, Bash, Korn Shell.

Objectives of the project: 1.The objective of the projects is to give me an insight into the services my team owns and have a basic understanding of each service.

2. Apart from this giving an insight into how development occurs at

Amazon. 3.Tools present in Amazon for development.

Major learning outcomes: 1. Deployment cycle in a big tech company.

2. Working together as a team.

3. Learn from other person’s written code.

4. Java, Javascript, Python and BASH.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Working environment is really good, very productive, competitive and learning. Teammates are really helpful and guide you properly at every step. My expectations from company were achieved and got even more, learned a lot.

Academic courses relevant to the project: DSA, DBMS, OOPS.

Name: JAY PANKAJ GALA (2017A7PS0396G)

Student write-up

Short summary of work done during PS-II: As a software development engineering intern, I was responsible of adding a feature in one of Amazon's internal products - TVS. In my second project, I was a part of the organisation wide objective of shifting our software and products to native AWS and hence I migrated the UI of another internal Amazon product to call the native AWS APIs.

Tool used (Development tools - H/w, S/w): Java, Node JS, AWS Frameworks - SNS, SQS, Glue, S3, DynamoDB.

Objectives of the project: To make an event-based system where the subscribers would automatically receive the data when TVS (Amazon's internal product) processes it without them having to spend resources and also update the metadata in their AWS Glue accounts.

Major learning outcomes: It was a great experience to work with the tech behemoth - Amazon. Got to understand the deployment cycle of products and how software development works. Moreover, tech wise, I learnt various AWS Frameworks like SNS, SQS, S3, Glue, DynamoDB

and strengthened my programming in Java, Node JS. I also learnt how important testing is and various ways to test our code / product - using Unit tests, Integration tests, Sanity tests.

Details of papers / patents: No papers / patents

Brief description of working environment, expectations from the company: Work from home made communication a challenge and dragged many jobs that could've been solved in no time. However, the team and manager were very helpful and understanding. I didn't hesitate to ask doubts and for help to debug my errors and my teammates did help me solve them. I also found it slightly overwhelming and difficult in the start because the concepts were very new and it takes some time to get comfortable with the work. But after a month or so, it gets smooth. Amazon provides enough resources and documentation that are helpful.

Academic courses relevant to the project: Data structure and algorithms, Object oriented programming.

PS-II Station: Amazon Development Center, Chennai

Faculty

Name: T Venkateswara Rao

Student

Name: PRAKARSH PARASHAR (2016B4A70776G)

Student write-up

Short summary of work done during PS-II: Worked in Alexa voice layer team. Projects were based on building prototypes for new voice features for fireTV devices.

Tool used (Development tools - H/w, S/w): Projects were mainly Java and android based.

Objectives of the project: To create a prototype for new voice features for fireTV devices.

Major learning outcomes: 1. Experience with android application development.
2. Learnt how software development process works in industry.
3. Learnt how to write clean, maintainable code.
4. Essential communication skills required for working in an organization.
5. Experience with navigating and understanding large codebases.

Details of papers / patents: Not Applicable

Brief description of working environment, expectations from the company: The environment is great, they give good amount of responsibility and freedom to interns. All team members were friendly and helpful. The organization requires you to work independently, there would be mentor and peers to guide but it is expected that you are able to work and solve problems on your own.

Academic courses relevant to the project: Object oriented programming, Java.

Name: PRAKHAR SRIVASTAVA (2016B5A70438G)

Student write-up

Short summary of work done during PS-II: I worked on 3 different projects at Amazon. Two of these were based around implementing a proof-of-concept for a new [confidential] features in the fire TV products. The third project was a rather quick and involved automating an ad-hoc maintenance task. For both proof-of-concept projects, I had to work with the fire OS platform, which is android-based. I also had to create a new web service for one of these projects and a data store backend to enable real-time search with negligible latency. During my work I also had to carry out some quick mini tasks like coming up with a simple demo front-end for the web

service, writing some browser automation and shell scripts to simplify the day-to-day workflow. Apart from the technical expertise gained in the project domain, there is a vast ocean of knowledge of Amazon's internal tools that is there for you to discover.

Tool used (Development tools - H/w, S/w): S/W tools: Java, Python, SQL, AWS, internal developers' tools, AWS services, IntelliJ IDEA, android studio H/W: Fire TV cube, Echo show, etc.

Objectives of the project: Two projects on improving the voice experience on fire TV devices, one project on automatically carrying out maintenance tasks.

Major learning outcomes: Amazon internal tools, android development, web development, testing, debugging, writing documentations, corporate culture.

Details of papers / patents: No papers were published and no patents were filed.

Brief description of working environment, expectations from the company: As an SDE-Intern you are not expected to attend all the regular meetings. Daily sync-ups with your manager are expected. All the team members are easily approachable and are readily available to help with all sorts of issues. I was working remotely for the entire duration of the PS-II, and my team and the organisation made sure that I had all the resources and support that I needed.

Academic courses relevant to the project: Object oriented programming, Database systems, Computer architecture, Operating systems, Computer networks, Data structures and algorithms.

Name: LAVANYA SONI (2017A7PS0151P)

Student write-up

Short summary of work done during PS-II: I completed 3 projects during my internship with the major project being developing an internal console / dashboard for the team's clients. Other

projects were deprecating a legacy service and migrating its code to newer services and preparing services for increased traffic by ensuring proper scaling, monitoring etc.

Tool used (Development tools - H/w, S/w): Languages - Java, Kotlin, Javascript
Frameworks - Spring MVC, Spring boot, Horizonte
DevOps - AWS EC2, AWS cloudwatch, AWS network load balancer
Database - AWS dynamoDB
IDE - IntelliJ

Objectives of the project: There were some client tasks that were being performed manually and were time consuming. Thus, to enhance client experience and reduce team efforts, I created a console for those tasks which reduced the time required from a few days (sometimes weeks) to a week.

Major learning outcomes: Learnt to write industry level code, along with unit testing and integration testing. Also learnt about different AWS tools such as AWS EC2, AWS DynamoDB etc. Learnt the importance of metrics, alarms and monitors for the services. Creating a console (Web Application) from scratch was a great learning experience.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Everyone at Amazon was really helpful and professional. Got a chance to work with some really smart people. Also the projects given to me were the ones that actually mattered to the team. Since Amazon uses its own internal tools and frameworks for most of its services, I had to read-up a lot to get a hang of it. Work pressure was moderate, sometimes a little hectic but manageable. There was no micromanagement, you just have to complete the projects within the deadline and give regular updates in Scrums and Sprint demos. My team also had bi-weekly friday fun, where we played among us, had lunch together and just chilled. Overall, it was a great learning experience and I had a good time.

Academic courses relevant to the project: DSA, DBMS, OOP, Computer networks.

Name: SANAND DANGE (2017A7PS1685H)

Student write-up

Short summary of work done during PS-II: Onboarded the team to ELK stack, which provided a way to view logs in a presentable manner, this was a part of a major project, rest some small projects.

Tool used (Development tools - H/w, S/w): ELK Stack, Spring, Java, Javascript.

Objectives of the project: To make debugging easier for developers by providing logs in near real time.

Major learning outcomes: Learnt a lot about amazon leadership principles, software development, huge codebase handling at MNC.

Details of papers / patents: None published from the internship.

Brief description of working environment, expectations from the company: Very healthy working environment, the company lives upto its reputation.

Academic courses relevant to the project: Software development, OOP.

PS-II Station: Amazon Development Center, Hyderabad

Faculty

Name: T Venkateswara Rao

Student

Name: SHENOY VIGHNESH VIJAY (2016B4A70927H)

Student write-up

Short summary of work done during PS-II: Formulated the design and created a spring-based web-app used to serve the marketing information for Amazon's Delivery Service Provider (DSP) programme. Setup all the required Amazon infrastructure to support the service and get the service prod-ready for Q1 2020.

Tool used (Development tools - H/w, S/w): Java, Spring, Linux.

Objectives of the project: Create a new web-app which will be used to serve the marketing information for DSP programme.

Major learning outcomes: 1. Understanding the end-to-end process for creating a new service from scratch, all the way from design to deployment.
2. Writing industry-standard peer-reviewed code.
3. Writing technical design documents for projects.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The working environment was good, and learnt a lot from the experience. There were times when the work did get a bit hectic (especially considering we were working from home), but the team members are always ready to help you out. Overall, it was a very enriching experience.

Academic courses relevant to the project: Object oriented programming.

Name: MADHUR PANWAR (2016B4A70933P)

Student write-up

Short summary of work done during PS-II: My project area was full-stack web development in spring MVC. It involved the development of a new module for automating the configuration of nodes and lanes corresponding to a major Amazon carrier. Apart from that, I had tasks for providing certain feature updates to an existing automation web service. The tasks required a sound knowledge of AWS services (S3, DynamoDB, AWS Lambda, Redshift, RDS, etc.) and of internal Amazon development infrastructure (e.g. build tools, code review, pipelines, etc.) as well as of open source technologies and frameworks like spring MVC, JavaScript, Bootstrap, HTML / CSS. Ideally, you would find yourself in the following cycle: Receiving new feature / development requests, scoping and clarifying discussions for the new requests, coming up with a robust design with its cost evaluation and impact on existing services, getting the design approved, implementing the design, getting the code reviewed, resolving code review comments, getting the code approved, deploying the code in production.

Tool used (Development tools - H/w, S/w): S/W:
AWS services (primarily used via Java SDK): S3, DynamoDB, RDS, Redshift, AWS Lambda
Other: Spring MVC, SQL, Bootstrap, HTML/CSS,
JavaScript H/W (provided by Amazon):
Primary development: MacBook Pro (16", 2019).
Test and Build: An AWS host that you

Objectives of the project: The objectives of the project allotted to me were: 1. Enhancements: Validations, Global exception handling, development of new features, etc.
2. Development of a file storage service for the input & output files in the automation web service of my team.

Major learning outcomes: 1. Hands-on experience working with production systems and pipelines. Learnt about the entire development process from ideation to production.
2. Learnt to use various AWS services e.g. Redshift, S3, DynamoDB, AWS Lambda.
3. Learnt to write production-level code, design principles and practices from senior SDEs via code reviews and comments.

4. Dealt with communication gaps and delayed resolution of queries due to work from home.
5. Learnt indispensable soft skills: email etiquette, managing multiple deadlines, etc.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: 1. The work environment is largely team dependent. You can expect your work hours from anywhere between 4 and 10 (or more) based on the team you are allotted. The amount of work allotted is also dependent on the team. Some teams allot one task at a time, while others assign you all of your deliverables at the very beginning. A mix of the two can also be seen wherein you have certain tasks assigned initially and then incremental tasks or feature updates assigned in between.
2. It is expected that you become self-dependent and take ownership of your tasks. Once the mentor assigns some task to you, it is your responsibility to gather the required information you need for the task, contact relevant people inside and outside the team, learn about the tech stack involved, and finally implement the task, etc.
3. Most of the initial weeks' time will be spent learning about Amazon's internal development infrastructure and build tools. Getting stuck will be a part of the process. Resolving your problems on your own is a very important skill which you will learn.
4. You may or may not need to work on weekends depending on the amount of work assigned to you.
5. It is not possible to generalize the experience you will have at Amazon due to the presence of a lot of development teams, with each team providing a different experience. However, a common aspect is that you definitely get to fast track your growth and learn a host of skills that are highly valued in the industry.

Academic courses relevant to the project: Object oriented programming, Data structures & algorithms, Database systems, Logic in computer science, Computer networks.

PS-II Station: Amazon Professional Services, Delhi

Faculty

Name: Preethi N. G

Student

Name: SHYAM JAYESH KUMAR JESALPURA (2016B3A70441H)

Student write-up

Short summary of work done during PS-II: Developed a PoC automated proctoring solution using AWS services. Deployed eye gaze tracking using pre-trained ML model. Developed a Moodle plugin for the same.
Tool used (Development tools - H/w, S/w): AWS lambda, DynamoDB, S3, EFS, API gateway.

Objectives of the project: Develop an anutmated proctoring solution using AWS tech.

Major learning outcomes: Using AWS cloud services.

Details of papers / patents: None.

Brief description of working environment, expectations from the company: They evaluate company's needs, and help them in the cloud migration process. Since AWS had 200+ services, it is difficult for the companies to keep track of the updates in AWS. So, the professional services people help them design the solution so the costs remain low and best practices are followed. My team specifically dealt with government and educational sector.

Academic courses relevant to the project: Hobby projects done in free time, HRD and Computer networks.

Name: AAYUSH AGARWAL (2016B5A70716P)

Student write-up

Short summary of work done during PS-II: Created a personalised testing model using reinforcement learning and host it on AWS.

Tool used (Development tools - H/w, S/w): Amazon sagemaker, Amazon S3, Amazon API gateway, Amazon lambda functions, Ray library, Tensorflow, Docker.

Objectives of the project: To create a personalised testing model.

Major learning outcomes: Reinforcement learning, AWS hands-on experience.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Lot of freedom on how you want to pursue the project. Expectations at the end are to learn about AWS platform, In depth knowledge of the AWS resources used, should be able to explain the project to non-technical people in the final presentation.

Academic courses relevant to the project: Machine learning, Neural networks and fuzzy logic, Information retrieval.

PS-II Station: ANS Commerce – Non-Tech, Gurgaon

Faculty

Name: Sandeep Kayastha

Student

Name: MANDALAM TARUN (2016B2A10583G)

Student write-up

Short summary of work done during PS-II: In the five months I was there with ANS, I handled a lot of website development, banners and creatives formatting, reports and blog management. Due to the rise in E-commerce industry, a lot of brands came to ANS for their services and our team consisting of me and five senior associated were handling roughly 60 brands. Out of 60, I was heavily involved with 6 brands while helping my team with other brands. I launched two brands with the help of a senior associate, superdry and west elm and helped in taking over the SEO section for kaya youth while managing reports and operations for Marico, Nivea and Toonz.
As an intern, I believe I did my best to help the organization with their day to day operations.

Tool used (Development tools - H/w, S/w): Excel, Google analytics.
Objectives of the project: To Help the team with operations and business strategy.

Major learning outcomes: Overview of company operations, Blog management, Quality assurance practices, Basic knowledge of company websites and how it's built, Content writing, Client onboarding basics , MS – excel and GA knowledge.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Quite a good environment but as startups the working hours are erratic, in future as the company is progressing, we can believe that they'll have some cap on the hours and on the stipend.

Academic courses relevant to the project: Finance and accounting.

Name: SOHAM BHATIA (2016B3A40274G)

Student write-up

Short summary of work done during PS-II: - Created advertisements and marketing campaigns for some leading consumer brands (Aldo, Bath and Body Works, Jack&Jones) etc.
- Tracked and optimized their performance through various marketing metrics.
- Coordinated with business, design, catalogue teams for the same.
- Helped in usage and deployment of the company's proprietary software Limereach.
- Created a clickfunnels website.

Tool used (Development tools - H/w, S/w): Facebook Ad manager, Google tag manager, ClickFunnels, Limereach.

Objectives of the project: To manage the digital marketing of brands for an end-to-end ecommerce solution providing company.

Major learning outcomes: Ecommerce digital marketing systems and infrasturcture.
Details of papers / patents: Nil

Brief description of working environment, expectations from the company: - Working environment was friendly and supportive. Mentors were highly experienced in their work.
- The company is 3 years old, and rapidly grew during lockdown. There was a lot of activity and hence work hours were relatively more.
- Expectation for interns is to learn quickly and start becoming versatile in work to be helpful.

Academic courses relevant to the project: Marketing research, Creative thinking.

Name: SAYAN SAHAY (2017A1PS1025H)

Student write-up

Short summary of work done during PS-II: Related to product development and product analytics. Day to day tasks involve collaborating with tech, design, and business teams to deliver client demands, adding new integrations to the existing product, troubleshooting, giving feature proposals, and analyzing user data.

Tool used (Development tools - H/w, S/w): Google analytics, Google tag manager, SQL, JS, Python.

Objectives of the project: To improve the conversion rate for the clients by creating more user centric product.

Major learning outcomes: Product management, presentation skills, teamwork, client management, data analytics, web development.
Details of papers / patents: NA

Brief description of working environment, expectations from the company: Fast paced work environment with a goal oriented mindset. Just like any startup, has a steep learning curve. The team is very accommodating and does not shy away from giving key projects to interns. Management is very supportive and especially in product team you'll be expected to be very proactive and take new initiatives.

Academic courses relevant to the project: None

Name: SAYAN SAHAY (2017A1PS1025H)

Student Write-up

Short summary of work done during PS-II: My PS-2 work exposed me to multiple aspects of running a startup. I was put in the product team where I was directly involved in product development and marketing analytics. With marketing analytics tools, I captured and analyzed user behavior on our website and suggested methods to improve user experience and remove

any potential friction in the user journey. Apart from this, I also made product documentation, participated in scrum meets, and presented feature propositions to clients.

Tool used (Development tools - H/w, S/w): Google analytics, Google tag manager, Python, SQL, JavaScript, Google optimize, Google data studio, Data analytics.

Objectives of the project: Conversion rate optimization and product management.

Major learning outcomes: Product management, E-commerce, Analytics, Digital marketing, UI/UX.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Being a startup, ANS gives you an ample scope of having a steep learning curve, exposes you to all the intricacies of running an e-commerce business. You can propose things, try, and experiment all while having an enriching experience. The work environment is very conducive and people are always willing to help you. Overall, I had a great experience.

Academic courses relevant to the project: None

Name: NIKHIL BHASIN (2017A4PS1208H)

Student write-up

Short summary of work done during PS-II: 1. My BAU was analysing sales trends, performance of marketing campaigns, check if we are meeting our targets. Made a lot of performance reports for clients.
2. Involved in firefighting, i.e, resolving spontaneous client queries.
3. Initiated 2 projects - Market basket analysis and demand forecasting.

Tool used (Development tools - H/w, S/w): SQL, Google analytics, Google data studio, FB Ad manager, Google Adwords. Python for my projects.

Objectives of the project: 1. Improve product recommendations and sorting of products on webpage.
2. Developed automated interactive dashboards on Google data studio to track marketing and web metrics leading to improved visibility and better decision making.

Major learning outcomes: 1. Learnt about all the systems part of an e commerce infrastructure.
2. How to drive insights from data and the different tools to your disposal.
3. Basics of digital marketing and how it is the major driving factor of sales.
4. Soft skills - Collaborative work with multiple departments, good communication and teamwork.
5. Working with strict deadlines.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: A good place if you are interested in exploring E-commerce. Very long working hours. It is important to be good at time management and multitasking.

Academic courses relevant to the project: None

PS-II Station: ANS Commerce - Tech, Gurgaon

Faculty

Name: Jyotsana Grover

Student

Name: JIGYASHU AGGARWAL (2016B2A10914P)

Student write-up

Short summary of work done during PS-II: I worked on an application which was used by the organisation to calculate commission earned by the company from different brands.

Tool used (Development tools - H/w, S/w): MongoDB Database, Express framework, Angular for frontend and Nodejs for backend.

Objectives of the project: To automate reconciliation process to calculate commission earned by the organisation from different brands.

Major learning outcomes: Team work and web application development.
Details of papers / patents: NA

Brief description of working environment, expectations from the company: Since, it is a startup they want you to have good learning ability and willingness to explore new technologies.

Academic courses relevant to the project: Data structures and algorithms.

PS-II Station: Apollo Tele Health Services (ATHS), Hyderabad

Faculty

Name: Rekha A

Brief write-up on PS-II station: Apollo TeleHealth specialises in integrated healthcare delivery to provide services such as tele consultations, tele radiology, tele cardiology, tele condition management, and tele emergency services among others. Students are working the the filed of web application for health management using mean stack.

Student

Name: VYSYAKH A (2017A2PS0089P)

Student write-up

Short summary of work done during PS-II: I worked at ATHS as a full stack developer. At the IT product department, I was part of the team behind software solutions for tele health services. Software solutions from the firm includes both web and native app products, with I specifically working on angular web applications and backend. The work culture and projects are interesting but not that challenging. The projects here gave me good exposure on MEAN stack. More info and prospects on health stack was gained through out my time in ATHS. Mentors were encouraging and lenient on targets and deadlines.

Tool used (Development tools - H/w, S/w): Angular, Node.js, NestJs, MongoDB, PWA, HTML, CSS.

Objectives of the project: Integration of new features and attributes to the next gen tele-health app.

Major learning outcomes: Full stack development using MEAN stack, health stack and it's future prospects.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Mentors and peer group were friendly and encouraging. They weren't much concerned about the efficiency of the tasks.

Academic courses relevant to the project: OOP, OS, DSA.

PS-II Station: Apple India Pvt Limited, Hyderabad

Faculty

Name: T Venkateswara Rao

Student

Name: JAINA PARESH SHAH (2016B4A70496H)

Student write-up

Short summary of work done during PS-II: Recommendations for retail store customers keeping privacy in mind and by building customer profiles.
Planning stage included data attributes collection from multiple teams, making data models, user journeys, charting use cases, time-lining the Phases.
Implementation stage of secure information handoff, recommendations partly using a rule engine and partly using an internal decisioning system and App demo using swift and internal simulator.

Tool used (Development tools - H/w, S/w): Swift, Python.

Objectives of the project: Recommendations for retail store customers keeping privacy in mind and by building customer profiles.

Major learning outcomes: Privacy considerations, App development, Recommendation engines.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Virtual internship due to Covid-19. Decent team engagement, good support from managers. Provided goodies, laptop and other employee benefits.

Academic courses relevant to the project: Information retrieval, Data mining, Applied statistical methods, OOP.

Name: RISHABH JAIN (2016B4A70729P)

Student write-up

Short summary of work done during PS-II: Collection of data followed by data cleaning. Analysis to determine input features for the machine learning model for predicting system crashes. Processing input features to prepare training and testing dataset. Building a model on the basis of prepared dataset.

Tool used (Development tools - H/w, S/w): django , python, HTML

Objectives of the project: Build a classification model to predict system crashes. Build a wrapper tool on top of the prepared model to allow the user to interact with the model. Tool can be invoked either from the command line version or through the developed UI.

Major Learning Outcomes: 1) Collection and processing of input
data 2) Identifying the correct model architecture

3) Training and testing model on prepared dataset
4) Building of UI using Django

Details of Papers/patents: None

Brief Description of working environment, expectations from the company: The working environment was pretty good. Sufficient time was given to get familiar with the involved concepts. Regular meets were held to track progress and help whenever blocked. Review meets were also held to internally review the work done.

Academic courses relevant to the project: Machine Learning, Computer Networks

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Name: JAYANTH TUMMALAPENTA (2017A7PS0075P)

Student write-up

Short summary of work done during PS-II: Built out a knowledge graph to represent Apple communities threads. Threads were summarised using NLP tools and extractive summarisation. Built word embeddings for the same. Finally built the knowledge graph using a graph database.

Tool used (Development tools - H/w, S/w): NumPy, Pandas, Scikit Learn, NLTK, SciPy, FastText, ArangoDB.

Objectives of the project: To build a POC of a communities knowledge graph and all its necessary components.

Major Learning Outcomes: Learnt about knowledge graphs, Text summarization, Word embeddings and NLP.

Details of papers / patents: No papers / patents.

Brief description of working environment, expectations from the company: Working environment was excellent. Deadlines were reasonable, work from home was not a big issue, and managers and colleagues were friendly, helpful and understanding. Furthermore, there was a lot of opportunity to interact with upper management and it was a very inclusive experience.

Academic courses relevant to the project: Machine learning, Information retrieval, Data mining, DSA.

Name: Abhinav Ramachandran (2017A7PS1176P)

Student write-up

Short summary of work done during PS-II: I worked on three separate projects at Apple.
The first two involved using python to automate routine tasks undertaken by the site reliability engineers in the load balancers team. The first entailed automated consistency validation of the CMDB (configuration management database): It went through the CMDB items and checked if there were any inconsistencies that may have been mistakenly added by hand.
The second project was a script that deployed necessary changes to thousands of production devices in order to update their authentication method to a new protocol. It featured smart delta-resolution to dynamically determine the changes that needed to be made.
The third project, where I spent most of my time, involved building an internal dashboard/search-engine to fetch information about load balancing devices from across Apple's data centers, and present that information in an easily accessible, searchable, and actionable way. The dashboard interfaced with multiple APIs/sources of information to fetch real-time telemetry, alerts, and configuration information.

Tool used (Development tools - H/w, S/w): Hardware: Macbook Pro
Languages / Frameworks: Python, Flask, Apache, Javascript, React-JS
Tools / IDEs: PyCharm, Sublime Text

Objectives of the project: To create a suite of tools that assist Apple's site-reliability engineers in performing their tasks.

Major learning outcomes: Web development, Python, React-JS, Communication skills, Presentation skills, Teamwork, Collaboration, Scale operations, Web infrastructure details.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Wonderful working environment, with a supportive and helpful team that allows you full independence in approach and solution ideas. Very helpful and communicative. Company has great benefits and pay. Lots of collaboration tools available made working-from-home easy and stress-free.

Academic courses relevant to the project: Computer Networks.

PS-II Station: Arm Soft Technologies, Chennai

Faculty

Name: Akshaya G

Student

Name: KSHITIJ KARUNESH (2016B2A80141P)

Student write-up

Short summary of work done during PS-II: To create a NLP model to compute semantic textual similarity between two sentences.

Tool used (Development tools - H/w, S/w): Python, Numpy, Pandas, Google colab.

Objectives of the project: Semantic textual similarity.

Major learning outcomes: Natural language processing techniques.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Work environment was quite easy going, we had weekly meets to account for our work.

Academic courses relevant to the project: Machine learning.

Name: NAYAK ARUJ (2017A7PS0107G)

Student write-up

Short summary of work done during PS-II: We were assigned the task of estimating semantic textual similarity between the given two texts. We were expected to make and work on various deep learning models (like Artificial Neural Networks, LSTMs, GRUs, BERT, etc.) for this task. Apart from this, we also worked on various machine translation algorithms to translate a text from one language to other (I specifically worked on encoder-decoder model for achieving this task). All of these tasks were followed by vast amount of data cleaning and data analysis at the end of our project.

Tool used (Development tools - H/w, S/w): Python3, Pandas, Numpy, Scikit-learn, Matplotlib, Nltk, Keras, pytorch, tensorflow, etc.

Objectives of the project: Estimating semantic textual similarity between the given two texts.

Major learning outcomes: Learnt how to work on large datasets and how to handle big data projects. Also, learnt how to optimize deep learning and machine learning models so that their accuracy can be increased by using different hyperparameter techniques like grid search, random search.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: We were expected to work from home and deliver weekly targets through out this internship. Working hours were flexible provided we completed the weekly tasks assigned to us. If we encountered any problem our mentors from the company were always ready to answer our queries and lend support whenever required. The only problem that we faced was because of our system limitations. We were expected to train machine learning and deep learning models having many parameters using a large dataset (close to1-2 lakh data points). Also, we were mostly working on google colab (as our GPUs were not able to bear this much load) thus it took us a lot of time to train these models. If we had access to better systems then we would have definitely achieved much higher accuracy.

Academic courses relevant to the project: Neural Network and fuzzy logic, Machine learning, Data mining, Data structures and algorithms, etc.

PS-II Station: ASCO Numatics India Pvt. Ltd., (Emerson Automation Solutions), Chennai

Faculty

Name: Raghuraman S

Student

Name: VISHWESH MUDALIAR (2017A4PS0286H)

Student write-up

Short summary of work done during PS-II: The project was mainly about designing a solenoid operated valve for sea water application. Initially, a background study on solenoid valve was done regarding their working principles, types, approvals and applications. Since, the valve was to be used in sea water, which leads to pitting and crevice corrosion, an extensive study on materials used for making seals, housing and springs was also done to suggest a better alternative material. This included a detailed study on stainless steel covering points like types of SS, types of corrosion in SS and criteria for selection of different grades of SS. After finalizing the material for the valve, and having gained significant knowledge about the working of the valve, the next step was designing. For this, a benchmarking study was done based on ASCO premium products followed by a study of competitor products. The takeaways from these studies were used to develop numerous design proposals. Finally, by using a Pugh matrix, the different proposals were compared and ranked based on different factors such as cost effectiveness, ease of assembly, manufacturability etc. and the best one was finalized for production.

Tool used (Development tools - H/w, S/w): PTC Creo, MS Word, Excel, PowerPoint.

Objectives of the project: Design of 3/2 way solenoid valve for sea water application (direct acting and dry construction).

Major learning outcomes: Got to know about the process of product development in the core industry. The journey starts from idea generation, concept definition and feasibility, concept verification followed by design and development and ultimately release of drawings and bill of materials for production.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Due to pandemic, the entire PS2 was conducted in online mode. Since, the project was in the design domain, there wasn't any such difficulty due to online mode. Our main mentor was very helpful and supportive. Apart from him, we also had a 2nd mentor for our daily queries. We used to have 2 meetings per week for discussing the plan for the week and progress so far. In every meeting, we used to receive constructive feedback and they used to give some (not many) inputs to work upon. There was no 'spoon feeding' which was a great thing as it is necessary in order to facilitate the transition from college life to job life in a smooth manner which is the sole

purpose of Practice school program. The experience would have been better had we gotten a chance to visit the company which we couldn't due to the pandemic. Overall, we learnt a lot from all the mentors and the company had a positive work environment.

Academic courses relevant to the project: Mechatronics and automation, Machine design and drawing, Fluid mechanics.

PS-II Station: Asteria Aerospace Pvt. Ltd. , Bangalore

Faculty

Name: Seetha Parameswaran

Student

Name: VISHNU NARAYANAN (2017A8PS0356P)

Student write-up

Short summary of work done during PS-II: I work in the Avionics department at Asteria Aerospace. I am an intern at the Avionics Embedded software team. My project was related to computer vision in an unmanned aerial vehicle. The objective was to implement precision landing in an unmanned aerial vehicle using a smart camera and ArUco tags. Precision landing is one of the advanced onboard capabilities of a UAV. ArUco tags are a type of fiducial markers like QR code which help in the estimation of its position. When the ArUco tag is kept in front of the smart camera, the camera detects the marker and its position relative to the camera. The smart camera that was used in this project was the JeVois A-33 smart camera. The ArUco detection module was created in JeVois using Python and OpenCV. The information about the ArUco marker was obtained by the camera and the position was estimated. This position was now to the sent flight controller to take necessary action. The flight controller only understands

MAVLink messages, so it becomes necessary to install all the necessary MAVLink libraries and dependencies. MAVLink protocol packs the messages into buffer arrays and sends them to the serial port. This was implemented and precision landing messages were sent to Mission planner software. The simulation and onboard testing is yet to happen. The final work is to document everything that has been done by me and submit to the organization for future use.

Tool used (Development tools - H/w, S/w): Hardware - JeVois Smart camera.
Software - JeVois Inventor, Mission Planner, SITL, Virtual Box, MAVProxy.

Objectives of the project: To create an ArUco detection module and send precision landing messages.

Major learning outcomes: Learnt about computer vision applications in unmanned aerial systems as well as work structure of a professional space.

Details of papers / patents: No paper published

Brief description of working environment, expectations from the company: The organization consists of people who are really passionate about what they do. Hence, the working environment is quite productive. The interns are also considered as employees, who like other employees work under their team leaders. The team leaders assign work to their employees in their respective teams and also get involved in some of their work. As an intern, I learnt a lot about the work culture and different technical things. The employees are willing to take their time out and help others out with their problems. Productive discussions about different solutions to a problem go on between different teams and employees. Whenever I have asked a doubt to team members, they have tried their best to help me out with some solutions. The daily stand up meetings ensure that the whole team is on the same page. This way everyone can now what other team members are working on and can help them if they face an issue with the work. The company expects the interns to work as seriously as their employees.

Academic courses relevant to the project: Some of the academic courses were relevant to the project. Courses like computer programming and neural networks and fuzzy logic were the most relevant courses for this project.

PS-II Station: Atyati Technologies, Bangalore

Faculty

Name: Febin A Vahab

Student

Name: PRATEEK CHANDORIKAR (2016B3AB0454H)

Student write-up

Short summary of work done during PS-II: Worked on automation and testing using JAVA selenium.

Tool used (Development tools - H/w, S/w): JAVA Selenium, TestNg.

Objectives of the project: Create test case senarios and test cases for different processes of the web service.

Major learning outcomes: Building frameworks, using java and selenium, understanding hierachy.
Details of papers / patents: Deliverable to the company.

Brief description of working environment, expectations from the company: Working environment is very supportive, flexible and focuses on learning, work is not that extensive.

Academic courses relevant to the project: Econometrics, FRAM (Because learnt programming for those courses).

PS-II Station: Bharat Forge Ltd., Pune

Faculty

Name: Naga V K Jasti

Student

Name: Rohan Barbade (2017A4PS0342H)

Student write-up

Short summary of work done during PS-II: I worked on the design and development of an experimental setup for fretting fatigue tests. Any contacting surfaces can have fretting fatigue, which leads to failure much before the expected lifetime. I developed a robust but movable set up, which can do the fretting fatigue test when mounted on a Material Testing System or Universal Testing Machine. The contact surfaces used were contact cantilevers. I used PTC creo modeling software to model the setup. Mechatronic devices like load cell and amplifier were used to measure each contact cantilevers' load. The electrical readings were converted to load values using Arduino. I also carried out thorough force analysis on the setup's various components to identify the critical parts assuming the material to be structural steel. Then, I found out the material property requirement of all the setup components and suggested the materials accordingly.
Tool used (Development tools - H/w, S/w): PTC Creo, Arduino, ImageJ.

Objectives of the project: Design and development of an experimental setup for fretting fatigue tests.

Major learning outcomes: Fretting fatigue, Creo modelling, Arduino usage, Material properties and selection.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment was amicable. We had no fixed working hours and just had to submit the work done every week on saturdays. Our mentors were very knowledgeable and always ready to help us. The HR people were pleasant as well. The company expected us to give some valuable output at the end of 5 months. Our mentors always pushed and motivated us to try to reach our final objective. My supervisors broke the project into many smaller tasks, which helped me complete my project on time.

Academic courses relevant to the project: Machine design and drawing, Mechatronics and automation, Advanced mechanics of solids.

PS-II Station: Birla Carbon, SKI Carbon Black (India) Pvt. Ltd. , Renukoot

Faculty

Name: Samir Kale

Student

Name: SHUBHANG SRIVASTAVA (2017A7PS0073H)

Student write-up

Short summary of work done during PS-II: Worked on computer vision techniques to build and deploy a combined hardware-software solution using a Raspberry Pi and its camera to monitor plant safety parameters and provide real-time output of processed video.

Tool used (Development tools - H/w, S/w): Anaconda, Spyder, Python, OpenCV, Raspberry Pi, Raspberry Pi HQ camera.

Objectives of the project: To automate manual safety checks done by humans to a more robust computer backed one.

Major learning outcomes: Learnt about plant processes, explored Raspberry Pi, computer vision techniques as well.

Details of papers / patents: All details protected by NDA.

Brief description of working environment, expectations from the company: Very healthy and supportive working environment. Reasonable work load. Mentor was very helpful and supportive.

Academic courses relevant to the project: Machine Learning.

PS-II Station: Blue Jeans Network India Pvt. Ltd., Bangalore

Faculty

Name: Akshaya G

Student

Name: METLAPALLI VENKATA SAI KARTHIK (2017A7PS0260H)

Student write-up

Short summary of work done during PS-II: Log files are essential part of understanding the events generated and communication messages among various components when a software runs. Metrics provide objective measures of performance, and this data enables us to transform both the customer requirements as well as operational performance to numbers which can be compared. As part of this project, I have understood call logs for bug detection and to understand the propagation of various messages and events during the call. I have worked on developing and testing a functionality for load testing of various capacity metrics sent by all components to service called metricmgr. This helped in understanding the CPU load and the threshold rate of sending metrics that a pod in the cluster can handle before it crashes. I have also worked on adding a new functionality to send various SIP call leg stats for different end points to Prometheus pod.

Tool used (Development tools - H/w, S/w): I have used Python scripts for implementing my project. Other technologies involve Prometheus, Google Protocol Buffers, AWS, Kubernetes, New Relic.

Objectives of the project: The main objective of implementing load testing of metrics is to understand the CPU load and the threshold rate of sending metrics that a pod in the cluster can handle before it crashes. And current implementation only supports capacity metrics.

Major learning outcomes: This internship provided me hands on experience in using and developing with Kubernetes. It also helped me understand about cloud computing platform like AWS. I came to know about several protocols and strategies while understanding the Sequin architecture. Various setups and tasks helped me use several tools like JIRA, Atlassian Git, New Relic, Minikube, Docker etc. I have also gained insights into writing quality code that meets the industry standards. This opportunity has introduced me to various tools like New Relic, Prometheus etc., and several other new concepts which helped me to greatly enhance my learning experience. Various group discussions, seminars which are part of Practice School have improved my communication skills and confidence levels. Finally, the sprint meetings, interactions with my mentor have widened my understanding skills and time management skills.

Details of papers / patents: No patents

Brief description of working environment, expectations from the company: BlueJeans provides an optimal work-life balance. All team members are very friendly and supportive. One gets a whole corporate experience while working here. This also provided me the opportunity to work on the latest technologies like AWS, EKS, etc. This opportunity played a vital role in my career development and understanding my interests.

Academic courses relevant to the project: Computer networks, Cloud computing.

PS-II Station: Blue Yonder (JDA), Bangalore

Faculty

Name: Vineet Kumar Garg

Student

Name: MEENAL MANSINGHANI (2016B1A10640P)

Student write-up

Short summary of work done during PS-II: Worked with the intelligent platform team to develop a GUI for node optimization operation in database health check project using Python. Also developed a data dashboard to read SQL loader log files, extract data, generate useful insights in the form of tables, graphs and charts, and detect outliers.

Tool used (Development tools - H/w, S/w): Python, SQL, HTML, CSS.

Objectives of the project: GUI development for node optimization & dashboard development for log analysis.

Major learning outcomes: Worked with data analysis and visualization tools like Pandas, Matplotlib and Seaborn, learnt GUI development as well.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Support was provided by my team throughout the internship, regular progress meetings were scheduled which ensured good quality and timely completion.

Academic courses relevant to the project: DBMS

Name: ARUSHI CHOUDHARY (2016B2A80872P)

Student write-up

Short summary of work done during PS-II: There were a lot of processes that are done manually. We tried to automate it to avoid human error, to improve efficiency and the speed of tasks that were previously done by humans. The implementation of automation systems, techniques and processes increases the efficacy, efficiency, and / or speed of several activities that were previously performed by humans. We tried to automate strategy and parameter file movement. We designed a user interface for this. These files are important for TMS to carry out optimization requests. We also automated AppD configuration, Log archive and backup. A self-healing system can proactively track and recognize a possible deviation from its standard parameters, confirm it with a degree of trust and restore regular operations without human intervention. We want to take the initiatives to check for the health for any TM (Transport Manager) or its subsidiary component and takes the remediation action.

Tool used (Development tools - H/w, S/w): Django Framework, Python, MS SQL

Objectives of the project: Automation of AppD configuration, PoC for file changes, automating the SFTP system, automating the strategy and parameter file movement, designing UI using django framework.

Major learning outcomes: Python, File handling in python, Use of various modules in python, Django, CI / CD pipelines, automation, designing UI using Django, Using MS SQL server database in application, using materializecss, automating the SFTP system, PoC for file changes.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: I learnt a lot. My team was very helpful, mainly my manager. We had a meeting almost everyday to check the progress of the project. It was overall a positive experience for me.

Academic courses relevant to the project: Any course in python.

Name: AASHI AGGARWAL (2017A3PS0574H)

Student write-up

Short summary of work done during PS-II: I was allotted warehouse management team, which looked after the maintenance and enhancement of the WMS website. I spent the initial weeks watching some training and education videos and getting a functional overview of the company. The first few tasks assigned to me were simple UI -based defects which could be fixed using ReactJS. Through these, I was acquainted with the process of deployment and other things. Later on, I was assigned tasks to write or modify APIs and SQL queries, or designing a custom filter save and search option, etc. The difficulty level of the tasks was moderate.

Tool used (Development tools - H/w, S/w): SpringTool suite, Postman, Azure DataStudio, Stash and Jenkins.

Objectives of the project: (Software) Product development.

Major learning outcomes: Javascript and ReactJS, Sprint Boot and Microservices, SQL, Azure Fundamentals, Git Commands.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The mode of work was online yet I got a complete exposure to the office culture. The working hours were flexible (mandatory 8 hrs a day). This increased work-productivity while maintaining the work-life balance. There was an expected communication gap due to virtual meets yet the team members, including the manager, were very supportive and provided exemplary guidance whenever required. The manager used to set up a daily meet to check the progress of the team. There were no hard deadlines for the allotted tasks, hence it was a matter of integrity to finish the tasks in an appropriate duration of time. You work individually and independently but the team members were always present to assist whenever required.

Academic courses relevant to the project: OOP, DBMS.

Name: SIDDHANT SINGH (2017A4PS0579G)

Student write-up

Short summary of work done during PS-II: Developed, tested a tool for the BY server. Tool was developed to efficiently manage backups on the server. Completed the backend, front-end of the tool.

Tool used (Development tools - H/w, S/w): Php, powershell, SQL, WAMP, bootstrap.

Objectives of the project: Work as a cloud intern at BY. Develop tools to ease automation and management on BY server.

Major learning outcomes: Web-development, testing.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Managers and mentors guide you for everything. Encouraging, positive working environment.

Academic courses relevant to the project: None

Name: SISTLA SOUMYA (2017AAPS0302H)

Student write-up

Short summary of work done during PS-II: 1) Delivering customer cumulative patches to customers when they request certain additional functionalities or bug fixes. This includes building the env, generating the patch and delivering the executables to the customer. I have delivered over 45 global customers during PS2.
2) Refreshing the cache file without restarting the server whenever new commands are added by running a JAVA thread based task locally. This cuts down the time taken for developers.

Tool used (Development tools - H/w, S/w): ANT, MSSQL 2017, Oracle, VSCode, Git.

Objectives of the project: 1) Delivering high priority bug fixes to the customer.
2) Refreshing the cache file without restarting the server.

Major learning outcomes: JAVA, Linux platform, Git, SQL, Oracle, Communication, Collaboration.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The work environment in BY, Bangalore is very good. Everybody in the firm is very helpful, encouraging and understanding. My mentor and manager tried to get me as much exposure as possible. The

work load isn't hectic and is manageable. However you cannot expect any development work for PS2 work. PS2 intern is most likely to work on Customer Care, Dev Ops or Cloud.

Academic courses relevant to the project: Object oriented programming (OOP), Operating systems (OS).

Name: P G PADMA VILOCHANI (2017ABPS0353P)

Student write-up

Short summary of work done during PS-II: Worked on two projects. One related to developing a testing tool for OIDC configurations and the second one was developing microservices using spring boot for yard management.

Tool used (Development tools - H/w, S/w): Java, Spring Boot , MS SQL server.

Objectives of the project: 1. Automate diagnosing issues related to OIDC log-in.
2. Develop a microservice for appointments feature in yard management.

Major learning outcomes: Spring boot, Spring data.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Relaxed working environment. Not much work load. Need to proactively ask for work. My team was very helpful in terms of learning new tools / tech required for projects.

Academic courses relevant to the project: N/A

PS-II Station: BNY Mellon Technology, Pune

Faculty

Name: Sonika Chandrakant Rathi

Student

Name: ANSHUL SHRIVASTAVA (2016B2A70602G)

Student write-up

Short summary of work done during PS-II: Web application testing using Selenium, Java,TestNg and Cucumber.

Tool used (Development tools - H/w, S/w): Selenium, Java,TestNg and Cucumber, Eclipse.

Objectives of the project: Automation (Web application testing).

Major learning outcomes: Web application testing.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Work environment was a bit hectic, varies from team to team, got to learn a lot, mostly gives PPO if your work properly completing tasks in time.

Academic courses relevant to the project: OOP, DSA, DBMS, CP.

Name: LIPI DEEPAAKSHI PATNAIK (2016B2AA0898H)

Student write-up

Short summary of work done during PS-II: Responsible for
- automating flow, management and storage of financial data
- automation of weekly mails
- documentation of financial forms and database changes

Tool used (Development tools - H/w, S/w): Pentaho, Excel, VBA, Sql Toad, Ms Access, Eclipse IDE, Javascript.

Objectives of the project: To automate the flow of financial data.

Major learning outcomes: Learning new softwares, Experience with fintech and corporate culture.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Work enivironment was healthy and friendly and has a structured outlook. Company - from the HR to the mentor - was welcoming.

Academic courses relevant to the project: DBMS, OOP but not essential to have done them, the work is understandable.

Name: DEEPAK DIVYA TEJASWI (2016B3A70320G)

Student write-up

Short summary of work done during PS-II: Developed and maintained a test framework and test cases for testing of a web application.

Tool used (Development tools - H/w, S/w): Eclipse for Java, Cucumber, TestNG, Selenium, RestAssured, Git, Jenkins, JIRA.

Objectives of the project: Develop and maintain test scripts.

Major learning outcomes: Test automation development in Cucumber and TestNG.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Very helpful and kind mentors and colleagues. Code quality was not good and hence maintaining it was a big hassle.

Academic courses relevant to the project: CP, OOP, DSA, DBMS.

Name: MILONI MITTAL (2017A3PS0243P)

Student write-up

Short summary of work done during PS-II: My work was based on deriving quantitative and qualitative insights from an operations dataset. We implemented pipelines for benchmarking the dataset and used NLP models for the analysis on text aspect of the dataset.

Tool used (Development tools - H/w, S/w): Python, PowerBI, Excel.

Objectives of the project: The objective of the project was to obtain qualitative and quantitative insights from the operations dataset so as to increase the efficiency.

Major learning outcomes: Major learning outcomes were PowerBI and communication skills. Since, the project was fairly new, we had to talk a lot with the senior leaders who would actually use our work. We had to understand what would be useful and what wouldn't be useful for

them. I learnt PowerBI as all our output had to be displayed in the form of data visualizations which would help the senior leaders identify any red flag situations.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Great working environment. The managers are extremely friendly and helpful.

Academic courses relevant to the project: Used information retrieval to some extent.

Name: MOHAMMED MUNIR BURK (2017A3PS0604H)

Student write-up

Short summary of work done during PS-II: Primarily worked on data cleaning by creating ETL jobs using Pentaho. This was followed by data visualization and analysis on ThoughtSpot (a business intelligence tool). Also got to work on database management.

Tool used (Development tools - H/w, S/w): Pentaho, ThoughtSpot, SQL.

Objectives of the project: The aim was to improve operations insights by introducing a “Line of Business” and “Client” lens on operations data. This will enable Bank of New York to have a view across multiple datasets – for client and operations insights.

Major learning outcomes: Learnt how to use ETL and BI tools. Also learnt how to practically use relational databases.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment was extremely positive. There was never any pressure to work inhumane hours. My manager and team were extremely helpful. There was always emphasis on learning from

each other. Work expectations were occasionally challenging but always reasonable. There was a lot of opportunity to interact with senior leaders and other lines of businesses.

Academic courses relevant to the project: DBMS (which I hadn't done).

Name: ISHAAN TIWARI (2017A3PS0866P)

Student write-up

Short summary of work done during PS-II: Migrated all the Pentaho jobs at BNY from Brownfield to Greenfield, further updated all these jobs to tabulate the run-time features of the transformations in them. This would help optimize the jobs to work faster and be more robust.

Tool used (Development tools - H/w, S/w): Pentaho, Toad for Oracle.

Objectives of the project: The project aimed at the automation of anomalous production jobs. These jobs were very critical and hence the detection of failures was important. Moreover, we would be able to optimise these jobs to better work on certain inputs they struggle with, given appropriate results.

Major learning outcomes: Learnt a lot about database management, inside a very practical environment.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The company culture is great. BNY has helpful and approachable mentors, and timings that fit my schedule well (1:00 PM - 9:30 PM with breaks in between for lunch and dinner). There's also a good focus on communication and keeping everyone up to date when working on a certain project.

Academic courses relevant to the project: No, the relevant course would have been DBMS which I had not done officially from BITS, but had learnt elsewhere.

Name: SUJEET SRIVASTAVA (2017A4PS0503P)

Student write-up

Short summary of work done during PS-II: The interns were involved as data modellers on thoughtspot and were working on setting up of dashboards along with the ETL jobs on Pentaho to automate the pulling of data and dynamic refreshing of dashboard. There were no pre-requisite and relevant trainings were provided.

Tool used (Development tools - H/w, S/w): Pentaho data integration, Thoughtspot, Tableau, Angular.

Objectives of the project: The main objective of the project was to release the thoughtspot for business users and get them working on it. Apart from this, ensuring smooth transfer of data and proper data cleaning were other objectives.

Major learning outcomes: Learnt ETL tools like Excel, SQL, Pentaho and Power BI. Got exposure to work in a corporate environment and improved presentation skills.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment is great. I got a chance to work with people in different time zones. The people over here are really helpful and friendly and you will never feel overburdened.

Academic courses relevant to the project: No relevant course as such.

Name: SHUBHAM JAJU (2017A4PS0819H)

Student write-up

Short summary of work done during PS-II: The project was targeted for 13 datasets to create a 360 view and see data in conjunction to derive insights. I had the responsibility of seeing 5 of these datasets ETL automation done properly. Additionally I was given the responsibility to make a new dataset namely location bridge table to link up these datasets on location to create a global heatmap and location filter. The ETL jobs were made using the Pentaho tool which had a learning curve. Once the jobs were made the data was uploaded on ThoughtSpot via vertica and we were free to create pinboards and worksheets to derive business insights and setup basic worksheets for business users to use.

Tool used (Development tools - H/w, S/w): Python, Pentaho, ThoughtSpot, PowerBI.

Objectives of the project: 2 releases of chosen datasets and new datasets on ThoughtSpot. This is to aid the long term 360 view of operations and the first steps in the same direction.

Major learning outcomes: Pentaho, ThoughtSpot, data modelling & data visualization.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Work environment was good and the expectations were realistic with emphasis on learning and exploring stuff as an intern at the bank. We were encouraged to take participation in competitions going on in the bank and were made aware of different data pillars and their workings through presentations.

Academic courses relevant to the project: None

Name: MEHUL AGRAWAL (2017A7PS0054H)

Student write-up

Short summary of work done during PS-II: Worked with the revenue and billing services team to automate key operational tasks using VBA, and Microsoft SharePoint.

Tool used (Development tools - H/w, S/w): VBA (with MS Excel), Microsoft SharePoint.

Objectives of the project: Automate operational tasks for the revenue and billing services team within BNY Mellon.

Major learning outcomes: Worked with VBA, and Microsoft SharePoint to design and develop tools and websites for people of various teams. Learnt to coordinate with various stakeholders in the development cycle of a tool. Learnt about the functionings of financial markets, investment and custodian banks, and the role of technology in investment banking.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: BNY Mellon has a good and open culture, and everyone is very supportive. At operations, one can expect good opportunities to work with people from various teams and backgrounds, and to learn more about the organization. The entire company is also going through digital transformation at a huge scale, which presents opportunities of its own.

Academic courses relevant to the project: Computer programming.

Name: Rohan Kumar Rohil (2017B4TS1214P)

Student write-up

Short summary of work done during PS-II: I worked on a couple of projects involving software (application) development and quality assurance for automation leading to technology innovation in advanced data analytics and visualization. The first project began with understanding the operations requirements and transforming the same into the form of business requirements documentation. I developed the application model on an in-house platform from scratch to completely automate the pertaining process. It has significantly reduced the manual efforts as well as the time required to perform the task. The utility developed got through a thorough quality assurance mechanism, and was deployed to go live on the production system.

I completed the necessary documentation for the users as well. Thereafter, the concerned team has been using the utility to carry out the particular operations process. Later, I worked on another project pertaining to a process that again involves a massive amount of manual intervention which takes quite long. I began with exploring the backend database and deciphering the process-flow for the same. Having done that, I furnished an architecture for the application to be built. I implemented several modules of the application, and furnished proper documentation for the same.

Tool used (Development tools - H/w, S/w): In-house tools and platforms, along with some open-source technologies.

Objectives of the project: The objective of the project has been technology innovation in advanced data analytics and visualization for building efficient and economic solutions.

Major learning outcomes: Software / application development, Quality assurance, Data analytics, Data visualization, Soft skills (team-work, communication, presentation and interpersonal skills).

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment of the company is highly conducive for learning to innovation. I found the managers and other senior executives to be highly approachable. Colleagues are quite friendly and supportive, providing with spot-on inputs on the projects. An amazing learning environment, and a great place to work!

Academic courses relevant to the project: Indeed, the learning outcomes of a number of on-campus (academic) courses came in handy with the project-work that was assigned to me at the company. Especially, the courses in computer science proved to extremely relevant.

PS-II Station: Bosch Research and Technology center, Bangalore

Faculty

Name: Akanksha Bharadwaj

Student

Name: ARYA BHATTACHARYYA (2016A7PS0068P)

Student write-up

Short summary of work done during PS-II: My work involved doing independent research in the field of computer vision, wherein I read papers, implemented models and suggested improvements.

Tool used (Development tools - H/w, S/w): Pytorch, Python, OpenCV.

Objectives of the project: To create generation invariant algorithms for vision models.

Major learning outcomes: Computer vision, Independent research, End to end development.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment was friendly and supportive most of the times. Expectations were straightforward. Work on projects and find new ideas over time.

Academic courses relevant to the project: Machine learning, Information retrieval.

Name: J. LAKSHMI TEJA (2017A7PS0068P)

Student write-up

Short summary of work done during PS-II: The project was about improving semantic segmentation results, with a huge but sparsely annotated dataset using active learning approaches. 2 approaches were experimented: one was encoding image patches using self-supervised models like SimCLR, SimCLRV2 or SwaV, and then doing a binary classification with SVM. The other approach was to use siamese networks to learn a proper distance metric between image patches and segmentation results. The results of both the approaches were compared, and analysed.

Tool used (Development tools - H/w, S/w): PyTorch, scikit-learn, opencv.

Objectives of the project: Improving semantic segmentation results using active learning.

Major learning outcomes: A really good project in computer vision.

Details of papers / patents: None

Brief description of working environment, expectations from the company: My mentors were very friendly, and helpful. The work hours were relaxed and flexible. The only issue was that, the initial setup of the cloud workspace took very long, due to internal technical issues within the company.

Academic courses relevant to the project: Machine learning, Data mining, NNFL.

Name: SISTLA NAGA SAI MANEESH SARMA (2017A7PS0238H)

Student write-up

Short summary of work done during PS-II: The aim of this research was to identify and develop an efficient system which can perform a successful retrieval task with traffic sign

images. The absence of a large number of training examples for a class often raises an issue when training a large capacity learner. Hence, we looked into methods of primarily extracting features for traffic sign images.
Once a suitable architecture was chosen, we analysed the characteristics of the Bosch internal dataset and decided on the best approach to fitting it to the neural network model. Our data was used during the inference step, while the architecture was trained on comprehensive open source supervised traffic sign datasets.

Tool used (Development tools - H/w, S/w): PyTorch, CUDA.

Objectives of the project: The aim of this research was to identify and develop an efficient system which can perform a successful retrieval task with traffic sign images.

Major learning outcomes: Computer vision techniques, PyTorch, Transfer learning.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Onus is on the interns to be responsible, no hard deadlines, friendly and helpful mentors.

Academic courses relevant to the project: Yes. Data science course.

PS-II Station: Bridge Your Network Inc., Bangalore

Faculty

Name: Ashish Narang

Student

Name: KRISHNA DATTA (2017A7PS0007G)

Student write-up

Short summary of work done during PS-II: Our current role in engineering as product engineering interns involves building a comprehensive service to build a healthy network and keep track of it. We're involved in improving and developing features as part of an automated end-to-end system. Features include introducing people to each other while allowing for full autonomy, keeping track of the feedback for every introduction to maintain a healthy and reliable network, and allowing introductions between custom groups of people. Bridge seamlessly combines email contacts and LinkedIn contacts to turn your Gmail client into a powerhouse of networking.

In more concrete terms, the role involves feature implementation and product development both on the front end and back end with the healthy mixture of both application as well as learning. Contemporary industry technologies like Ruby on Rails for backend development and react-native for front end development, along with several associated open source services and tools for testing, design, and documentation. Along with this, interns are also expected to be involved with consumer engagement and design processes, and encourages communication in an organization which encourages a flat organizational structure. Having been exposed to a very large number of perspectives on the product, insights pertaining to what a user might require in terms of improvements, features, or more efficient practices are learned. Bridge also affords interns the opportunity to make suggestions to the core fundamentals of the company itself, and specially for engineering interns, to recommend and implement their own ideas, something that may not be encouraged in a larger organization.

Tool used (Development tools - H/w, S/w): Apple hardware environment encouraged; GitLab, Figma, Notion, Airtable, PSequel, Whimsical; QAWolf, Storybook, Ruby on Rails, React Native.

Objectives of the project: It's not always practical to look for contacts from a long list of emails and follow ups; acting as a modern-day rolodex, with more than a few new features, we make the process of connecting high networking individuals to businesses, professionals to jobs.

Major learning outcomes: Development and feature implementation { Components; Test seed data; Database; Redux; Testing; Documentation }; Bug Fixes { Types }; Documentation { Task

preparation; Feature specifications }; Beyond the Code { Design; Communication; Scoping and Engineering prep }.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Wonderful learning environment, we were given full freedom to explore all verticals, communication is highly encouraged and sought after, and people are always available to mentor, collaborate or simply to talk to. Pays well, is looking for full time employees actively - keep in mind it is fully remote.

Academic courses relevant to the project: Computer programming; Database systems.

Name: SATYA SANTOSHA SUMANASA SOMU (2017A7PS0114H)

Student write-up

Short summary of work done during PS-II: I was involved in numerous tasks. The way work assignment is dealt with, here at Bridge, is sprint wise (2 weeks). It includes feature implementation and product development both on the front end and back end with the healthy mixture of both application as well as learning.

On a very high level, the types of tasks (engineering) one can work on are:

1. Feature implementation: (with / without complete ownership over the feature after the design handoff)
- Engineering task breakdown and estimates
- Front-end and / or back-end implementation
- Test scripts
- Documentation
2. Bug fixes
3. Contributing to the team's tech debt Eg. Refactoring or automation scripts

Tool used (Development tools - H/w, S/w): React Native, Ruby on rails, PostgreSQL.

Objectives of the project: To work on various features (front-end and back-end) that would be deployed in production and working on fixing various bugs or change requests.

Major learning outcomes: - Handling engineering tasks for features after design hand-off with complete ownership
- Contributing to the organisation beyond the code
- Using contemporary technologies like react native, ruby on rails etc for development
- Understanding consumer engagement and customer success

Details of papers / patents: NA

Brief description of working environment, expectations from the company: In addition to contributing through code, interns are highly encouraged to be involved with the product and design processes, which gives one a truly holistic view of the entire company and encourages communication in an organization which encourages a flat organizational structure. It is a very good place to work for exposure to responsibilities which might not be always possible for many years in bigger companies.
The team is very supportive in every way possible. Anything and everything can be discussed since they are all highly approachable.
The work assigned is completely based on the intern's interests and is discussed every alternate week. Since, the whole team is entirely remote (at the time I was working), there are no official work hours as such. You are expected to work for 8 hours a day and 5 days a week (Going beyond that is one's personal choice).
Major expectations would be to communicate well and having a great attention to details is highly appreciated in addition to excellent programming skills.

Academic courses relevant to the project: OOP, DBMS, Computer programming, DSA.

PS-II Station: Bunch Microtechnologies Pvt. Ltd., Noida

Faculty

Name: Sandeep Kayastha

Student

Name: DIVYE PRAKASH (2017A2PS1131H)

Student write-up

Short summary of work done during PS-II: Classplus is an EdTech based organization providing SAAS Mobile platform to empower hyperlocal coaching business which include private tutors or institutions. It is a B2B based company. The main motive of the work was to give our customers the best advice in order to grow their application, that is increase their overall application downloads, increase their course selling and their total revenue. My job included deriving new marketing strategies for the Team, writing content for the Brand Manager of the Team, personally mentoring more than 300 premium customers, understanding their queries and finding relevant solutions to them and analyzing our customers existing social media marketing techniques and suggesting them the improvisations to be made.

Tool used (Development tools - H/w, S/w): MS Excel, MS Word.

Objectives of the project: Main objective of the project was to help our customers with all new social media marketing strategies in order to increase their overall applications downloads, course selling and finally see to it their current figures on the excel data show significant.

Major learning outcomes: Dealing with 100+ clients on daily basis, understanding their queries and helping them with it has not only improved my problem solving ability and communication skills but has also made me more accountable towards a given job. Writing content regularly for the brand manager of the team has helped me improve my content writing skills. Handling the client data on MS excel has helped me gain a good grip on it.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The work culture at Classplus has been very simple and innovative. Working with such an friendly team has given me so many opportunities to learn new things, has made me more accountable towards a given job. The opportunity that I have got at Classplus is a very good start to my career in the non-technical side. Being able to talk to so many clients on a daily basis has definitely helped me improve my problem solving ability, management and communication skills, which in today's date is very important to work in the non-technical sector. And the opportunity of leading the team of interns has boosted my confidence levels and has helped me improve my team building skills.

Academic courses relevant to the project: None

PS-II Station: Burncal Healthcare Pvt. Ltd., Ahmedabad

Faculty

Name: Lucy J. Gudino

Student

Name: JESWIN ELDHO (2017A3PS0399G)

Student write-up

Short summary of work done during PS-II: Full stack web development.

Tool used (Development tools - H/w, S/w): ReactJS, firebase.

Objectives of the project: Web development.

Major learning outcomes: ReactJS and React Native.
Details of papers / patents: None

Brief description of working environment, expectations from the company: Good work environment, they will help you with all the technical issues.

Academic courses relevant to the project: None

Name: NAIK PRANAV RAJEEV (2017A8PS0658G)

Student write-up

Short summary of work done during PS-II: There were a few projects that were undertaken the course of the internship:
1) Training and testing a neural network to detect static human poses (to get used to the tech stack).
2)Build an android application to detect rep counts, rep scores and give appropriate audio-textual feedback to the user.
3) Build an android application for assessment of the user's fitness level during the course of a series of exercises.

Tool used (Development tools - H/w, S/w): Java, Python, Tensorflow Keras, Android studio.

Objectives of the project: Deep learning and android development.

Major learning outcomes: Leant how to create custom datasets and train and test a neural network on it, android app development.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Burncal is a startup based out of Ahmedabad. The work was done remotely. My mentor was Mr. Kunal Agarwal during the internship who is very helpful, solves all doubts and clarifications, and I learnt a lot under him. The other co-founders of are also very pleasant to talk to and it is a very encouraging environment to work in. They do not treat you as an intern and value your opinions. Even though the company is small currently, you will learn a lot.

Academic courses relevant to the project: Computer programming, Object oriented programming, Neural networks and fuzzy logic.

PS-II Station: CASHe, Hyderabad

Faculty

Name: Uma Maheswari N

Student

Name: YASH AIREN (2017A8PS0981G)

Student write-up

Short summary of work done during PS-II: My work was in data science related python programming, data visualisation and modelling basics. Used numpy, pandas, plotly, matplotlib and other libraries.

-> Developed a model wherein, based on a customer's history, it predicts a range of dates when the customer is most likely to take a loan.

-> Various plots that showed the comparison based on various parameters in which loan was requested by an individual during pre-covid and post-covid situation.

-> Made a real time dashboard using streamlit and folium which showed the login data of CASHe app on indian map.

Tool used (Development tools - H/w, S/w): Pandas, numpy, folium, flask.
Objectives of the project: To predict the next loan of a customer.

Major learning outcomes: Data visualization, Exploratory data analysis.

Details of papers / patents: None

Brief description of working environment, expectations from the company: 1) Productive atmosphere 2) Open and honest communication 3) Compassionate team members 4) Flexible time of working 5) Growth oppportunities.

Academic courses relevant to the project: Machine learning, Information retrieval.

PS-II Station: Central Electronics Engineering Research Institute (CEERI), Pilani

Faculty

Name: Pawan Sharma

Student

Name: TANVI PRASHANT GANU (2017A3PS1901G)

Student write-up

Short summary of work done during PS-II: Designed and developed an application for a structural health monitoring system for civil structures which is viewable in augmented reality. This application would enable real - time data and variable changes and would display immediate effects to the user.

Tool used (Development tools - H/w, S/w): Unity engine, Blender software, Ansys software.

Objectives of the project: Develop a structural health monitoring system viewable in augmented reality.

Major Learning Outcomes: In-depth understanding of few civil engineering concepts as well as use of the physics engines in Unity and Blender software.

Details of Papers/patents: Currently writing a possibly publishable paper on “Wind-load effects on structures”.

Brief description of working environment, expectations from the company: Communication with your guide as and when the work is done, usually twice a week. Expectations are to complete the objectives set by the mentor at the beginning of the semester in the project allotted.

Academic courses relevant to the project: MOW, CP, knowledge of AR.

Name: GOVIND SINGH (2017A4PS0554P)

Student write-up

Short summary of work done during PS-II: Structural health monitoring using deep learning.

Tool used (Development tools - H/w, S/w): Python, Neural network, Jupyter notebook.

Objectives of the project: Damage detection in a building.

Major learning outcomes: Read more than 30 research papers ranging from mechanical to electrical domain.

Details of papers / patents: No patents

Brief description of working environment, expectations from the company: It was WFH.

Academic courses relevant to the project: Vibrations mechanics.

Name: ATHARVA MAHESHWARI DHARWA (2017AAPS0266G)

Student write-up

Short summary of work done during PS-II: Diagnosing defects in steel is a critical part of the steel-manufacturing industry as detecting and classifying a type of defect not just saves cost by treating it appropriately but also increases product quality and production efficiency. Therefore, it is important to diagnose the defects in real time. In this study, we have compared several ML and DL models to find the most optimum solution to this problem. By using deep convolutional neural networks (DCNN) with class activation maps (CAM), we have been able to achieve a near-perfect accuracy of 98.89%. The results of the DCNN method are superior to all combinations of feature extractors such as LBP, LTP, CLBP, and AECLBP and classifiers such as SVM, logistic regression, random forest, and neural network under the same validation technique. Based on the results of the internship, we are targeting to write a paper about the outcomes of the study.

Tool used (Development tools - H/w, S/w): MATLAB

Objectives of the project: The aim of the project is to compare different ML and DL models to increase the accuracy for the steel defect detection and classification. For ML based models, various feature extractors such as LBP, LTP, CLBP, and AECLBP are to be used with a combination.

Major learning outcomes: Gradient descent, Linear regression, MATLAB skills, Multiclass classification, Logistic regression, Neural network , SVM, Random forest, CNN.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: My mentor at CEERI had been quite supportive of me throughout the PS journey. Despite the work from home mode of the PS, he understood the limitations and did his best to overcome it. Overall, the working conditions are ideal for anyone into research.

Academic courses relevant to the project: Machine learning, Deep learning.

PS-II Station: Central Leather Research Institute (CLRI), Chennai

Faculty

Name: Glynn John

Student

Name: OMKAR SANDEEP KULKARNI (2017A7PS1920G)

Student write-up

Short summary of work done during PS-II: Learnt about deep learning and neural networks and built an automatic leather defect classification system.

Tool used (Development tools - H/w, S/w): Python, google colab.

Objectives of the project: To build an automatic leather defect classification system using deep learning.

Major learning outcomes: Deep learning and neural network theory, usage of relevant Python libraries.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Working environment was good, company expected me to report my work every week or two.

Academic courses relevant to the project: NNFL.

PS-II Station: Centre for Development of Advanced Computing (CDAC), Pune

Faculty

Name: Ankur Pachauri

Student

Name: AAYUSH ATUL VERMA (2017A7PS0061P)

Student write-up

Short summary of work done during PS-II: Forms are an essential component for the convenient and structured transfer of information from or to the client. From booking flight tickets or carrying out a survey, forms always come in handy. Throughout the evolution of web developing technologies like HTML, CSS, and the latest JavaScript frameworks, the methods of

adding forms have also evolved. The structured layout and presence of distinct objects like text boxes, radio buttons, checkboxes, etc, create scope for automation of the creation of webforms using artificial intelligence. This project aims to bridge the gap between the increased demand for web forms with the need for tireless web development coding by creating a more comfortable method by automating the process using the latest AI techniques. It builds upon the idea of directly converting a simple image of a front-end GUI into a web form, thus cutting down the requirement of any hard coding. Using the latest machine learning algorithms in the field of NLP and object detection, we incorporate it with an HTML engine to achieve results with great accuracy to reduce the hassles of having to hard code similar templates over and over again. Using Optical Character Recognition (OCR), Image Extraction, and Natural Language Processing (NLP) technologies, the defining structure, and fields of a web form is obtained from a hand- drawn figure or an image file. The output of these machine learning models is fed to an HTML generating engine to obtain usable HTML code for our web pages.

Tool used (Development tools - H/w, S/w): Pytesseract, openCV, tensorflow, github, google colab, keras.

Objectives of the project: Webform automation using AI.

Major learning outcomes: Learnt various new and latest concepts in the field of machine learning.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The working environment was very welcoming. Our mentors gave us great leeway to research and build the project on our own. We were given weekly targets based on our previous week's progress and the meetings with our mentors. The domain was not constrained by them and we could look into various aspects during every stage of the project. They expected us to do an in-depth study of any technology that we planned to use for our project and to adhere to the weekly targets that were decided.

Academic courses relevant to the project: NNFL, Machine learning.

Name: JATIN BHATNAGAR (2017A7PS0072G)

Student write-up

Short summary of work done during PS-II: • Worked in a team of three, to develop an automated web-form generation service.
• Created REST APIs for image upload, executing ML models using Node.js (Express).
• Worked on custom object detection Model based on YOLOv3 algorithm.
• Created docker containers for deployment of the application.

Tool used (Development tools - H/w, S/w): Node.js, Express, Flask, TensorFlow, OCR.

Objectives of the project: Automate webform generation using AI.

Major learning outcomes: Learnt about fullstack development using Node.js, built UI, REST APIs and data pipelines for the application.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Worked remotely, had weekly meetings with mentors to receive feedback on the work done so far and to discuss future tasks. The mentors were very flexible with the progression of the project, design decisions and tech stack to be used. More balance between structured & well defined deliverables/tasks and flexibility might have been better.

Academic courses relevant to the project: Machine learning.

Name: Pratik Rajesh Kakade (2017A7PS0086P)

Student write-up

Short summary of work done during PS-II: The first phase of the project was to study the fundamental nature of the tech stacks used in the Big Data ecosystem and the High-Performance Computing (HPC) domain. Based on that, we had to identify the problems that existed in the convergence of the two domains and design a workflow to make use of Big Data software on CDAC's supercomputer. For this, we had to study solutions that had been developed and research papers that had been published to build upon an optimal solution. We then developed a web interface for Big Data users that took away the complexity and the nitty-gritty details of having to understand the solution, and how to use the supercomputer.

Tool used (Development tools - H/w, S/w): Hadoop, Bash, Slurm, VMware (CentOS), Apache web server, PHP, JavaScript, HPC.

Objectives of the project: The objective of this project was to successfully execute Big Data software on top of CDAC's supercomputer despite the inherent differences in the architectures and design a workflow for future Big Data researchers to make use of the computing resources.

Major learning outcomes: Familiarity with the Big Data ecosystem and HPC ecosystem.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The mentor at CDAC was really kind, experienced and helpful. He would provide his guidance whenever asked for. At CDAC, the advantage is that you can get to learn a large and diverse tech stack and that you have complete responsibility for your project. Thus, your project can be extremely fruitful. The drawback, however, is that you aren't constantly supervised, so would require you to be motivated yourself to see the project through to the end.

Academic courses relevant to the project: None

Name: DESHMUKH ADVAIT MAHESH (2017A7PS0155P)

Student write-up

Short summary of work done during PS-II: I was part of the team working on "Convergence of HPC and Big Data". As both the fields were fairly new to us, we started by studying basics about those fields and the difficulties around there convergence. We created an interface that enables a big data user to submit their hadoop jobs to a HPC cluster by using an open source project Magpie.

Tool used (Development tools - H/w, S/w): We had been given access to the cutting edge hardware at CDAC. We also used a test-bed setup cluster for experimentation. We worked with SLURM, Hadoop, Bash scripts, Parallel programming techniques, HTML, CSS, JS, Bootstrap and apache web server while development.

Objectives of the project: To enable running of Big Data Jobs on a traditional HPC hardware.

Major learning outcomes: We gained a lot of technical and non-technical skills throughout the project duration. We learnt to organize, plan and collaborate on projects with people. We had to learn and adapt quickly to the project domain. We also learned about the domains of parallel programming, Big Data, software design and user experience.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: From the beginning we were assigned mentors for each project. Our mentor, Dr. Smarit Kumar Maity sir helped us understand the basics and guided us throughout the project as we attempted to provide a solution. We were provided with carefully designed modules to gain understanding of project domain and later given resources to execute our task of building a convergence platform.

Academic courses relevant to the project: NA

PS-II Station: Cisco Systems (India) Pvt. Ltd., - Software Engineering, Bangalore

Faculty

Name: Raja Vadhana P

Student

Name: RAYYAN SHAIKH (2017A3PS0351H)

Student write-up

Short summary of work done during PS-II: The work included merging and porting the scripts from a previous infrastructure to a newer infrastructure known as vTest. It included scripting different test cases and validating them on the testbed allotted.

Tool used (Development tools - H/w, S/w): Ubuntu, Python, SSH, REST API's.

Objectives of the project: To have a more dynamic and scalable infrastructure for the scripts.

Major learning outcomes: Learnt how different layers in computer networks works. Came to knew about different network protocols and how they can be used in combination with each other.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The working environment is quite good. Everyone is ready to help if any problem is faced. The learning curve is exponential in CISCO. The company expects you to complete the allotted work on time and be in touch regularly with the mentor.

Academic courses relevant to the project: Computer programming, OOP.

Name: ISHAN BANSAL (2017AAPS0356G)

Student write-up

Short summary of work done during PS-II: Cisco offers Software Defined WAN (SD-WAN) which is a cloud architecture that separates data and control planes, managed through the Cisco vManage console. The internship experience includes the understanding of the SD-WAN architecture and to write code for creating and validating network features currently in development.

Tool used (Development tools - H/w, S/w): Vim, Nginx, VSC, Github.

Objectives of the project: Validate and develop network features.

Major learning outcomes: vTest framework, SD-WAN architecture, Computer networks.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The working environment was great. Although, it was a work from home internship, I was still able to have very good interaction with the team while working with them. The team was also very helping which facilitated me to doing better on my own projects.

Academic courses relevant to the project: Few concepts of communication network would be beneficial to know.

Name: VENKATA SAI KARTHIK JAGINI (2017AAPS0371H)

Student write-up

Short summary of work done during PS-II: Developed a tool that exports all scripts in on go, and list out the import-sequence and the dependencies among the scripts. The scripts are created by extracting the header from the data present in the database.

Tool used (Development tools - H/w, S/w): Powershell, Batch and MFC application.

Objectives of the project: The inter-dependencies among the scripts are to be extracted by combining the data available across the various tables in the scripts' database. A functionality to export single script exists, we need to create a standalone tool that performs batch-export.

Major learning outcomes: Learnt SQL and powershell commands. Understood the microsoft SQL server studio and its usage. MFC application structure and development. Handling and navigating through code-base of an application. Understanding and implementing software development lifecycle, to our approach.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The workplace and culture of the company is very good. There is a good work-life balance. Very friendly and easy to approach team and higher management. Regular meetings with manager and mentor made the learning process comfortable. Focus was given on my learning rather than completing the projects on deadlines.

Academic courses relevant to the project: Data structures and algorithms, DBMS.

PS-II Station: Cisco Systems (India) Pvt. Ltd., - Hardware, Bangalore

Faculty

Name: Raja Vadhana P

Student

Name: KISLAYA KUMAR (2016B2A30754P)

Student write-up

Short summary of work done during PS-II: As a part of the physical design team, my job was to go through the entire PnR flow for the assigned block. The work also included timing and power analysis. DRC, LVS and other signoff checks were also part of the project. The first 2-2.5 months of the internship was training, where the mentors taught us the theory behind physical design.

Tool used (Development tools - H/w, S/w): Synopsys design compiler, IC validator, Primetime, Cadence innovus.

Objectives of the project: Performing physical design for given block.

Major learning outcomes: Physical design and its Significance.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The internship was completely wfh laptop that was provided by the company. The mentors were very helpful and made sure we understood what we were doing. The work was interesting and is more analytical (since most steps in the physical design flow are done automatically and not much to be done manually). PPO depends on managers feedback (intern has to give a presentation to the team on work done, and they treat it like an interview. I was asked questions on the theory of physical design in detail.

Academic courses relevant to the project: ADVD (fabrication and layout part of the course are somewhat relevant, however physical design is not exactly covered in advd).

Name: AGASTYA SAMPATH (2017A3PS0359P)

Student write-up

Short summary of work done during PS-II: Design of CRC32 block; Study and presentation on GZIP/TLS; Study and presentation on usage of Wireshark and Tshark; Design of traffic generator using Tshark and Python for packet extraction scripting purposes; Work on the Testbench for hardware accelerator in the following areas – CPU R/W test, Random data generator class, testing of the GZIP offload, testing of the GUNZIP offload, design of the AES-XTS sequence class.

Tool used (Development tools - H/w, S/w): SystemVerilog (with UVM), Synopsys VCS, Tshark, Python, C.

Objectives of the project: To design a real-time traffic capture script that extracts relevant data from the network packets, and to assist in the implementation of the testbench for testing the hardware accelerator functionalities.

Major learning outcomes: RTL design and verification methodology, usage of the involved tools, hardware accelerator design elements, network protocols, and working effectively in a team online.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The work was online, conducted through the company's platforms - there were no problems on that front. The mentor and manager were supportive, and the team regularly engaged in work as well as in fun activities occasionally. The project met my expectations in terms of the domain assigned and the work done.

Academic courses relevant to the project: Digital design, Analog and digital VLSI design, Communication systems, Operating systems, Computer architecture.

PS-II Station: Classplus, Noida

Faculty

Name: Sugata Ghosal

Student

Name: SAKSHAM MAHESHWARI (2017A3PS0568H)

Student write-up

Short summary of work done during PS-II: Created blogs in Wordpress, and created components for the component library in ReactJS.

Tool used (Development tools - H/w, S/w): ReactJS, HTML, CSS, Wordpress.

Objectives of the project: Ease the development of future projects.

Major learning outcomes: Learnt about component driven development.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Good overall learning experience, people are always ready to help you out, and expect you to be enthusiastic about the work allotted to you.

Academic courses relevant to the project: Object oriented programming.

PS-II Station: Clearpack Automation Pvt. Ltd., Noida

Faculty

Name: Mohammad Saleem J Bagewadi

Student

Name: BODEPUDI HARSHAVARDHAN (2017A4PS0546H)

Student write-up

Short summary of work done during PS-II: Created a maintenance management software, full stack web application to ease the process of scheduling the maintenance on time for various machines in the plant.

Tool used (Development tools - H/w, S/w): Angular as frontend framework and angular material for designing UI components, NestJS for backend API and MongoDB as database.

Objectives of the project: Automate the process of scheduling maintenance and send reminders to the maintenance workers.

Major learning outcomes: Full-stack web development.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Working experience was good and people are supportive.

Academic courses relevant to the project: OOP, DSA, DBMS.

PS-II Station: ClearTax, Bangalore

Faculty

Name: Vijayalakshmi Anand

Student

Name: SANCHIT AHUJA (2017A3PS0216P)

Student write-up

Short summary of work done during PS-II: Majorly worked on the development of their core product - cleartax gst.

Tool used (Development tools - H/w, S/w): Typescript, React, Java, DropWizard.

Objectives of the project: Work on the development of the product.

Major learning outcomes: Learnt dabbling different tasks and working under pressure.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Quite helpful people. Lots to learn. Fast paced environment.

Academic courses relevant to the project: Oop, Cp.

Name: KUMPATLA JNANA VEERA VENKATA SAIRAM SATISH (2017AAPS0284H)

Student write-up

Short summary of work done during PS-II: App development
Tool used (Development tools - H/w, S/w): ReactNative, Typescript.

Objectives of the project: Clear is useful for any business owner who wants to make his / her business professional, convenient and efficient. Traditional ways of recording udhaar transactions require us to spend hours tallying figures and recording them physically.

Major learning outcomes: Front end development of app and little touch with back ned side also.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: 1. Very friendly and open work culture.
2. Gives the breathing space and freedom to employees to work and execute as per their plan.
3. Supporting managers and colleagues that will push you achieve better.

Academic courses relevant to the project: OOPS

Name: D SRIRAM (2017AAPS0396H)

Student write-up

Short summary of work done during PS-II: Worked as a backend developed for a part of the website which brings the most traffic to Cleartax. Developed GST search by name application on my own. Helped the company in many bug fixes.

Tool used (Development tools - H/w, S/w): Python, Django, DRF, Spinnaker, Jenkins.

Objectives of the project: Working on the backend code.

Major learning outcomes: Django from scratch.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: We had WFH throughout the PS and the team was amazing. Everyone was cooperative and friendly. I learnt a lot about the teamwork there and the work involved between various companies and Cleartax.

Academic courses relevant to the project: OOP, Data structures and algorithms, Networking, Computer programming.

PS-II Station: Code Argo, Hyderabad

Faculty

Name: Pradheep Kumar K

Student

Name: SEGANTI RUTHVIK (2017A7PS0171H)

Student write-up

Short summary of work done during PS-II: I developed and deployed a local sever to run and stop AWS (AMAZON WEB SERVICES) instances.

Tool used (Development tools - H/w, S/w): Django and Docker.

Objectives of the project: To deploy a local server.

Major learning outcomes: Learnt Django and Docker.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: I developed and deployed a local sever to run and stop AWS (AMAZON WEB SERVICES) instances.

Academic courses relevant to the project: OOPS and DSA.

PS-II Station: Congruent Solutions, Web Development, Chennai

Faculty

Name: Febin A Vahab

Student

Name: MRINAL JHA (2016B4A10501H)

Student write-up

Short summary of work done during PS-II: Website design and mobile application development by wireframing the screens in Figma.

Tool used (Development tools - H/w, S/w): Figma, Adobe xd.

Objectives of the project: Mobile application development by wireframing the screens in Figma.

Major learning outcomes: Understood the processes involved in mobile application process design.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Congruent solutions is a specialist technology solutions and outsourced plan administration service provider to the retirement industry since 2004. The company was working on its product 2.0. Due to the current pandemic situation, it was work from home. All meetings and scrums were done on microsoft teams. As an intern in the technical team, the job was to associate with the business analyst team to know about the needs of the clients and develop the product according to it. The main part of my project was product design and the mentors were helpful.

Academic courses relevant to the project: No. It was a new experience for us.

PS-II Station: Couture AI, Bangalore

Faculty

Name: Preethi N. G

Student

Name: ADRIAN MIRANDA (2016B4A70500H)

Student write-up

Short summary of work done during PS-II: For the first few weeks, I worked on authentication and connection of 2 FAB (Flask AppBuilder) applications - Apache airflow and superset. The company wanted some sort of syncing to be achieved with regards to the user authentication between the 2 applications. The major part of my internship was developing an application "APISmith", for the company. The application allows a user to manage their databases, queries,

REST APIs and deployments all in a single dashboard. I built the application using React and Spring Boot from scratch. I handled everything from laying down the wireframes of the application to deploying it to a development server using docker. Throughout the course of the project I seeked my mentor's help whenever I had a doubt or needed a suggestion. The whole project was really exciting and I believe I have learnt a lot from it.

Tool used (Development tools - H/w, S/w): S/w: React, Spring Boot.

Objectives of the project: Application development using React and Spring Boot.

Major learning outcomes: Web development frontend and backend, application development and deployment.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The entire internship was "work from home". The company's working hours were from 10:30 AM to 7:30 PM. During these hours, we were expected to be available and online on Google chat for any work related purposes like meetings, stand-ups, etc. My colleagues were very friendly and hospitable. I was provided with all the help I needed, whenever I needed. The company had tasked me, an intern, with developing an application from scratch for the company. It shows that they had pretty high expectations but trusted my capabilities to perform the task.

Academic courses relevant to the project: Object oriented programming, Database systems.

Name: ARCHITA SUKHWANI (2016B4A70741G)

Student write-up

Short summary of work done during PS-II: Worked on laying out an algorithm for online process of a search engine (query processing). Implemented this algorithm as an API to achieve almost instantaneous results. Defined and calculated performance metrics of the same.

Defined methods to leverage the user data to improve search quality. Future phases involve product retrieval and ranking.

Tool used (Development tools - H/w, S/w): Python, Pyspark, SQL.

Objectives of the project: The main objective of the project was to lay out an efficient online algorithm for query understanding, leveraging the historic data for better results and measuring the impact the algorithm makes. The impact is measured against the results from Apache's.

Major learning outcomes: Natural language processing, Query understanding techniques.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The folks are nice and with work from home, timings a bit flexible (both positively and negatively). There are daily stand-up calls among the teams wherein updates and challenges faced are discussed. Company tries to have weekly meet to relax and connect. Mentor is knowledgeable and their feedback are valuable and helpful. Since it is a startup, one can expect freedom in terms of experimentation. Founder is considerate with respect to ongoing pandemic and reviews the work critically.

Academic courses relevant to the project: Data structures and algorithms, Design and analysis of algorithms, Database systems.

Name: JAIN KUSH RAMESH (2017A3PS0425G)

Student write-up

Short summary of work done during PS-II: There was an ongoing project of search engine query handling for a fashion e-commerce client, on which I worked. There were multiple modules in this project. My work was based on the current phase of the project as well as on the next phase, which involved more sophisticated modules such as knowledge graphs. My work

was also relevant when they will be scaling the pipeline to other e-commerce domains, such as grocery, electronics etc.

Tool used (Development tools - H/w, S/w): Python, Pyspark.

Objectives of the project: Breaking down e-commerce user search queries for intent identification and relevant results.

Major learning outcomes: -Understanding of industry level NLP pipeline.
-Understanding of search query handling in e-commerce domain.
-Building major modules for the search engine pipeline.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Official working hours were 10:30 am to 7:30 pm. Weekends were usually off (Sat and Sun). We had a daily standup meeting at the start of working day, so we had to give the previous day's work updates during that time. Overall, the work culture is good enough, but sometimes there are communication issues due to remote working. Tasks are expected to be done according to the timelines, and there are active discussions sometimes in the day with mentor regarding the module I am working on. Mentors are helpful in case there is any difficulty. The number of people are less, so it is a friendly environment as they also conduct all teams casual call on one of the weekdays.

Academic courses relevant to the project: Neural networks & fuzzy logic, Machine learning, Probability and statistics, Information retrieval.

Name: SAMANVAY LAMBA (2017A7PS0022P)

Student write-up

Short summary of work done during PS-II: The project involved working on DL pipelines catering to video use cases. Apart from that, it involved the generalisation of existing deep learning pipelines, specifically computer vision on photos. Main aim was to parse traffic images to recognize numbers of vehicles present in the photo. And to parse pdf documents into text segmented by paragraph. The second part involved the tuning of an existing movie pipeline which involved video ocr and then matching the movie to the existing movie corpus. **Tool used (Development tools - H/w, S/w)**: Azure, Tensorflow serving, OpenCV, Git.

Objectives of the project: To generalize the existing deep learning pipelines.

Major learning outcomes: Learnt by applying - Tensorflow, Git, Various image processing techniques.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Work environment is really good. Expected to work hard but they are considerate if you have personal issues / have to take a leave or just couldn't get the work done.

Academic courses relevant to the project: Image processing.

Name: PRAFFULLA TRIPATHI (2017A7PS0933G)

Student write-up

Short summary of work done during PS-II: Was assigned the project to build a static website later make it interactive to showcase demos for various modules from DAG pipeline that couture. AI has in place. Used HTML, CSS, and JS for the project.

Tool used (Development tools - H/w, S/w): HTML, CSS, Javascript.

Objectives of the project: To build a website to showcase demos.

Major learning outcomes: Front-end developmental tools like HTML, CSS and JS. Communication skills improved a lot.

Details of papers / patents: N/A

Brief Description of working environment, expectations from the company: Individual projects from UI/UX design to implementing asked features to be done alone. Help was provided by mentors and project is reviewed in all the stages. Company expects dedication and commitment to work as the deadlines are short.

Academic courses relevant to the project: DSA, OOP.

PS-II Station: CriticalRiver Technologies Pvt. Ltd., Hyderabad

Faculty

Name: Chennupati Rakesh Prasanna

Student

Name: RITWIK SHARMA (2017A7PS0242H)

Student write-up

Short summary of work done during PS-II: I worked on two projects on two different domains. One was an android app prototype for demo to a client and other was a web application for another client demo. Both projects were international projects and we were working directly under the guidance of VPO and Technical Head of the company.

Tool used (Development tools - H/w, S/w): Angular, Node, MongoDB, MySQL, AWS, Windows server, Spring boot, Tomcat, Android studio, MS teams, Agora.

Objectives of the project: The main objective of the project was to provide a digital platform solution for doctor-patient appointment, that is much required in modern times.

Major Learning Outcomes: Learning to Collaborate, Industrial Skills, Presentation Skills, Pitching Skills, Deploy an application.

Details of Papers/patents: -

Brief Description of working environment, expectations from the company: The working environment was really motivating even though it was a work from home internship. We had weekly meets to discuss what we have done in previous week and what we will do next week. Guidance was always available from senior employees at any time. We were working directly under VPO hence we got a lot of experience in types of clients and how to handle them. He also provided a lot of opportunities to us apart from the project we were doing.

Academic courses relevant to the project: Software engineering and DBMS were the only relevant courses.

PS-II Station: CueMath Learn Pvt. Ltd., Bangalore

Faculty

Name: Febin A Vahab

Student

Name: SHIVAM AGRAWAL (2016B4A40602P)

Student write-up

Short summary of work done during PS-II: Involved with a team working on SEO optimization of the content pages for the website of the company. My role was more of managing the work flow and doing small small tasks on a daily basis.
Tool used (Development tools - H/w, S/w): Google analytics.

Objectives of the project: To drive traffic to the website and in turn convert them to enroll in the cuemath program increasing the ARPU.

Major learning outcomes: Managerial skills.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The work environment was nice. The people were very friendly and gave time to explain the work and listened to our concerns and issues. The company has good opportunities to grow and move up the ladder. The future prospects look bright with decent job opportunities for those who are interested and work for it.

Academic courses relevant to the project: N/A

Name: JAIN AMEY MANOJKUMAR (2017A1PS0864G)

Student write-up

Short summary of work done during PS-II: The project serves the purpose of content creation for grade 1st to 10th student for creating various activities to help them comprehend their curriculum in an effective and easier manner. Especially, in this difficult time when COVID-19 has affected the whole world and online education is the one way that learning process does

not cease to exist, it's crucial that students get an upper hand in academics while they cannot get personal attention from their teacher. Even otherwise, while a child learns at school, it's necessary that the revision and practice of learned subjected is done time to time. This is where CueMath learn comes into picture. I specifically worked on creating activities for children to practice and assess their performance in the same along with a few other projects that were focused on bringing nuance to the day-to-day learning methods.

Tool used (Development tools - H/w, S/w): Learnnosity, Google docs, Periscope.

Objectives of the project: Content creation, Assesment, Review and data analysis.

Major learning outcomes: Real-life application of Big-Dats.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment at CueMath is very employee friendly. They motivate each other and appreciate your tiny bit contribution. They treat us as an equal and our opinions and advises hold a value for them. The environment is encouraging in a nutshell.

Academic courses relevant to the project: No

Name: PRATYUSH PARETA (2017A2PS0064P)

Student write-up

Short summary of work done during PS-II: During the course of my internship, I undertook various projects in the field of ASO, performance marketing, user research, branding, and product management alongside my mentor.

Tool used (Development tools - H/w, S/w): AppTweak, Google ads, Facebook ads manager, App store connect, Google play console, Appsflyer, Figma.

Objectives of the project: Project One-App aims to develop and modify Cuemath, so that it becomes a default app for Cuemath and Non-Cuemath students.

Major learning outcomes: The Projects that we undertook at Cuemath, has helped me to develop and deepen my understanding of ASO, user research, CRM, data analytics, and performance marketing. The projects helped us deepen our understanding, improve our critical thinking, and have helped me in formulating the right strategy. The team members at Cuemath are very helpful and always ready to help. I have learnt how to communicate across teams and have gained significant leadership skills. At Cuemath, has really helped me to take ownership of various tasks and I have also improvised my soft skills and communication skills.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Cuemath has a very organized way of working, which makes work less stressful and more productive. This can be attributed to daily standups and training conducted on a regular interval. Also, Slack channel facilitated communication across various teams easier whenever I needed any help. All data is shared equally, allowing interns to work freely and with as much knowledge about the project as the person at the highest level. This helps drive more effective work.

Academic courses relevant to the project: N/A

Name: RIKIN JAIN (2017A2PS0923P)

Student write-up

Short summary of work done during PS-II: Work was related to content development for Cuemath's blog section of website. Wrote blog's related to math topics and in the last phase focused a lot on optimization of blogs in SEO and in general for better user experience.

Tool used (Development tools - H/w, S/w): Grammarly, Crazyegg, Goggle adwords and Internal softwares.

Objectives of the project: To increase the traffic on Cuemath's blogs.

Major Learning Outcomes: 1. Learnt to work with a team and under deadlines.
2. Learnt a lot about SEO and ranking website on Google.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment is pretty chill, the employees and mentors are very helping. There is not a lot of work, just 5-6 hours a day and two days off in week. You can even prepare for placements side-by-side easily.

Academic courses relevant to the project: NA

Name: VATSALYA ANAND (2017A2PS1579H)

Student write-up

Short summary of work done during PS-II: Helped set up and onboard different attribution platforms like AppsFlyer etc.
Made lots of important reports and facts which drove the installs and improved retention of the app.
Made different ads and campaign across Google, Apple, Facebook, Instagram, etc.

Tool used (Development tools - H/w, S/w): Python, Periscope (SQL), Excel, AppsFlyer, App Store Connect, Google Play Console, WebEngage, Firebase, Leadsquared, Google Cloud Platform, Bigquery, Google Ads, Apple Search Ads, Google Ads Keyword Planner, Google Ads Editor, WebEngage, HTML5,Google sheet.

Objectives of the project: Data analytics - To discover useful information to inform conclusions To support the decision-making process.
Performance marketing - To boost the sales and revenue to get new leads to increase the number of quality traffic to drive app downloads.

Major learning outcomes: The projects that we undertook at Cuemath, has helped me to develop and deepen my understanding of data analytics, and performance marketing. The projects helped us deepen our understanding, improve our critical thinking, and have helped me in formulating the right strategy. The team members at Cuemath are very helpful and always ready to help. I have learnt how to communicate across teams and have gained significant leadership skills. At Cuemath, has really helped me to take ownership of various tasks and I have also improvised my soft skills and communication skills.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Cuemath has a very organized way of working, which makes work less stressful and more productive. This can be attributed to daily standups and training conducted on a regular interval. Also, Slack channel facilitated communication across various teams easier whenever I needed any help. All data is shared equally, allowing interns to work freely and with as much knowledge about the project as the person at the highest level. This helps drive more effective work.

Academic courses relevant to the project: Yes

Name: C MOHAN (2017A3PS0330H)

Student write-up

Short summary of work done during PS-II: A brief introduction of the company: Cuemath was born with a vision to help students learn math the right way and overcome the difficulties they face due to traditional blackboard learning. My role in CueMath: I work as a simulation creator. The simulation in the web-pages is created by the GeoGebra software as an applet that can be

embedded in the web-pages. GeoGebra is an intuitive calculation, variable based math, measurements, and analytics application, planned for learning and encouraging arithmetic and science from grade school to college level. I believe it improves the learning process because a student can understand easily because the human brain retains concepts that are visualized than the ones read via traditional textbook studying.

Tool used (Development tools - H/w, S/w): C++, Geogebra 6.0, Javascript (visual studio), HTML (visual studio), CSS (visual studio).
Objectives of the project: Creating maths simulations to aid understanding.

Major learning outcomes: I learnt the following skills,
Technical skills: Programming, Content creator, Webpage handling
Soft skils: Communication skills, Time management, Handling the clients

Details of papers / patents: Not Applicable

Brief description of working environment, expectations from the company: I worked from home for the company. So the communications with the company only happened via zoom meetings or direct phone calls. The environment is friendly and the colleagues were helpful and would guide you in case you are struck with something. Nice and peaceful environment.

Academic courses relevant to the project: The PS work was in different domain than the courses I studied in college.

Name: ACHARLA MEGHANA (2017A5PS1170H)

Student write-up

Short summary of work done during PS-II: Worked as a strategic business executive and managed the partnerships with other platforms that bring leads and conversions to our platform and onboarded them, leveraged the campaigns and worked towards increasing the ROI for the firm with minimal upkeep. The incentives for the partners were based on different operational

models they work on and various affiliate marketing measures were analysed. It was a very recent channel that started a few months before I joined, so almost the entire process was handled by me and taken care of. The team members were really helpful and the working is so flexible in Cuemath.

Tool used (Development tools - H/w, S/w): Excel, Google analytics.

Objectives of the project: To onboard partners that share a similar target cohort and acquiring maximum leads within the budget alloted.

Major learning outcomes: Enhanced soft skills, Strategic business skills, Excel and Python.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: One can expect good team players, good management skills and flexible working hours that satisfy the pay. The PPO is a little less than other firms but is decent enough.

Academic courses relevant to the project: Not much because I come from a Pharma background but since I was slightly inclined towards the non-tech area, I was successful in managing the assigned role.

Name: JYOTI RANJAN PAGODA (2017B4PS0506P)

Student write-up

Short summary of work done during PS-II: I worked on multiple subjects such as SEO, templatization, backlink articles and image processing. SEO means search engine optimization. It means the process of improving your site to increase its visibility for relevant searches. SEO depends on many factors like page speed, anchor links, security of page. I have been given 3 articles written by Neil Patel about SEO, content marketing and conversion optimization. We are also involved in templatizing a page. In that we have done latex coding as well. Then, I was

shifted to writing backlink articles. I had written 15-20 articles. After sometime, I was again shifted to image processing team. There, we had a team of 4 -5 people. I basically forwarded the raw images for image creation and uploaded the final images in the template.

Tool used (Development tools - H/w, S/w): Latex, Google drive and google docs.

Objectives of the project: To have a full glimpse of the working in a corporate and increasing the potential customers through various means.

Major learning outcomes: Worked in the field of graphics and content design. Got to know about SEO and the style of writing blogs.

Details of papers / patents: Search engine optimization, Templatization, Backlink articles and image processing.

Brief description of working environment, expectations from the company: The working in Cuemath was like a dream. Everyone here were very supportive and guided well. I expect that in future I will be working with Cuemath.

Academic courses relevant to the project: Nothing as such.

PS-II Station: DBOI - Automation, Pune

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: UTKARSH AGARWAL (2016B3A70581P)

Student write-up

Short summary of work done during PS-II: Automate manual data tasks into repeatable analytical workflows. Advanced data modelling with code required to build models. Building models to generate conclusive insights for future use. Using technical knowledge of coding to work on model deployment. Generating actionable insights on-demand.

Tool used (Development tools - H/w, S/w): Tableau, Alteryx

Objectives of the project: Data analyis

Major learning outcomes: Presentation skills, Working of banking system, Banking and financial system.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: People are good but mostly you are expected to work on finance projects and that's all required. Presentation forms major part of the work.

Academic courses relevant to the project: SAPM, Business analysis and valuation.

PS-II Station: DBOI - Automation Control, Pune

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: KARRA PRAVEEN (2016B3A40372G)

Student write-up

Short summary of work done during PS-II: Providing granular data on credit risk on a monthly basis to harmonize statistical reporting across the European Union. Although, I was allotted the AnaCredit team as my PS station I was incorporated into the wider Banking Statistics team after a month. The Banking Statistics team provides balance sheet, interest rate and country currency based statistics to the German Federal Bank (Bundesbank). I was later allotted the end-to-end process of Central Credit Register which is the statistical reporting for Ireland. Submitted the monthly data for November 2020 on my own.

Tool used (Development tools - H/w, S/w): Excel, proprietary DB software.

Objectives of the project: Risk reporting and regulatory filing on a monthly basis.

Major learning outcomes: Advanced excel, the nitty gritties of regulatory reporting.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The only expectation from the company is that you are curious. They started teaching various process right from the basis and gradually progressing allowing sufficient time to learn. There were no pre-requisites in terms of software skills from the company however knowing excel will help flatten the learning curve. The team is warm and conducive to new ideas in terms of automation. Also, good work is recognized and appreciated in the monthly extended team meetings.

Academic courses relevant to the project: None

PS-II Station: DBOI - Business Finance, Mumbai

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: RISHABH ANEJA (2017A2PS1029P)

Student write-up

Short summary of work done during PS-II: I was a part of Middle Office team for the securities that acts as a control function, responsible for checking the P&L and risk of the trades done by the traders against prices booked by front desk traders and ensure that no gaps are generated. The team also does the risk consolidation and summary generation for the front office on a daily basis so that the front desk gets the daily summary for the risk position that we are holding and then act accordingly. At the EOD, a final report is generated which consists of everything what the team has prepared for the entire day including all the adjustments, re-attribution and the Pnl and risk of all the books that have been signed off in the day. Also, I prepared an automation project to help the business with the consolidation of all the checks that are performed on a particular book.

Tool used (Development tools - H/w, S/w): Advanced microsoft excel, Company's internal applications.

Objectives of the project: Daily P&L, Risk attribution and consolidation, Check-file automation.

Major learning outcomes: Learnt about the functioning and data flow in the bank.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The working environment was good and the seniors were all approachable and were always ready to work.

Academic courses relevant to the project: Derivatives and risk management.

Name: SREERAM M (2017A4PS0185G)

Student write-up

Short summary of work done during PS-II: Automation of P&L reconciliation using excel VBA.

Tool used (Development tools - H/w, S/w): Microsoft office, Excel, VBA.

Objectives of the project: Automation of product control tools.

Major learning outcomes: Understanding how trades work- how they are booked, how various products and commodities (bonds, swaps, bond options, money market trades, etc.) are priced and valued. Automation using excel VBA.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The company expects you to have an understanding of basic finance and a grasp of excel.

Academic courses relevant to the project: Financial management, Fundamentals of finance and accounting.

Name: SANGHVI JASH VIPUL (2017A4PS0904G)

Student write-up

Short summary of work done during PS-II: I interned for Deutsche Bank in the business finance department. The major work allotted to me was automating various processes for the team. The most important function that they required me to do was to save time on month-ends by automating the lengthy processes that they needed to follow which included a lot of manual work and thus, increase the performance, efficiency and accuracy of all the processes the team was involved in. And in the process, I was able to hone my VBA skills a lot and was able to perform all the tasks very diligently.

Tool used (Development tools - H/w, S/w): Excel VBA and Macros.

Objectives of the project: I worked on two different projects during the whole internship. Project 1 - Automated the process of preparation of the reconciliation file of a particular account and making ledger by clearing that account. Project 2 - Automated the process of preparation of cost accounting.

Major learning outcomes: I learnt quite a lot of things during the internship. I understood the processes that my team was working on. I also learnt how the trades took place on the DB platform, the ledger formation, various procedures and checks my team followed for some transactions, the instruments that DB deals with, etc. I was able to interact well with my colleagues and also clear various doubts regarding the processes. They made it clear regarding the requirements and expectations from me and made it quite easy and comfortable for me even in the WFH environment.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: It was a great experience for me working with such professionals and sharing the knowledge that they possessed about the markets and the overall finance industry. It has also helped me sharpen my VBA skills, learnt and implement the accounting knowledge that I possessed. I was also able to improve my soft skills simultaneously which are as important as the technical skills. My team members were very accommodating and helped me tremendously to gel up in the team quickly.

They interacted with me quite frequently and hence, helped me carry out my internship very smoothly even in the WFH environment.

Academic courses relevant to the project: Not very much but yes the course - Fundamentals of financial accounting was a bit relevant during the internship as there was some basic accounting knowledge that was required. Other than that, the main technical skills required were Excel VBA and Macros.

Name: JAGTAP PRATHMESH RAJENDRA (2017A4PS1737H)

Student write-up

Short summary of work done during PS-II: I am part of business finance team who play a role as moderators or controllers of various financial products. The daily work here as a book runner includes substantiating profit and loss statement and balance sheet using various tools.

Tool used (Development tools - H/w, S/w): Excel, Vba, Python.

Objectives of the project: To learn how a profit and loss & balance sheet is generated for a financial product.

Major learning outcomes: I learnt what all attributes to a profit and loss statement and how valuation of various financial products are done.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The company doesn't expect much from you as they know we are new to this field. But a basic understanding of various financial products, how they are valued is necessary, basic excel and verbal skills are also very much needed.

Academic courses relevant to the project: FM, FOFA, SAPM, DRM.

Name: VITHUN ATHREYA (2017ABPS1375H)

Student write-up

Short summary of work done during PS-II: I was asked to update the key operating procedure documents of funding, forex and volcker processes. After completing, I was asked to create a KOP of bookrunning process. While creating this KOP, I learnt about the bookrunning process of Core and Covered bonds portfolio.

Tool used (Development tools - H/w, S/w): MS word, MS excel.

Objectives of the project: To create the KOP of funding, Forex and Volcker.
2) To create the KOP of bookrunning processes.

Major learning outcomes: I learnt about the bookrunning process that is carried out as part of the risk management infrastructure of Deutsche Bank. I learnt about the Covered and Core bonds portfolios and its position re-conciliation, risk reporting and PnL attribution processes.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: My internship with Deutsche Bank was work from home. The employees were really welcoming, encouraging and helpful. Work environment seems to be really good.

Academic courses relevant to the project: DRM, BAV, SAPM.

PS-II Station: DBOI - Counterparty Credit Ratings, Mumbai

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: GURSAHAJ SINGH (2016B1A10628G)

Student write-up

Short summary of work done during PS-II: I worked in the Emerging Markets (EM) team, a part of the counterparty credit rating department at DBOI, Mumbai. Our work is to make, verify, renew and manage credit ratings reports of various counterparties which are further used to make business decisions. Most of the companies, we handle are from developing countries like Brazil, Russia, Latin America etc. I worked along with a senior risk analyst who has been with Deutsche Bank for more than a year. I assist him in data collection, generate financial analysis of various counterparties, future cash flow reports, identify the health of revenue streams and do a breakdown of the company's debt structure.

Tool used (Development tools - H/w, S/w): Bloomberg terminal, BARS, GCRS.

Objectives of the project: Understand the various aspects of business and use them to write credit rating reports.

Major learning outcomes: Understanding basics of various industries such as steel production, airlines, gas industry etc and then use it to write credit rating report.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Work environment is very positive in DBOI. Everyone across the floor is very friendly and always ready to help you out.

Academic courses relevant to the project: FUFA, FINMAN, BAV.

Name: RAVI MOTWANI (2016B3AA0379G)

Student write-up

Short summary of work done during PS-II: Ratings of various counterparties just like crisil, moody's and s&p.

Tool used (Development tools - H/w, S/w): MS office.

Objectives of the project: Operations of the bank.

Major learning outcomes: Got to know the workings in the bank.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment is good, the people in the organisation are really helpful.

Academic courses relevant to the project: FUFA

Name: YASH NIRUPAM GAUR (2016B3AB0494H)

Student write-up

Short summary of work done during PS-II: I learnt and wrote risk reports which are used to determine the probability of default, in the form of rating scores, for a counterparty. I also helped feed statements in the accounting software, this helped me and my colleagues to easily access financial information for making the aforementioned risk reports.

Tool used (Development tools - H/w, S/w): GCRS, BARS.

Objectives of the project: Determine appropriate credit rating for a counterparty and find out relevant information, to create risk rating reports.

Major learning outcomes: This internship helped me gain experience among finance professionals and apply my academic knowledge in a professional setting.
Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment was conducive and my superiors were very patient. However, due to the nature of this internship being “work from home” the experience was somewhat hampered.

Academic courses relevant to the project: Fundamentals of Finance and accounting.

PS-II Station: DBOI - Financial Analytics, Pune

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: SAUMITRA VATSAL PANDEY (2016B3A20565P)

Student write-up

Short summary of work done during PS-II: Creating reports and templates for corporate services division which manages and coordinates among various global teams and regional FDs for infrastructure finance division.

Tool used (Development tools - H/w, S/w): Excel, SAP.

Objectives of the project: Create unified templates for MI to COO, Create delta reports for lease changes and analyse factors affecting lease valuations monthly.

Major learning outcomes: Management reporting, Pivots, Lease valuations.
Details of papers / patents: None

Brief description of working environment, expectations from the company: Very friendly team, virtual experience tend to be less exciting than in-office one.

Academic courses relevant to the project: None

PS-II Station: DBOI - Market Risk Analysis & Control, Mumbai

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: JOSHI ATHARVA NITIN (2017A1PS0801G)

Student write-up

Short summary of work done during PS-II: My project was data quality of the TimeSeries price data that the bank uses for risk calculations. It involved ML techniques to improve the data quality. Majority of the work was involved in Python and Excel. It provided a good all round opportunity to learn how processes inside an investment bank work.

Tool used (Development tools - H/w, S/w): Python, Excel.

Objectives of the project: Improving the data quality of the existing TimeSeries price data for risk calculations.

Major learning outcomes: Learnt how processes work in an investment bank. Learnt the usage of python and machine learning for a production project.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The working environment was very open and there was a good atmosphere within the team. Everyone in the team helped me in whatever issues I faced. Overall, the bank has a fantastic culture and I got to fulfill my expectations of how investment banks work as a result of it!

Academic courses relevant to the project: Derivatives and risk management.

Name: ANEESH VINIT WAGLE (2017A2PS0970H)

Student write-up

Short summary of work done during PS-II: My main project is Stress Period Selection (SPS) testing. This includes calculation of SVaR values which are used to generate reports for further analysis and validation. It is an end-to-end monthly non-production testing which involves triggering SVaR runs for different stress periods (years) represented by PEGS. Each year from 2008 till present is considered, generating a total of 13 PEGS. Historical simulation method is used while triggering the runs and generating SVaR values.These values are then analysed by

comparison with the previous month's SPS report and significant differences are highlighted. Ideally, if no significant differences are found then a final report is generated to be validated by the stakeholders.

Tool used (Development tools - H/w, S/w): Excel, SQL developer.

Objectives of the project: For a bank to track its exposure due to price conditions under plausible drastic economic conditions. To evaluate and analyse if the firm's exposure corresponds to its risk appetite. To meet regulatory capital requirements if such an event occurs.

Major learning outcomes: I have understood that sustainability and keeping your risk model up to date with the current financial data is crucial in improving the overall performance and exploring new opportunities. I have gained extensive knowledge on the market risk domain, being able to use the necessary tools and skills which are adopted in an investment bank as part of their risk model.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment is very conducive for learning - both professional etiquette and process specific. There is a lot of material and ways to learn more about the domain of market risk and the necessary skills required. The team members are very approachable and encourage questions. Open discussions with colleagues is very helpful in self improvement, and new perspective from interns is encouraged. Good communication skills, ability to learn and contribute to the team, ideas on how things can be done differently and a hardworking nature are some the qualities that are valued by the team and company.

Academic courses relevant to the project: Derivatives and risk management, Financial management.

Name: HARSH KALRA (2017A4PS0169P)

Student write-up

Short summary of work done during PS-II: My daily objective was to extract the risk numbers of different assets and portfolio trades and to analyze for any big VaR changes and design reports informing the market risk managers of the same, in addition to finding out the cause of the big VaR changes by finding out the asset class and risk type driving the change.

Tool used (Development tools - H/w, S/w): MS Excel, Outlook.

Objectives of the project: Daily risk analysis and reporting.
Major learning outcomes: 1. Team wide communication and collaboration.
2. MS Excel Macros.
3. Report designing and risk reporting.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Since it was WFH, i didnt get to experience much of the work culture, but from what i could tell, it was pretty easy going and friendly if you did finish your work on time. People were genuinely friendly and helpful at all times and i expected to learn and gain insights about the finance industry and day on day operations of a big bank which i certainly did very well.

Academic courses relevant to the project: Financial management, Derivatives & risk management.

Name: GOKHALE CHINMAY SANDEEP (2017A4PS0906G)

Student write-up

Short summary of work done during PS-II: My work primarily involved assisting the credit team at DBOI Mumbai to transition to a new risk reporting metric, namely historical simulation, from Monte Carlo based simulation. Analysing day-on-day VaR and sensitivity numbers for particular businesses, creating daily and monthly visualizations for risk reporting, Automating existing processes using Excel VBA and Python, and using Tableau for reports were the different aspects of my work.

Tool used (Development tools - H/w, S/w): Python, Excel VBA, Tableau, SAS.

Objectives of the project: To modify existing processes and create new processes for historical simulation based risk reporting.

Major learning outcomes: Risk management, Counterparty management, VaR calculation methodologies, Sensitivity analysis, Software exposure to Python and VBA.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The team was very welcoming, and very active during the training and in clearing my queries. My work involved frequent communication with the London office, offering international exposure. Some systems are still based on Legacy frameworks, but in general, the technical and software assistance was very good. Work hours usually are from 10-11 am to 7-8 pm, and during peak work, might stretch till 12 midnight. Overall a great experience.

Academic courses relevant to the project: 1. Fundamentals of finance and accounting
2. Derivatives and risk management
3. Business analysis and valuation
4. Security analysis and portfolio management
5. Financial management

Name: ANTRIKSH JAIN (2017ABPS0782P)

Student write-up

Short summary of work done during PS-II: I worked at the Global Valuations Group (GVG) at DBOI, Mumbai. I was responsible for performing daily Independent Price Verification (IPV) for Deutsche Bank's Global Foreign Exchange (GFX) business in Europe, Middle East and Africa (EMEA) regions. I took care of extracting risks for daily IPV, creating summary reports for front office and upper management & reporting breaches in the GFX business on a daily basis. In addition to the overall business, I was also responsible for carrying out the daily IPV processes for two parameters: FX Delta and FX Rho, and reporting the same to front office and upper management.

Tool used (Development tools - H/w, S/w): MS Excel, SQL.
Objectives of the project: To perform daily IPV tasks for the Global Foreign Exchange business.

Major learning outcomes: (a) Practical exposure to backend finance in India.
(b) Business understanding of global financial firms.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The company expects you to perform all the daily tasks assigned within the deadline. Also, a good amount of time is spent in training to get well equipped with the processes.

Academic courses relevant to the project: Derivatives and risk management.

Name: UJJWAL SHARMA (2017B3TS1201P)

Student write-up

Short summary of work done during PS-II: As a part of the rates team of the market risk department in Deutsche Bank, my major work entailed to automation of reports, for which my

main programming language was Python. In addition to this, there were various daily analysis required, which could entail to cross-checking numbers across various incoming reports to ensure there were no unexpected jumps in the numbers. As I was trusted with complex process so my work generally revolved around doing daily BAUs. It was a really wonderful experience. It's great opportunity to learn about how investment bank functions.

Tool used (Development tools - H/w, S/w): VBA, SQL, Python, MS excel, Tableau, SAS softwares.

Objectives of the project: To understand the working of rates desk, generate reports and monitor VaR.

Major learning outcomes: The internship gave the best real life opportunity to apply all the financial knowledge acquired.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: DBOI has a warm and welcoming culture. All employees and managers are amicable and approachable. One is expected to be curious about the role and the corresponding tasks that come along. Not only this, the office environment is such that the interaction between various teams also persists and the functioning of the teams being inter-dependent helps you greatly in strengthening your network. One is encouraged to question the existing standards and processes used and come up with ways of streamlining them. However, you are expected to be punctual with our deliverables.
The working hours in WFH setting might stretch on a few days.

Academic courses relevant to the project: DRM, FRAM, SAPM.

PS-II Station: DBOI - Risk Metrics Analytics, Pune

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: SHREYANSH JAIN (2016B3AA0429G)

Student write-up

Short summary of work done during PS-II: Risk metrics and analytics team, as the name suggests, works with other teams and sources data and provides it on the suitable DB specific platforms, and timely inspects and validates it by making required changes and present it to all the business classes, separate business finance lead. The work of the team majorly revolves around credit risk analysis, validation and RWA calculations.

Tool used (Development tools - H/w, S/w): SQL, Qlikview, Microstrategy, Excel & Powerpoint.

Objectives of the project: Perform quantitative analysis on derivatives, secured financial transactions and other complex or structured products to calculate bank's credit exposure, risk weighted assets (RWA) and other regulatory capital and disclosures.

Major learning outcomes: Advanced functions of MS office; especially MS excel & VBA, practical application and impact of financial concepts such as RWA and credit risk, professional communication with the stakeholders in a corporate setup, various mandates for financial institutions and their working, day to day happenings around the world and their influence on the economy, people's management.

Details of papers / patents: N/A (involved in day to day work of the team and worked on various projects).

Brief description of working environment, expectations from the company: Worked in a virtual setup; helpful & supportive colleagues.

Academic courses relevant to the project: Not much.

Name: SHREYANSH JAIN (2016B3AA0429G)

Student write-up

Short summary of work done during PS-II: Risk metrics and analytics team, as the name suggests, works with other teams and sources data and provides it on the suitable DB specific platforms, and timely inspects and validates it by making required changes and present it to all the business classes, separate business finance lead. The work of the team majorly revolves around credit risk analysis, validation and RWA calculations.

Tool used (Development tools - H/w, S/w): Qlikview and Tableau for analysis.
MicroStrategy for data extraction.
Excel and PowerPoint for preparing report.

Objectives of the project: N/A (was involved in day to day work and worked on various projects).

Major learning outcomes: Advanced functions of MS office, especially MS excel & VBA.
Practical application and impact of financial concepts such as RWA and credit risk.
Professional communication with the stakeholders in a corporate setup.
Various mandates for financial institutions and their working.
Day to day happenings around the world and their influence on the economy.
People's management.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Good. Helpful colleagues.

Academic courses relevant to the project: Not much. Most of the things seemed new but important.

PS-II Station: Decimal Technologies, Gurgaon

Faculty

Name: Preethi N. G

Student

Name: CHINASANI KAVYASREE (2017AAPS0315H)

Student write-up

Short summary of work done during PS-II: I produced web portals on the fly using a platform that was created by the company.

Tool used (Development tools - H/w, S/w): vFlow , vConnect, vLogs.

Objectives of the project: Producing web portals.

Major learning outcomes: Working in office environment, soft skills and few tecnical skills.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Environment was virtual. Daily standup meetings were mandatory. Company is good if you want to indulge in live projects unlike a particular project specified for others. You will be working on a product that will be delivered to a bank or any financial institution.

Academic courses relevant to the project: Computer programming, Oops, HCI.

PS-II Station: DemandMatrix, Pune

Faculty

Name: Pravin Yashwant Pawar

Student

Name: SHEFALI TRIPATHI (2017A7PS0139P)

Student write-up

Short summary of work done during PS-II: Data scraping using Selenium and BeautifulSoup, on a large scale to collect information about B2B vendor customer relationships.

Tool used (Development tools - H/w, S/w): Python, MongoDB, GCP, AWS.

Objectives of the project: Automation and data scraping.

Major learning outcomes: Learnt working and collaborating in a professional environment.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Work from home environment, flexible work culture, friendly colleagues.

Academic courses relevant to the project: DSA, DBMS, OOP.

PS-II Station: Dhruva Space Pvt. Ltd., Hyderabad

Faculty

Name: Naga V K Jasti

Student

Name: ANISH M (2017A8PS0605H)

Student write-up

Short summary of work done during PS-II: Worked on cubesat deployer electronics, assembling boards, communication in the hardware systems (UART, SPI, PWM). Temperature and humidity sensor.
GPS module for getting the location co-ordinates.

Tool used (Development tools - H/w, S/w): Hardware: All the tools in an embedded systems lab.
Software: Code composer studio, Atmel studio, Logic analyzer, Tera term.

Objectives of the project: The main objective of the project is to build a cubesatellite deployer.

Major learning outcomes: Hardware communication (UART, SPI, PWM), board design, assembly and work experience of an embedded systems engineer.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work experience here gives a very good exposure on how the life of an embedded systems engineer would be. The company's office has a dedicated lab for hardware engineers and the employees are very supportive. One can expect to learn and get hands on experience of hardware (Electronics). They support you to their maximum extent, and its up to the student to make good use of the opportunities provided by the company.

Academic courses relevant to the project: Digital design, Microprocessors and interfacing, ADVD, Analog electronics.

PS-II Station: Divgi TorqTransfer Systems Pvt. Ltd., - Bhosari, Pune

Faculty

Name: R S Reosekar

Student

Name: HARSHRAJ KAUSHIK (2017ABPS1046P)

Student write-up

Short summary of work done during PS-II: My work at the PS station was divided in two parts:

1. Study of various manufacturing processes and pricing techniques, and then identify the pricing method better suited for the organization. This was done for almost 2 months.
2. Here my job was to analyze the market price of the product and using regression technique to find out if the product is overpriced or not.

Tool used (Development tools - H/w, S/w): MS excel.

Objectives of the project: 1: Price estimation of products using regression techniques.
2: Study of costing and types of costing methods used in the automobile industry.

Major learning outcomes: 1. Learning about regression techniques & different costing methods that can be applied in the automobile industry.

Details of papers / patents: N.A.

Brief description of working environment, expectations from the company: The whole PS was WFH, so there was no interaction with the working environment of the firm. Although, the company made sure that we learn everything relevant about the working even in such times.

Academic courses relevant to the project: Supply chain management.

PS-II Station: Dixon Technologies India Ltd., Noida

Faculty

Name: Pawan Sharma

Student

Name: PULKIT AGGARWAL (2016A7PS0060P)

Student write-up

Short summary of work done during PS-II: Working on development of android app for smart TV.

Tool used (Development tools - H/w, S/w): Java, Kotlin, Android studio.

Objectives of the project: To make TV more smarter and user friendly.

Major learning outcomes: Build social skills, learnt some new techniques (android studio, java).

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Environment of company is good. Everyone is so helpful and kind. It's great learning experience for me. There are different departments and I'm working in TV R&D and it's great to know about Television how a Television make what components require to design a TV. Expectations from company, provide ppo with decent package.
Academic courses relevant to the project: OOP

Name: PRASHANT AGRAWAL (2016B5A40748G)

Student write-up

Short summary of work done during PS-II: The work was to understand and learn Logistics of Assembly of Home appliances and other electronic products and find solutions to make it cost efficient and seamless Logistics.

Tool used (Development tools - H/w, S/w): MS excel.

Objectives of the project: The project required to understand and learn logistics of assembly of home appliances and other electronic products and find solutions to make it cost efficient and seamless logistics.

Major learning outcomes: Discipline, Team communication, Fact and research based work.

Details of papers / patents: It was more office work so nothing of this sort.

Brief description of working environment, expectations from the company: Working environment is good. You get all the required devices and other support. Company expects you to be disciplined, communicative and requires you to enhance soft skills.

Academic courses relevant to the project: Supply chain management.

PS-II Station: DMI Finance Pvt. Ltd., New delhi

Faculty

Name: Gaurav Nagpal

Student

Name: VISHESH ARORA (2017A3PS0299P)

Student write-up

Short summary of work done during PS-II: 1. Monitored the performance of income prediction models and A-score models (used for default prediction) for 2 monitoring cycles.
2. Built an A-score and B-score model (used to predict default) from scratch (data pull, data cleaning, feature engineering, feature reduction, outlier treatment, transformations, and model development using tree-based ML algorithms - Gradient Boosting Classifier, Random Forest Classifier, and XGBoost).
3. Other ad-hoc tasks (like a small analysis of some kind that could take up to a day or two).

Tool used (Development tools - H/w, S/w): SQL, Python (Pandas, NumPy, Matplotlib, Seaborn, tree-based ML algorithms), Excel, Knowledge Seeker, AWS (S3 and Athena).

Objectives of the project: To monitor the performance of underwriting models and income prediction models, and to build an A-score and B-score default prediction model.

Major learning outcomes: 1. Learnt a great deal about the underwriting process followed by NBFCs.
2. Learnt how machine learning algorithms are practically used to solve real-world problems (like automated underwriting and income prediction).
3. Learnt how to work in teams, since most of the work is done by a group of people rather than individual tasks.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The entire internship was remote (work from home). Everyone in the office was helpful (including the managers, the HR team, etc.). Everyone would always be ready to explain how to go about doing stuff, and how to get things done.
The working hours were not fixed, but generally everyone started around 9:30-10:00 and wrapped up everything around 6:00 (went up to 7:30-8:00 on a few days!).
Having some prior knowledge of SQL and Python will definitely be good, but we were given a couple of weeks' time after joining to get better at both anyway.
The company and the managers expect you to work proactively, and be inquisitive, ask questions, and give insights into whatever work you're doing, or if someone else is facing an issue.

Academic courses relevant to the project: Finance courses might help slightly, but definitely not a must. Any course on statistics could help a bit.

Name: SHASHANK MADISHETTI (2017A8PS0797H)

Student write-up

Short summary of work done during PS-II: My project, modelling credit risk involved development and monitoring a machine learning model which can estimate the default probability of a customer and then decides to either approve or reject his / her loan. Development involves designing the input metrics required. Monitoring involves testing the validity and reliability of the model. Model monitoring consists of various types of metrics which are used to test the efficacy model. Income model and A-score model monitoring were being worked on.

Tool used (Development tools - H/w, S/w): Remote desktop, AWS athena, AWS S3, Python, SQL, Pandas, NumPy.

Objectives of the project: Model monitoring for different partners.

Major learning outcomes: Learnt new softwares. Learnt about credit risk modelling. Earned some experience about FinTech companies.
Details of papers / patents: None

Brief description of working environment, expectations from the company: Working environment is leisure and friendly. The mentors and manager were very helpful.

Academic courses relevant to the project: None

PS-II Station: Door Sabha Nigam Ltd., Chennai

Faculty

Name: Gopala Krishna Koneru

Student

Name: ADITYA LADIA (2017ABPS0361P)

Student write-up

Short summary of work done during PS-II: The first 2 weeks were used for knowledge transfer and brushing up SQL and python basics. Then started with a mini project to perform RCA. It gave me the exposure of DSNL's products, services and customers. After this, I did research analysis for the issue of disconnections. Followed by 3 process automation tasks. The first automation was building a live dashboard to track minutes of usage so as to optimize traffic across service providers. Next was developing a desktop tool and fully automated versions of an attendance report generator. This helped generate and share attendance reports for a conference almost instantly post a conference. The third and final task was to build a live dashboard to monitor disconnections on a daily basis.

Tool used (Development tools - H/w, S/w): Anydesk, Spyder, SQLyog, Google data studio, Google sheets, Excel, SQL, Python.

Objectives of the project: To perform RCA and accomplish few process automation tasks.

Major learning outcomes: Basics of SQL and various functions in it used to manipulate data, intermediate excel and formatting data, various python modules vital for process automation tasks like front-end, making reports, email-automation, etc. and working with data studio.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Though it was 'work from home' for the entire duration of PS. The people I could interact with were very helpful, polite and friendly. It was a great learning and a memorable experience. The analytics team which I was part of was very new but was developing pretty fast. My mentor Mr. Akshay Guruprasad and colleague Reo Jackson were very supportive and motivating throughout. I would like to thank everyone from Practice School and DSNL for giving me such a wonderful opportunity.

Academic courses relevant to the project: None

PS-II Station: Dunzo Digital Pvt. Ltd., Bangalore

Faculty

Name: Anjani Srikanth Koka

Student

Name: RONAK AGRAWAL (2017A2PS1590H)

Student write-up

Short summary of work done during PS-II: I worked with the strategy and new initiatives team. The best thing; there was no such specific project(s). I worked just like another full-time employee with similar D2D tasks. Got the opportunity to work on many domains such as analytics, strategy and planning. Hand-in-hand was also cross-functioning with operations and sales executives. I was deeply involved in collaborating with various brands such as Coca Cola, Hershey's, Red Bull, Mars and many other to plan, execute and track the campaign / offers that we run on the platform. Initially, I was just involved in tracking or you can call it dealing with numbers. Later, I also got the chance to talk to other stakeholders and pitch in.
During the start of the Internship, one doesn't get interesting problems / tasks to work on as they first want to test your abilities and accuracy. Once you crack this milestone and show some enthusiasm, they will start involving you on various new and interesting stuff.

Tool used (Development tools - H/w, S/w): Excel (Advance, VBA not required), SQL (Intermediate), Python (Not Necessary but good to have), Tableau.

Objectives of the project: To complete the assigned task timely and accurate.

Major learning outcomes: Multi-tasking in multitasks, Time management, Prioritizing work, Cross functioning with various teams, Strategy and planning, Pitching.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working days and hours: Mon-Fri, working day starts at 11 in the morning, and you can stop at 6 or maybe 7, it will all depend on your speed and time management. In between, you get a break for Lunch.
Team: My team was super cool, energetic and with some real good brains.
Community: Every Friday, you get involved in some fun activities via culture hour (still goes more than an hour :p), All hands and QnAs.
PPO Chances: I worked hard and tried to make myself as irreplaceable as possible, and it came out to be rewarding. Dunzo offered me PPO. Out of 7 students, 2 were offered, and I was the one with the Lowest CGPA. So, it really doesn't matter at the end. You just need to prove your skills, not your academics.
Challenges that I faced: Initially, I had a habit of addressing my colleagues by Sir/Mam. That doesn't work here. It took me two weeks to get to normal.
Expectations: They expect from you to be accurate and honest with a decent speed. You can expect to use excel and its advance functions (Look-up, text functions, Validation, IF etc.). SQL - I would suggest you do at least a beginner level course for SQL.
Python - I used python to automate a few of my tasks to save time and eliminate human errors.

Academic courses relevant to the project: Business analysis. To have a basic idea of how businesses work.

Name: MOHIT DHAWAN (2017A3PS0223P)

Student write-up

Short summary of work done during PS-II: I had to perform various analysis where in my main objective was to work on metrics which would enable us to drive profitability. I also had to work on identifying the key reasons involving the cases where company was facing loss.

Tool used (Development tools - H/w, S/w): Excel, Sql, Tableau.

Objectives of the project: Achive profitablilty.

Major learning outcomes: SQL, Analytics skills, Tableau.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The work environment is good. The mentors are motivating and understanding at the same time. I was quite comfortable with them.

Academic courses relevant to the project: Business analysis.

Name: KRUTARTH LALIT SARASWAT (2017A4PS0248P)

Student write-up

Short summary of work done during PS-II: I was working for the dark stores model initiated by Dunzo.The objective of this project was to create and streamline a process for purchase order raising and closing as well as liquidating slow-moving inventory for efficient working capital utilization. In order to achieve this, one must have an in-depth knowledge of the working of purchase department and current liquidation process that is being followed. In order to acheive the mentioned goal, we had to use analytical tools and first-hand experience gained during our internship. The project gave me appreciable knowledge about supply chain, finance and operations management in total.

Tool used (Development tools - H/w, S/w): SQL, MS excel, MS powerpoint, Inventory management software, Operator tool of the company.

Objectives of the project: The objective of the project was to develop a streamlined process for liquidation of slow-moving inventory as well as purchase management for the dark stores.

Major learning outcomes: The internship gave me a comprehensive knowledge of supply chain, operations and finance management. It taught me the importance of time management and leadership.

Details of papers / patents: None.

Brief description of working environment, expectations from the company: The company has a typical start-up working environment- flexible working hours, working late till night, switching between roles and a great bonding with the team. You will always feel like a colleague rather than an intern. You can expect that the company will load you with responsibilities since day 1 and constantly support you to achieve your goals. The compensation is decent, given the dark store segment of Dunzo is still a startup. Given that it was WFH for us, I cannot comment much about the other facilities provided. However, my overall experience at the company was enjoyable with a lot of learnings along the way.

Academic courses relevant to the project: Supply Chain Management, Fundamentals of Finance & Accounting, Principles of Economics, Any course related to SQL & Advanced Excel.

Name: RYAN ROBY (2017A4PS0438P)

Student write-up

Short summary of work done during PS-II: I was required to monitor the operational metrics of the 8 warehouses powered by Dunzo. Side projects related to managing the inventory and ensuring operational excellence was also done. I helped in the creation of an SOP to prevent fraudulent cases of refunds from the customer.

Tool used (Development tools - H/w, S/w): SQL, Redash, Tableau, and Excel.

Objectives of the project: To reduce the operational metrics to the desired level to ensure operational excellence.

Major learning outcomes: Deep understanding of the operations of a hyperlocal e-Commerce platform.

Details of papers / patents: None was published

Brief description of working environment, expectations from the company: The work environment was friendly and each team member was approachable. The passion of the team members for their work is contagious.

Academic courses relevant to the project: Basic understanding of supply chain management.

PS-II Station: E2open Inc., Bangalore

Faculty

Name: Seetha Parameswaran

Student

Name: MUNGAD AYUSH RAJENDRA (2016B3A70523P)

Student write-up

Short summary of work done during PS-II: 1. JBPM Upgrade analysis.
2. Multithreading based copying.
3. Findbugs issues fixing.

Tool used (Development tools - H/w, S/w): Java, JBPM etc

Objectives of the project: 1. Build a POC for JBPM migration.
2. Build a structure for multithreading based copying.

Major learning outcomes: Learnt about JBPM software and its intricacies.
Fixing bugs in Java.
Learnt about the depths of multithreading and Java executorservice

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Company work culture is decent. Though, since the work was WFH could not tell much about the work culture.

Academic courses relevant to the project: OOP, DSA.

Name: TAGWALE SWAPNIL VIJAY (2016B4A70551H)

Student write-up

Short summary of work done during PS-II: Improving the functioning of internal webapp used for various purposes for teams in E2OPEN.

Tool used (Development tools - H/w, S/w): Eclipse, Java server pages, Javascript.

Objectives of the project: Improve the functioning of webapp.

Major learning outcomes: Javascript and Webapp functioning.

Details of papers / patents: E2OPEN multi-tier cost management.

Brief description of working environment, expectations from the company: Work environment is pretty chill and the mentors are quite helpful.

Academic courses relevant to the project: OOP, DBMS

PS-II Station: E-Connect Solutions Pvt. Ltd., Udaipur

Faculty

Name: K Venkatasubramanian

Student

Name: HEMANT DHAMIJA (2016A7PS0031G)

Student write-up

Short summary of work done during PS-II: Designing a web application in React using self-designed dynamic components.

Tool used (Development tools - H/w, S/w): ReactJS, AntD.

Objectives of the project: Designing a web application in React using self-designed dynamic components.

Major learning outcomes: How to design a web application in React using dynamic components.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Working environment is good, full of professional people and expectations from the company are reasonable and have been fulfilled so far

Academic courses relevant to the project: DSA

Name: KONDA NIKHITHA (2017A7PS0001H)

Student write-up

Short summary of work done during PS-II: Work done was totally based on front-end. We were expected to build some libraries with Reactjs. We have created properties and examples of some components. Also done the documentation for those libraries. Worked on other application as well using the created libraries. We were given training on mySQL as well.

Tool used (Development tools - H/w, S/w): ReactJS, JSON, ReactStyleguidist.
Objectives of the project: Worked on building some libraries which can be used by the company in other projects or applications.

Major learning outcomes: Learnt Reactjs, JSON and tools like React Styleguidist.

Details of papers / patents: None.

Brief Ddescription of working environment, expectations from the company: Working environment was good. Mentors and HR were supportive. Some output was to be produced on the daily basis as we had daily standup meets. I had a good working experience.

Academic courses relevant to the project: DSA

Name: RITIK KANDORIA (2017A7PS0009P)

Student write-up

Short summary of work done during PS-II: In PS-2, I was in a team that was asked to create a UI framework in React that can be used to implement multiple other applications that will be created on React. The UI framework involves using a UI library and create a wrapper around that library to use it in our own convenience. Then, we dynamically created some web pages for using our UI framework. The work includes using React JS to create framework and devOps tools like Jenkins and SonarQube to check the progress of our project.

Tool used (Development tools - H/w, S/w): Microsoft VS code, React JS, HTML, CSS, DB2, Jenkins, SonarQube.

Objectives of the project: To create a UI framework using react JS.

Major learning outcomes: Learnt about web development and how it can be done on large scale applications using various UI components etc.

Details of papers / patents: Nil

Brief Description of working environment, expectations from the company: The work environment was work from home this time. Mentor was very helpful in clearing our doubts in the project. The technical staff were pretty helpful in setting up virtual devices and all other materials quickly. The company will let you get a good exposure of the products they use. The number of projects are not that much, so there is not many choices but the projects available are pretty good. A good training is also done on the tools that will be used in project.

Academic courses relevant to the project: OOP, DSA, DBMS.

Name: VEGGALAM YOGA SAIKANTH (2017A7PS0215H)

Student write-up

Short summary of work done during PS-II: Work done mainly involves creating a UI framework using ReactJS to be used by the company in developing an overall ERP framework which is reusable whenever and however required, saving a lot of resources and time.

Tool used (Development tools - H/w, S/w): ReactJS, AntD, Jest, Jenkins.

Objectives of the project: Creating a reusable UI framework using React.

Major learning outcomes: Major learning outcomes have been about using javascript to build UI, basic backend workings, about the role of DevOps in software engineering cycle.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The work environment is very good, the mentors are very helpful and guide appropriately whenever required. It has been made sure all, training regarding all the areas promised has been delivered without fail.

Academic courses relevant to the project: Software Engineering course is relevant to the project.

Name: UTKARSH GROVER (2017A7PS1428H)

Student write-up

Short summary of work done during PS-II: Worked on creating a front end UI library such that instead of writing normal code, the webpage can be created using a JSON in a specific per-decided format at runtime. The library included features like API calls, in page javascript which could be done using the JSON.

Tool used (Development tools - H/w, S/w): React, Jest, React testing library, NPM packages, HTML, CSS, VScode.

Objectives of the project: Creating a UI library.

Major learning outcomes: Gained experience and exposure related to the development of a scalable UI library that can create webpages at runtime using JSONs.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment was quite friendly and provided with great learning opportunities. The deadlines given were manageable and mentors were helpful all throughout the process. The company wholeheartedly treated us a part of their family and made effort to include us in celebrations / extra curricular activities. We were handed out moderate amount of work and were expected to complete it in the given time frame which was achieved in most of the cases.

Academic courses relevant to the project: DSA , Software programming.

Name: AKSHAT GUPTA (2017A7PS1699H)

Student write-up

Short summary of work done during PS-II: Front end development using React.

Tool used (Development tools - H/w, S/w): React

Objectives of the project: Develop new libraries for the project.

Major learning outcomes: Making libraries from scratch.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The mentor was quite helpful.

Academic courses relevant to the project: OOPS

PS-II Station: e-Governments Foundation, Bangalore

Faculty

Name: Preethi N. G

Student

Name: SHASHWAT MISHRA (2016B1A30568G)

Student write-up

Short summary of work done during PS-II: The initial training phase involved creation of a demo SpringBoot API application and a location tracker android application. After that, I was asked to contribute to e-Governments foundation's codebase on GitHub and was alloted bug fixing and implementation tasks.

Tool used (Development tools - H/w, S/w): S/W development tools used -> Git, GitHub, JIRA, IntelliJ, Flyway.

Objectives of the project: Design a SpringBoot employee management application.

Major learning outcomes: Got an in depth knowledge about how application modules are created from scratch and scaled. Tech Stack -> Java (Spring framework), PostgreSQL, ElasticSearch.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Lot of learning involved, ample amount of time is given to pick up a new tech stack and implement new applications. Team leads, mentors and other employees are very much helpful are supportive. Overall, it is a great place to jumpstart career in the IT domain.

Academic courses relevant to the project: Computer programming, Object oriented programming.

Name: AKSHITA SOI (2016B1A30626G)

Student write-up

Short summary of work done during PS-II: I worked in the DevOps team on a project related to simplifying deployments using a yaml configuration file. The final module was deployed on a kubernetes cluster.

Tool used (Development tools - H/w, S/w): Golang, yaml, Kubernetes, Helm.

Objectives of the project: To simplify deployments.

Major learning outcomes: I learnt about various tools and technologies related to Devops and deployment operations.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The working environment was good. You are allowed to learn and grow at your own pace. People are supportive

Academic courses relevant to the project: Data structures and algorithms

Name: SHAHAPURKAR SARVESH MUKESH (2017A3PS0164G)

Student write-up

Short summary of work done during PS-II: 1. Designed an NLP based WhatsApp chatbot in Python and used it for classifying complaint categories, facilitating bill payments / receipt retrievals on WhatsApp.
2. Developed a fuzzy logic based type and search API for fetching the user's location based on the city name input.
3. Designed an automatic document verification system using OCR in Python.
4. Integrated the Python source code with WhatsApp using Flask APIs and webhooks and the GupShup platform.

Tool used (Development tools - H/w, S/w): Nltk, OpenCV, Flask, Pytesseract, Fuzzywuzzy, Speechrecognition, Jenkins, Kubernetes, Postman, Beeceptor, Ngrok.

Objectives of the project: 1. Develop and NLP based WhatsApp chatbot for complaint classification, bill payment and receipt retrieval.
2. City recognition API using fuzzy logic.
3. Automatic document verification using OCR.
4. WhatsApp integtration using Flask.

Major learning outcomes: 1. NLP
2. OCR
3. Fuzzy logic
4. Image pre-processing
5. API development
6. Mock servers
7. Flask

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Working environment is good. Work timings are flexible and the employees are extremely friendly and co-operative. Got to learn a lot from this organization. Constant encouragement and guidance of the mentors aid in progress. Stipend is decent.

Academic courses relevant to the project: Digital image processing, Object oriented programming.

PS-II Station: Emptycup Innovation Pvt. Ltd., - Non-Tech, Bangalore

Faculty

Name: Shekhar Rajagopalan

Student

Name: PRAKHAR MUNDE (2017A4PS0538P)

Student write-up

Short summary of work done during PS-II: Scraped e-commerce websites using Python for floorplan image collection. Performed App analytics using Mixpanel for preparation of dashboards focused on understanding customer retention trends. Established key performance indicators and tracked them by triggering events in the backend using Mixpanel. Thereafter, prepared business level dashboards using data studio and Power BI to analyze the sales and project data of the company. These dashboards also analyze the work progress of the artists and designers, so that it can be controlled by the management easily. The latter half of the internship was focused on project management. Coordinated with the company seniors in the

projects of website revamping, digital marketing strategy, and front-end development of a new web tool.

Tool used (Development tools - H/w, S/w): Mixpanel for App analytics, Power BI, Google data studio, Tableau, Figma, Google sheets, Jupyter notebook - Web scraping.

Objectives of the project: Scraping the images to improve user experience on the app. Dashboards prepared for tracking of company's and team's progress by the senior management.

Major learning outcomes: Understood the interior designing market, startup work culture, data visualization tools, web scraping, UI/UX development, project management.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Although, the team is small, everyone is very helpful. They treat the interns just like employees and assign day to day tasks to them. The projects allotted were unstructured however.

Academic courses relevant to the project: None

PS-II Station: Enterpreneurship Development and Innovation Institute, Chennai

Faculty

Name: Anjani Srikanth Koka

Student

Name: KUMAR ANKIT (2016B5A10746G)

Student write-up

Short summary of work done during PS-II: We first studied about the startup culture in Tamil Nadu along with the one in BITS. Then, we did Industry analysis on different sectors, Ex-Edtech, Medtech, Cleantech. Then, we helped the EDII team with conducting a roundtable meeting with all the major startup incubators in Tamil Nadu. We also helped with the MSME accelerator program being launched.

Tool used (Development tools - H/w, S/w): MS office suite, Google drive, SQL (not mandatory, although would help a lot).

Objectives of the project: The objective was to help the EDII and TANSIM team with business development and connecting them startup ecosystem of Tamil Nadu.

Major learning outcomes: Excel skills, Business development and market research skills.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The supervisors were very helpful and nice. The director is also a BITSian, and a UPSC topper. Their only requirement is strong communication skills and willingness to solve problems.

Academic courses relevant to the project: None

Name: MRITYUNJAY MAHESHWARI (2017B3TS1213P)

Student write-up

Short summary of work done during PS-II: I collaborated with the manager - TANSIM to perform an extensive market research into various aspects of the FinTech, AgriTech and

SpaceTech sectors, allowing me to provide the executives with an accurate picture of current deal flows and market environment. I was responsible for building strong relationships with the SMB clientele allowing me to better understand and service their needs for the MSME accelerator program. I assisted the EDII's team with preparing detailed reports on all the incubators across Tamil Nadu. Furthermore, I helped organise a roundtable discussion to understand the various gaps existing in the startup ecosystem for each incubator in the state of Tamil Nadu.

Tool used (Development tools - H/w, S/w): MS excel, Venture intelligence database.

Objectives of the project: Market research, Completion of live projects.

Major learning outcomes: Excel skills, Business development skills and market research skills.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Since, the internship was WFH, there's nothing much to discuss about the working environment. Still, the manager and executives in the company were really helpful at every step. The projects assigned were really helped me to hone my research and presentation skills.

Academic courses relevant to the project: None

PS-II Station: Everwell Health Solution, Bangalore

Faculty

Name: Sonika Chandrakant Rathi

Student

Name: AYUSH PRANJAL (2017A7PS0117G)

Student write-up

Short summary of work done during PS-II: For the first month, we were assigned as on-call engineers to fix various bugs in the company's different projects. Then, we were assigned our internship project. My project was on various PDF generation tasks.

Tool used (Development tools - H/w, S/w): NET framework, Android, Java, JsPDF, Pdfdocument library, PDFsharp.

Objectives of the project: PDF generation of various documents.

Major learning outcomes: To learn about new libraries related to PDF generation, to collaborate with colleagues & to optimize code before deploying it to production.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The PS-2 station was entirely WFH. We had to work from Monday to Friday. Software developers have daily meeting to show progress on their projects.

Academic courses relevant to the project: Object oriented programming, Data structures and algorithms, Computer networks.

PS-II Station: Experian, Hyderabad

Faculty

Name: Kranthi Kumar Palavalasa

Student

Name: PIDUGU VAISHNAVI PRIYANKA (2017A7PS0017H)

Student write-up

Short summary of work done during PS-II: To develop a portal for internal purpose of the company - Web development.
To create a kafka consumer to consume the msg and store it in cassandra DB.
To decrypt an encrypted payload.

Tool used (Development tools - H/w, S/w): Gradle, Docker, Source tree, Github, Bitbucket, Agile.

Objectives of the project: The objective of the project is to create a web page for internal purposes, a kafka consumer and store it on cassandra, decrypt an encrypted payload.

Major learning outcomes: Web Development, Kafka Consumer, Cassandra, Java, Kotlin

Details of Papers/patents: Kafka Consumer and Cassandra (project) did not publish any paper

Brief Description of working environment, expectations from the company: It is a very good working environment, The mentors are helpful and help you in completing the work. Group discussions and get to know about the work

Academic courses relevant to the project: Big Data, Cloud Computing

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Name: SABBISETTI JASWANTH (2017A7PS0126H)

Student write-up

Short summary of work done during PS-II: Using Deequ analyzers, I have to make report called daily validation report consisting of various checks and counts of the particular field values. This is being done for everyday and by calculating % difference from previous day, if it exceeds the threshold difference raise an alert and data is to be reviewed again (or) the data is to be reloaded. Challenge is that we have to work with tables containing billions of rows.

Tool used (Development tools - H/w, S/w): Spark, Scala, AWS Deequ.

Objectives of the project: To generate the daily validation report to ensure the data quality in the incoming data.

Major learning outcomes: Working with AWS, Spark, Scala, SQL.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: It is more virtual this time. Couldn't experienced better. But Co-workers are friendly and mentors are helpful. They provide honest feedbacks. Company uses agile methodology of project development. So, fast pace of work will be there. Overall it's a good experience.

Academic courses relevant to the project: Oops through Java.

PS-II Station: Express Stores - Tech, Gurgaon

Faculty

Name: Pravin Yashwant Pawar

Student

Name: PANCHUMARTHI PRANAV (2017A7PS0153P)

Student write-up

Short summary of work done during PS-II: I have worked on designing, developing, and delivering a middleware web application to act as the source of truth for the company, following Agile methodology. I was a key member in designing the database architecture, as well as using Python and JavaScript in Django to create various models, which I later deployed as a Postgres SQL database on AWS. I further created multiple REST based web APIs leveraging the MVT design pattern of Django as well as DRF (Django Rest Framework) to integrate this application with third party applications such as PayTM to eliminate data redundancy, and worked on the business logic to implement validations for operations on the database.

Tool used (Development tools - H/w, S/w): Django, MERN stack, Node.js, JavaScript, PostgreSQL.

Objectives of the project: To unify the company's internal resources so as to create a source of truth that belongs to the company rather than outsourcing to various other vendors through the development of a middleware application using Django and Postgres SQL databases.

Major learning outcomes: Being a startup, the company work and atmosphere really gave me an idea of the startup culture and vigor present in such companies. Additionally, it gave me an opportunity to learn various things from scratch, and be a valuable member in the actual core structure of the company's IT requirements. It was also very demanding and kept me on my toes and constantly made me strive to do my best and put my best foot forward. It was valuable in giving me immense knowledge in a sector I previously had no knowledge in, that is, web development.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The working environment was one of a startup, hence when work presented itself, it was our job to complete

it as soon as possible. Some elements of the project had greater priority compared to others and had to be done rather quickly with precision whereas others had time to take it slow and look for a more organized approach. Hence, the company expected one to be very flexible in thought and pacing, as well as ready to work on each and every aspect of the SDLC of an application.

Academic courses relevant to the project: DSA, OOP.

PS-II Station: Express stores - Nontech -Onsite, Gurgaon

Faculty

Name: Sandeep Kayastha

Student

Name: KUMAR SHIVAM (2016B5A10668P)

Student write-up

Short summary of work done during PS-II: Worked in domains like supply chain management, operations and general management. It was a nice experience.

Tool used (Development tools - H/w, S/w): MS office, Google sheets.

Objectives of the project: Supply chain management and operations management.

Major learning outcomes: Supply chain management, Marketing, Operations.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Its a fast paced work environment because the company is rapidly scaling up. You need to be very adaptable.

Academic courses relevant to the project: None

Name: ABHISHEK JHA (2017A2PS0071P)

Student write-up

Short summary of work done during PS-II: I was assigned the role of a data analyst. My primary work was to create different metrics and parameters on which growth of the company can be observed and creating dashboards for the same. Apart from this, I was also involved in data management and product management, where I was supposed to automate the daily processes which were earlier manual and were less efficient. Also, I was part of the team that was responsible for improving inventory management and order management.
Tool used (Development tools - H/w, S/w): SQL, Java script, Excel, Pyrops (WMS), Paytm POS, Google data studio.

Objectives of the project: Major objective of all my projects were to optimize currently existing system by coming up with better algorithms and parameters.

Major learning outcomes: Since, it is an early stage startup, I got the opportunity to work for every department in the firm and understand their basics and conundrums they face. Also, I got to learn and acquire better skillset through the course of PS which will be beneficial for the future.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Working environment of the firm is like of a typical startup. There are no formal office hours. Everybody

works according to tasks they have. People there are generous and always ready to help. Since, it is an early stage startup, there was a lot of workload. Still it was a good experience.

Academic courses relevant to the project: Probability and statistics, Computer programming, DRM.

Name: AMAAN HAKIM (2017A4PS0903G)

Student write-up

Short summary of work done during PS-II: This is a growing startup hence the range of projects varied from marketing to data analysis and business operations. While marketing was mostly product advertising, data analysis and business operations was much more technical and essentially the skeleton behind the work in the foreground.

Tool used (Development tools - H/w, S/w): Data studio, Appsheet, Google sheets.

Objectives of the project: To optimize currently existing system with better algorithms and parameters.

Major learning outcomes: 1. Work culture in a startup.
2. The effort to create a customer base for a new vision.
3. How important such experiences are before we dive into the corporate lifestyle.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Work environment is quite good. The work load is fairly reasonable and there is a good scope for the growth of one's interpersonal skills.

Academic courses relevant to the project: None

Name: AMAAN HAKIM (2017A4PS0903G)

Student write-up

Short summary of work done during PS-II: 1. Marketing 2. Operations 3. Expansion planning.

Tool used (Development tools - H/w, S/w): 1. Excel 2. Photoshop 3. Data studio.

Objectives of the project: Marketing and Operations.

Major learning outcomes: Working of a startup.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Work environment was great. Great scope for growth.

Academic courses relevant to the project: None

PS-II Station: Eyenetlabs, Trivandrum

Faculty

Name: Sindhu S

Student

Name: PONNOLU YASESHWINI REDDY (2017A8PS0825H)

Student write-up

Short summary of work done during PS-II: Web interfaces for robot and human interaction.

Tool used (Development tools - H/w, S/w): ROS platform, HTML, CSS, JavaScript, Jquery, Django, React.

Objectives of the project: Buliding an interactive web page for easy communication with robots.

Major learning outcomes: Working API and creating web pages.

Details of papers / patents: We have studied some research papers but not from any specific university.

Brief description of working environment, expectations from the company: The company was pretty good they gave us our time to learn new things before we could start working on the project and even the expectations were a little more than expected. The colleagues were also very friendly and are very receiving and are very helpful.
Academic courses relevant to the project: Software engineering

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PS-II Station: Flipkart (Business Development), Bangalore

Faculty

Name: Vineet Kumar Garg

Student

Name: Anurag Pandey (2017A1PS0891G)

Student write-up

Short summary of work done during PS-II: I was a part of the makeup and fragrances team and looked after category planning. I was involved in ensuring a quality experience when customers browse makeup and fragrances products, analyzing traffic, sales of different products & verticals, and making plans accordingly. I also led the operations team to make changes in different product pages to ensure that all queries about the product are quenched when a customer reaches a product page. I also worked on enabling different filters and enabling small widgets in the browsing experience that helps customers in narrowing down to the products that they are looking for.

Tool used (Development tools - H/w, S/w): Excel, Google sheets, Internal portals.

Objectives of the project: I worked on multiple small projects which were centred around improving experience of buying products. This is essential since makeup and fragrances are want based products, hence, the customers need to be convinced that they are getting a good product.

Major learning outcomes: Negotiation - This is the most important learning outcome. I had to convince multiple people across teams why my request is important and needs to be prioritized. Understanding of e-commerce - I learnt about the scale and structure of Indian e-commerce on a granular level.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The working environment was great. My team was helpful and guided well. I was always treated as an equal team member. I was given the same work as experienced / MBA graduates - there was never a differentiation there. Further, people from other teams are helpful as well. I found that people respected each other which I think was an important reason for a good environment. Interns are

given important charters and the expectations are equally high for you to deliver quality work on time. Flipkart is quite fast-paced and the working hours are long (10-12 hrs everyday). I have heard it was better during normal times. You also have to work at late hours as well because of the nature of the work. At times, the work does become monotonous, and then you are expected to not lose motivation and still deliver quality work. This monotonicity comes due to lack of automation of a lot of processes, however, other teams are working continuously to reduce it as much as possible. People respect weekends quite religiously so that is good.

Academic courses relevant to the project: None
Having experience of PoRs where you negotiate with different people is helpful.
Good in MS excel and google sheets is super important.

PS-II Station: FlipSpaces Technology Labs Pvt. Ltd., Mumbai

Faculty

Name: Sandeep Kayastha

Student

Name: SARTHAK GUPTA (2016A1PS0753P)

Student write-up

Short summary of work done during PS-II: Generating B2C leads for an interior design firm for its new vertical- Rebootspaces, which specializes in providing home office furniture. Channels used:
1. Telemarketing- Calls to individuals responding to ads on instagram / facebook.
2. E-commerce sites: Amazon, Flipkart, Pepperfry- Managing listings here, running ad campaigns and customer query servicing.

Tool used (Development tools - H/w, S/w): Zoho (CRM), MS office (mainly excel), Google Ads (SEO).

Objectives of the project: Generating B2C leads for sale of work-from-home furniture.

Major learning outcomes: Sales and marketing, Organizational behaviour.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Work was completely online, with working hours 9.30am-7.00 pm on Monday-Saturday. The team was helpful and cooperative. The work involved in sales and marketing will require little knowledge from your coursework, but has its own learning curve.

Academic courses relevant to the project: Principles of management, Technical report writing.

PS-II Station: Flyboat, Hyderabad

Faculty

Name: Sandeep Kayastha

Student

Name: ALBRITE BEN (2017A1PS0341G)

Student write-up

Short summary of work done during PS-II: Financial modelling is a representation in number of some or all aspects of a company's operation. Financial models are used to value a company or compare a company with its peers in the industry. Here at flyboat, we formulate financial models for startups to aid them in securing funding.

Tool used (Development tools - H/w, S/w): Microsoft excel, PowerPoint.

Objectives of the project: Financial analysis.

Major learning outcomes: Advancd excel & PowerPoint designing.

Details of papers / patents: Completed an automated financial model.

Brief description of working environment, expectations from the company: Great working environment. The mentor and other staffs are very supportive.

Academic courses relevant to the project: Fundamentals of finance and accounting, Financial management, Business analysis and valuation.

Name: JOSHI AKHILESH SUNIL (2017A8PS0706G)

Student write-up

Short summary of work done during PS-II: Flyboat is a managment consulting firm for startups and early stage ventures.

Tool used (Development tools - H/w, S/w): MS excel, MS PowerPoint, Google spreadsheets.

Objectives of the project: Workflow automation of internal processes on google worksheets and management consulting to startups.

Major learning outcomes: Hands on skills in MS excel and PPt.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Working environment is very good and mentors are very professional.

Academic courses relevant to the project: None

PS-II Station: GenY medium, Hyderabad

Faculty

Name: Anjani Srikanth Koka

Student

Name: PRATIK MISHRA (2017A2PS0926P)

Student write-up

Short summary of work done during PS-II: Managing and optimizing marketing campaigns on various digital platform like linkedin, adwords, facebook, etc. and handling / manipulating large amount of data.

Tool used (Development tools - H/w, S/w): Google analytics, search console, hotjar, pardot, salesforce, adwords / related ad creation platforms etc.

Objectives of the project: To meet marketing objectives within client budget and expectations.

Major learning outcomes: Report creation, ETL, Making and marketing, (self) building prediction models.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Highly collaborative and good to work.

Academic courses relevant to the project: None

Name: PATWARDHAN NISHAD SUBODH (2017A4PS0410G)

Student write-up

Short summary of work done during PS-II: 1. Working on digital advertising platforms to advertise products.
2. Marketing strategy development for the client.
3. Media planning and campaign planning for potential new clients and pitching.
4. Developing data integration, analysis and visualisation setups.

Tool used (Development tools - H/w, S/w): 1. Google analytics 2. Google data studio 3. Google AdWords 4. WordPress 5. Facebook Ad manager 6. MySQL 7. Shopify

Objectives of the project: To understand the difference between the marketing efforts that need to be taken for a startup against a well established company venturing into digital marketing.

Major learning outcomes: Media planning, Marketing insights, Interacting with clients, Pitch development, Ad Placement, Audience research, Market research.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The company is a nice place to work and have not physically been there. My entire department ie. analytics is

very fun and inspiring to work with. Manager has been one of the best mentors I have come across in my life. Head of the department has helped me with developing more soft skills and analytics skills.

Academic courses relevant to the project: Principles of economics.

PS-II Station: Glocol Networks (IOT and AI), California

Faculty

Name: H. Viswanathan

Student

Name: SATYAM SUMAN (2016A7PS0061P)

Student write-up

Short summary of work done during PS-II: You will learn a lot of things such as how to use AWS services.
Tool used (Development tools - H/w, S/w): AWS, Visual studio box.

Objectives of the project: To build an IoT/SaaS solution for a client.

Major learning outcomes: Python, AI, ML, etc

Details of papers / patents: Papers on calibration factor and bluetooth Mac Ids.

Brief description of working environment, expectations from the company: WFH

Academic courses relevant to the project: Computer networks, AI, ML, Web development.

Name: PITTALA TRINATH SAI SUBHASH REDDY (2017A7PS0228H)

Student write-up

Short summary of work done during PS-II: My work includes collection of train schedule data from a website and automating it and creating a user friendly interface for the data collected. Next would be to extract and process the data from the sensors which were collected data as they were programmed earlier by us and creating backup and hosting data to a dynamic webpage for downloading securely in dev stages. Next would to create dashboard for representing the data collected to client company with insights on future data using ML and finally testing the dashboard API in postman.

Tool used (Development tools - H/w, S/w): Raspbian devices, AWS services, OpenSSH, VS code, Github, AWS Amplify, Angular, ReactJS.

Objectives of the project: Complete IOT / SAAS solution for a client train company.

Major learning outcomes: Got to learn about the AWS services, SSH, standard security protocol for data transfer and how to change them to our use case.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The company is a startup focusing on smart city technologies and makes deals with client companies to build smart systems for them. It has few big names like Cisco, Caltrans, US dept. of Homeland Security to its client list. The expectations of company would be changing based on their current dealings, but they would expect you to learn fast during the initial weeks and teams are generally in size of 4-5. Since it is startup you are given more responsibility.

Academic courses relevant to the project: Software engineering, Machine learning, Object oriented programming.

PS-II Station: Goodera, Bangalore

Faculty

Name: Mohammad Saleem J Bagewadi

Student

Name: NIMISH GOYAL (2016B4A20463P)

Student write-up

Short summary of work done during PS-II: The basic context is organizing data into a structured way which has purpose for data visualization at later stages and adding modifications subsequently. The company deals with alot of financial transactions with its clients, regarding the same the invoices and all data is managed by the team. Main objective was to streamline the data and produce visualizations so as to help them understand data better, rather than seeing the data in its raw form. The source data contains all department data (i.e. data with respect to all departments of the company) but the data structure concerns only one of those departments. It is difficult to pick this data manually every time and also replace it with the main source data. Excel sheets for the main data source are received at intervals , which may be updated for certain values. There was a need to extract only the required data from this source sheet along with the other data (that is from a different source) parallely and update them into a defined structure of data every time. So, a python script was created to do so. For that purpose, some basic python related to / involving data analysis was required. Zoho analytics was used by the company for storing and visualizing data. To create the data in the required format, SQL queries were used and different tables were queried in order to create and extract data in

required form from all the tables data present on this platform. SQL functions knowledge could have proved to be handy here.

Tool used (Development tools - H/w, S/w): Python, Zoho analytics, Data studio, MS excel.

Objectives of the project: Data automation and data visualization.

Major learning outcomes: Importance of data analysis, Importance of data in judging client company relationship, Python.

Details of papers / patents: I didn't create any official product or something, just did data automation and created dashboards on daily client data that the company stores.

Brief description of working environment, expectations from the company: As we all know the working environment for this time were our own rooms at home due to pandemic, but yeah really would have preferred to work by physically going to the company office, so as to get an everyday routine going. But yes, it is what it is so this time the working environment can be measured in terms of how our mentors handled as and to be honest in my case my mentor was very positive and helpful, never pressured me for any task and helped me in cases where i needed. I did learned a lot from her in dealing with corporate world. Also, the various employees to whom I was connected with any other work were very frank and helpful. You can expect a lot from the company in terms of learning but you have to work hard to learn things, you have to push yourself in terms of completing tasks

Academic courses relevant to the project: Not exactly but mainly Python coding and MS excel.

Name: LUNAWAT RAJAT RAKESH (2017A1PS0700P)

Student write-up

Short summary of work done during PS-II: Work related around the field of product management. Creating dashboards using different product analytics software like google analytics and running SQL queries to draw out necessary data from the database. Also, included testing of new features and bug fixes and reporting the same.

Tool used (Development tools - H/w, S/w): Google analytics, Mailchimp, SQL, Metabase.

Objectives of the project: Multiple objectives- Feature testing and reporting, Dashboard building.

Major learning outcomes: What product management and what a product manager is required to do mostly from analytics perspective.

Details of papers / patents: None

Brief description of working environment, expectations from the company: As the working was completely virtual, I am not in the position to comment about the work culture. People were mostly friendly though.

Academic courses relevant to the project: None

Name: RANE DEVASHISH SATYAJIT (2017A3PS0330G)

Student write-up

Short summary of work done during PS-II: I joined Goodera as an analyst in the US consulting team. My team works with American corporates to help them measure, track, and manage the impact of their CSR programs. My job was to research and collect data on the various ongoing projects of the client, interact with the project managers to finalize a visualisation plan, and then use that to build interactive dashboards from which inferences can be drawn. Given that Goodera is a growing company, I got to work on a few interesting side projects as well. For example, I was a part of the team that designed the strategy roadmap for

one of Goodera's newest product offerings. I also got the opportunity to work with the product team to ideate solutions that would make Goodera's proprietary software more efficient.

Tool used (Development tools - H/w, S/w): Proprietary Goodera software (similar to SQL, Tableau, Power BI etc.).

Objectives of the project: I worked on a project for a major American retail chain. The company wanted to minimize all worker suffering and ill-treatment along their whole supply chain which starts from developing Asian countries. My job was to study the data related to worker survey.

Major learning outcomes: 1. Use of the different analytics tools.
2. Dealing with clients halfway across the world.
3. Working with large amounts of data to draw meaningful insights.
4. Developing growth strategies.
5. Managing the life-cycle of an entire CSR program (and an understanding of the industry in general).

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Goodera has a very friendly work environment. The organizational structure is flat and even the senior most members of the company treat you as a part of the team. The expectations from the company vary from client to client; some projects are extremely demanding and may require you to put in long hours, whereas others are relatively lax and you can get through them quite easily. Goodera employees generally have the freedom to set their own work hours as long as the work is submitted on time.

Academic courses relevant to the project: N/A

PS-II Station: Goscale Technologies Pvt. Ltd. - IT, Bangalore

Faculty

Name: H. Viswanathan

Student

Name: JOSHI ABHISHEK MEHUL (2017A7PS0950G)

Student write-up

Short summary of work done during PS-II: Contributing towards making Pulse, a desktop application which is used to monitor and manage employees remotely. It had features like tracking apps, urls, mouse clicks, key strokes pressed by the user. And also a web application to display the data tracked using this.

Tool used (Development tools - H/w, S/w): ReactJS, ElectronJS, HTML, CSS, JavaScript, Bootstrap, Java, Selenium.

Objectives of the project: Contributing towards making Pulse, a desktop application which is used to monitor and manage employees remotely. It had features like tracking apps, urls, mouse clicks, key strokes pressed by the user.

Major learning outcomes: ReactJS, ElectronJS, HTML, CSS, JavaScript, Bootstrap, Java, Selenium.

Details of papers / patents: No papers / patents. We were given regular office work.
Brief description of working environment, expectations from the company: Working environment was very friendly and helping.

Academic courses relevant to the project: Data structures and algorithms, Object oriented programming, Operating systems, etc.

PS-II Station: Grasim Industries Ltd., Nagda

Faculty

Name: Arun Maity

Brief write-up on PS-II station: Students were given projects on inventory management, optimization of viscose parameters, improvement of Multi Stage Flash Effect Evaporator (MSFE) efficiency and dependency of pigment quality on fiber quality. Mechanical engineering students should study inventory control in the first degree. Chemical engineering students should study application of unit operations and chemical process technology. Industry is looking for data analysis skills like multiple regression, ABC analysis etc.

Student

Name: PATNAIKUNI DIVIJ PRITHVI (2015A1PS0721H)

Student write-up

Short summary of work done during PS-II: My project was on improving MSFE evaporation efficiency by analysing process and operating parameters and suggesting improvements, suggestions etc.

Tool used (Development tools - H/w, S/w): Microsoft excel, Regression analysis, Exploratory data analysis, Data processing, Microsoft powerpoint.
Objectives of the project: Analysis of MSFE operation and process parameters to improve evaporation efficiency.

Major learning outcomes: Data analysis, Presentation skills, Communication skills and General soft skills.

Details of papers / patents: None

Brief description of working environment, expectations from the company: I had a wonderful time working in the environment.

Academic courses relevant to the project: Chemical engineering electives, Data science.

Name: PRATHAM JAIN (2017A1PS0846P)

Student write-up

Short summary of work done during PS-II: Initially, I made excel sheets linking supplier with lot no. of the pigments used by the company to produce fibre. I also found out whether a certain pigment is suitable to use or not based on norms given by the company. Also compiled data containing supplier, lot no., factors that affect fibre quality (pH, acidity, alkalinity, KW rise, product rise, settling, total solid, color value, etc.), jet changing data, shirley fault data, date wise machine production containing denier data with supplier data, % deviation containing data of each month from Oct-19 to Mar-2020 as well as based on the supplier. Ran regressions relating pigment quality with various factors like shirley fault, jet change, denier and % deviations.

Tool used (Development tools - H/w, S/w): MS excel, Minitab, MATLAB, Python.

Objectives of the project: To relate how components determining pigment quality can affect fibre quality.

Major learning outcomes: Found out whether a certain pigment is suitable to use or not based on norms given by the company. Related factors that affect fibre quality (pH, acidity, alkalinity, KW rise, product rise, settling, total solid, colour value, etc.) with jet changing data, shirley fault data, denier data and % deviation data.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: My ideal work environment is one that is centred around working as a team and that allows everyone's talents to flourish. The working environment was very friendly in Grasim Industries Ltd, Nagda as everyone in the company is ready to help whenever any guidance is required. They were very motivating as they help me in learning new things which in turn help me with the project.

Academic courses relevant to the project: Engineering chemistry, Thermodynamics, Fluid mechanics, Numerical methods for chemical engineering, Process dynamics and control.

Name: SHAH PARTH CHIRAG (2017A4PS0917G)

Student write-up

Short summary of work done during PS-II: I was able to identify top 5 items on value based, volume based. Also identified materials into A,B,C category where A category has materials with higher values and in less quantity, B category has materials with lesser value and higher quantity and C category has least value and highest quantity. Also determined economic order quantity.

Tool used (Development tools - H/w, S/w): MS excel, ABC analysis, EOQ analysis.

Objectives of the project: Spare parts inventory management of spinning department.

Major learning outcomes: Usage of ABC analysis to get in depth knowledge about the different materials.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: It was a nice experience. I had to analyze different materials used in the department. So, I implemented ABC analysis, EOQ determination and also found the top - 5 items in the department on value basis, volume basis. I also implemented frequency analysis.

Academic courses relevant to the project: Yes academic courses were useful to the project. Those courses helped me during the project.

PS-II Station: Grey Orange Robotics Pvt. Ltd., New delhi

Faculty

Name: Nithin Tom Mathew

Student

Name: ADITYA RAMACHANDRAN (2017A3PS0339P)

Student write-up

Short summary of work done during PS-II: 1. Conducted customer interviews to tailor reports around persons.
2. Iterated on report structure with the help of targeted feedback.
3. Validated data across the pipeline (from company to client).

Tool used (Development tools - H/w, S/w): 1. Tableau 2. Alteryx 3. Influx 4. Grafana

Objectives of the project: Map generated reports to customer personas (eg. Maintenance manager, Planning manager).

Major learning outcomes: Familiarity with the tech stack mentioned above.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The work environment is friendly, colleagues are supportive. We are encouraged to take initiative and participate, commit, and deliver.

Academic courses relevant to the project: None

Student

Name: HEMANTH VARMA ALLURI (2017A7PS1170P)

Student write-up

Short summary of work done during PS-II: Refactoring codebase to improve quality of the code related to provisioning machines in the cloud.

Tool used (Development tools - H/w, S/w): Python, Django, Fabric library, AWS.

Objectives of the project: Improve the quality of the codebase and audit the code to remove deprecated parts.

Major learning outcomes: Python Fabric Library

Details of papers / patents: None

Brief description of working environment, expectations from the company: Small team with daily stand-ups to synchronize work goals. Expectation: Improve the quality of the codebase.

Academic courses relevant to the project: Object oriented programming.

PS-II Station: Groww - Software Development, Bangalore

Faculty

Name: Akanksha Bharadwaj

Student

Name: ANSHUMAN PATI (2016B4A70470H)

Student write-up

Short summary of work done during PS-II: I was part of the onboarding team at Groww. I created a dashboard for upload and verification of user's documents by the operations team so that user can be safely and efficiently onboarded onto Groww via the Groww App as well as via groww.in website. Apart from this, I worked on creating the update flow for CERSAI's central KYC record registry of newly onboarded customers. I also worked on several on call issues, as well as various compliance and security issues which include incorporating a Geo-tagging feature for adding geographical identification metadata to various media so as to block users outside India from onboarding; and adding message boards to show the user who might be stuck in various stages of onboarding.

Tool used (Development tools - H/w, S/w): Spring, Spring boot, RabbitMQ, Kafka, Kubernetes, Redis.

Objectives of the project: Objective of the dashboard was to facilitate the upload and verification of user's documents by the operations team so that they can be swiftly onboarded to Groww. Geo-tagging was incorporated for security and compliance reasons.

Major learning outcomes: End to end ownership of your project.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment is fast paced. The project is entirely driven by you.

Academic courses relevant to the project: Object oriented programming concepts, Database systems, Data structures and algorithms, Computer networks.

Name: PRATIK (2016B4A70549H)

Student write-up

Short summary of work done during PS-II: As part of the front-end team, worked on the iOS App Development for (Groww App). React Native, Google Firebase was used for the development purpose. Initially worked on the re-designing of some old features like help and support, report screen, mutual fund order details etc. Worked on development of a new referral system to increase stocks on-boarding, reduced customer success team workload by developing a feature to check for duplicate tickets raised by the users.

Tool used (Development tools - H/w, S/w): React Native, Google Firebase, TypeScript, Git.

Objectives of the project: To develop iOS App to make it easy for the users new to the investing platform to onboard, learn and invest in mutual funds, stocks and gold.

Major learning outcomes: iOS App development using React Native / TypeScript, Google Firebase. Working in team with app release deadlines.
Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Great learning environment. Team members are very helpful. Weekly code / design and product reviews to share your work with others and get useful feedback for improvement. Teams open to new ideas both on product and tech level. Given the tasks same as full time employees with full ownership of your product. Deadlines strict for the critical features.

Academic courses relevant to the project: Object oriented programming, Software development.

PS-II Station: HealthCubed - Onsite, Bangalore

Faculty

Name: Bharathi R

Student

Name: AYUSHMAAN PANDEY (2016B1AB0707H)

Student write-up

Short summary of work done during PS-II: I was a part of the product development team, which meant that my main job was to make sure that the product which we are delivering is of the best quality. This would mean carefully examining our application along with the medical device. My job was to make sure that the application functions seamlessly after a new feature to it is added. It would involve performing integration and regression testing of the application, reporting any issues or suggestions back to the developer so that they are fixed. If in case, the fixes are still pending, my job was to keep a track of those and their progress. Most important of all tasks, I had to make sure that the data pertaining to all those tests got synced to our server which would involve testing of the APIs. My overall work was to make sure that the product got

better with every new release. Testing of these were performed both manually and also using automation.

Tool used (Development tools - H/w, S/w): Java, Eclipse IDE, Selenium, Gitlab for bug tracking and for code repository.

Objectives of the project: To carry out the testing of functionalities of the web portal and android application and find potential solutions to issues that are found after testing.

Major learning outcomes: This project helped me improve in many aspects, to name a few: my communication skills, my technical skills and my depth of understanding of products in general. My knowledge on the technical side of things also improved by quite a lot as I got to know about what difficulties arise when designing a product, and how they are dealt with. During this entire process, I got the opportunity to learn a new programming language. My mentor was really patient and helped me on my way to learning Java, which I eventually used for writing scripts while automating the website.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: During this entire process, I got the opportunity to learn a new programming language. My mentor was really patient and helped me on my way to learning Java. Coming to the environment in the office, everyone is as friendly as ever, and breaking the ice with them took no time. Workforce is pretty young too. The working environment is evolving, and there's only been addition to the workforce and thus the culture in the office too is shaping up for the better. It was fun geeting to know interesting people.

Academic courses relevant to the project: Computer programming, Principles of management, Project appraisal.

PS-II Station: HealthRx by Bajaj Finserv Health Ltd., Pune

Faculty

Name: Vijayalakshmi Anand

Student

Name: HARSHAL S KULKARNI (2016B2AA0605G)

Student write-up

Short summary of work done during PS-II: Data ingestion pipeline design for automation for ingestion of lab records, optical character recognition followed by intent-entity recognition of various certificates, disease prediction from medicine names, diagnose etc using fuzzy matching and K nearest neighbors algorithms and elastic search.

Tool used (Development tools - H/w, S/w): Python, Azure functions, Logic app, App insights, PowerBI dashboard, Excel, Elastic search, MySQL, MS SQL server, Mongo db.

Objectives of the project: Data analysis of health data, making api of data ingestion and metrics for performance traking.

Major learning outcomes: Data analysis, machine learning algorithms and querying languages.

Details of papers / patents: No papers and patents

Brief description of working environment, expectations from the company: Company expects you to work on major projects and take full responsibility of it. Deadlines are rigid, since its a new startup.

Academic courses relevant to the project: Programming, SQL.

Name: KUMAR UTKARSH (2017A3PS0350P)

Student write-up

Short summary of work done during PS-II: If I had to summarize the work in a sentence, It'd be "Data engineering, Insights and automation". I worked on many automation tasks for data flow using scripting in python and Linux. Worked on collecting data from myriad sources into a single user point data warehouse leveraging SQL, NoSQL, and Azure data factory. Built quite a few ETL pipelines for data movement. I was responsible for handling a few major prod / dev / uat databases for all issues / updates / inserts. I also indulged in data analysis to generate insights and reports.

Tool used (Development tools - H/w, S/w): Python, Node.js, Azure data factory, Event Hub, SQL, NoSQL, PowerBI, Excel.

Objectives of the project: Automating data flows, Collection, Validation and analysis of data. Building ETL processes.

Major learning outcomes: Knowledge of data engineering, Scripting.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Working hours - Virtual internship has its downsides. Working hours were flexible. You could work at any time of the day provided the work was done before the deadline. But, this also created a false sense of 24/7 availability. So, at times, I had to take up calls as late as 9pm.
Working culture - People in general are supportive. Interns were treated almost equivalent to full time SDEs as far as work allotment and responsibility was concerned. There were fun activities once in a while. We had unplugged sessions with industry experts too.
Expectations - An year old startup that's expanding will definitely demand a lot of work. So, there was ample work. We had to put in around 6-7 hours of work daily.

Academic courses relevant to the project: Computer programming, Data structures and algorithms, Machine learning.

Name: ANIRUDDHA MAHAJAN (2017A7PS0145P)

Student write-up

Short summary of work done during PS-II: The MCRx Tech team is responsible for the development and maintenance of the ManagedCare products of the Bajaj Finserv Health Limited group. Also, the team is responsible for building technologies that are used by other teams like Hrx, Drx or SFDC team in their own product development. Currently, the team works on developing new APIs, modifying existing ones for direct consumer facing applications and for internal consumption by different teams inside HealthRx. Hence, I too worked on writing, modifying and enhancing the APIs, as well as solving some bugs and integrating the authentication mechanism in ManagedCare portal.

Tool used (Development tools - H/w, S/w): Java, Spring boot, MySQL, ReactJS, Azure.

Objectives of the project: Software development for ManagedCare platform.

Major learning outcomes: Developing APIs and microservices in Java Springboot framework and working with MySQL.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Working environment is quite chill. Flexible working hours, you will be given a task and you have to complete it in given time frame, then it's your choice when to do and what. People are helping if you get stuck they'll help you out. But they'll give you a lots of work. Sometimes you may need to work for more than 10 hrs / day to complete the task. They consider you as a full time employee and hence expect the similar amount of work. Good company for non-circuit branches as you got a lot to learning by working.

Academic courses relevant to the project: Object oriented programming, Database systems, DSA.

PS-II Station: HelloThinkster, Bangalore

Faculty

Name: Uma Maheswari N

Student

Name: AVIRAL BAJPAI (2016B1A40755G)

Student write-up

Short summary of work done during PS-II: First project was development of Text to speech application using Cloud APIs and ReactJS. Second project was development of a calling and messaging application using Twilio, ReactJS, ExpressJS and ngrok.

Tool used (Development tools - H/w, S/w): Google Cloud APIs, Amazon Polly, Twilio, ReactJS, ExpressJS, ngrok, AWS, Webspeech API.

Objectives of the project: To create better user experience for users and their parents.

Major learning outcomes: Create a full fledged project starting with just the proof of concept and building both frontend and backend, and test the project.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work usually involved company informing what the requirements are, then came the learning phase and to develop a implementation of the project, then this application was rigorously tested and then integrated with the Student Web Application.

Academic courses relevant to the project: Computer programming.

Name: ISHAAN KOCHAR (2016B2AA0589G)

Student write-up

Short summary of work done during PS-II: In recent times, chatbots are extensively used to convert a lead into an opportunity and also to simplify tasks which may take a while for the user to do following the sitemap of a product. Chatbots help in better lead qualification and nurturing. It also saves resources for the organization and is cost efficient too. The current chatbot at Thinkster is not intelligent to deal with user inputs and is only a FAQ agent which provides hyperlinks as responses. In this project, an intelligent ML-based agent is proposed which understands the nuances of the conversation and making the conversation for the user interactive and informative. A tutor facing chatbot is also proposed for deployment. In the latter part of my PS, a website is developed using React for the tutors to see and visualize the data of their students. Huge amount of data from ML predictions is shown in tabular form and proficiency matrix graphical form for the tutors to interpret. The website is developed using React and redux-saga.

Tool used (Development tools - H/w, S/w): Dialogflow, Dialogflow messenger, Google cloud platform, React, Redux-saga.

Objectives of the project: 1. Proposal of customer facing chatbot 2. Proposal of tutor facing chatbot 3. Deployment of the customer facing chatbot. 4. Developing tutor facing platform to show lots of data related to ML models and the student.

Major learning outcomes: 1. Dialogflow 2. Google cloud platform 3. WebApp development using React 4. Seamless integration of APIs using redux-saga.
Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment is good and you can work on your own pace. No such deadlines are given. Mentors are helpful and your work directly goes into production.

Academic courses relevant to the project: DBMS, OOP.

Name: MANASVI AGARWAL (2017A8PS0542P)

Student write-up

Short summary of work done during PS-II: Designed a learning path for students using Machine learning. Built models which provide ability score, recommendations of concepts to practice and capture learning score of a concept.

Tool used (Development tools - H/w, S/w): Languages: Python, MYSQL
Tools: Colab, Jupyter notebook, DBeaver, Git.

Objectives of the project: Create AI based learning path.

Major learning outcomes: Successfully created the and deployed required models.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Work was assigned on weekly basis, good results were expected irrespective of time taken. Our mentor was helpful in providing solutions to errors and guiding us throughout the project.

Academic courses relevant to the project: Machine learning, Database management, Object oriented programming, Computer programing, Data structure and algorithms.

Name: ASHISH SINHA (2017AAPS0400G)

Student write-up

Short summary of work done during PS-II: Worked on building a recommendation system using item response theory, and gauge the student performance using the same and hidden markov models. Used the above to create and optimize individualistic learning path for every student.

Tool used (Development tools - H/w, S/w): Python and various libraries.

Objectives of the project: Build an optimize learning path for students.

Major learning outcomes: Item response theory, Rasch model, Hidden Markov models, Machine learning, MySql.

Details of papers / patents: None

Brief description of working environment, expectations from the company: There wasn't any pressure, the project moved swiftly without any issues, enough time is given to learn and execute.

Academic courses relevant to the project: OOP, ML

PS-II Station: Heraizen Technologies Pvt. Ltd., Bangalore

Faculty

Name: Vineet Kumar Garg

Student

Name: DEEPANSHU SHARMA (2017A1PS0674P)

Student write-up

Short summary of work done during PS-II: 1. We need to handle full-stack programming tasks for the development of the web app using Angular, Flask, MongoDB, and Postman.
2. In the front-end development, core activities include:
   a. Building stable and maintainable codebases using Angular.
   b. Implementing a mobile-first approach to web screens by collaborating with fellow designers.
3. In the backend development, core activities include:
   a. Writing aggregate queries in MongoDB and extract the desired data.
   b. Developing applications (RESTful APIs) using the Python and Flask framework.

Tool used (Development tools - H/w, S/w): Angular, Flask, MongoDB, Postman.

Objectives of the project: Full stack development of company's product 'DHI'.

Major learning outcomes: Full stack development using Angular and Flask framework.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Great working environment, manager is helpful and cooperative.

Academic courses relevant to the project: No course is directly related to the project.

Name: KAMAL KHEMKA (2017A1PS0691P)

Student write-up

Short summary of work done during PS-II: End to End development of website for accreditation of educational institutes where faculty, HOD and principal from the institute can login and access the dashboard consisting of different functionalities comprising of analyzed data of students, courses and teachers in the from of charts, tables etc.

Tool used (Development tools - H/w, S/w): Frontend (Angular framework -S/w), Backend (Flask framework -S/w), MongoDb database.

Objectives of the project: Development of website in web and responsive web version for the accreditation of educational institutes.

Major learning outcomes: Acquired technical skills (Angular- HTML, CSS, TypeScript & Bootstrapping, Flask framework, MongoDb database queries and data science libraries such as Pandas and Numpy).

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The work revolves around analytics statements which needs to be completed according to the design under the guidance of a mentor. The learning environment is pretty good with a hands on training phase of 1 month followed by the project phase and completing the different analytics statements.

Academic courses relevant to the project: Object oriented programming, Data structures and algorithm.

Name: BHOSLE MANTHAN AJIT (2017A3PS0543H)

Student write-up

Short summary of work done during PS-II: Really nice working environment. Project related to web development was assigned. Everyone gets trained for one month. After that you get the actual assignment to work on. Weekly demonstrations will be held to check the work.

Tool used (Development tools - H/w, S/w): Angular, Python, Flask, MongoDB.

Objectives of the project: Creating a web application.

Major learning outcomes: Web development.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment is good. Everyone is helpful. Work deadline must be followed. It is a small company but they keep track of every bit of work you do.

Academic courses relevant to the project: Nothing

Name: SARTHAK SHAH (2017A4PS0586G)

Student write-up

Short summary of work done during PS-II: Automation of the analytics section of an app called dhi, which is an ERP application developed by the company for educational institution. The work involved performing descriptive analytics on data of these educational institutions and developing backend and frontend for a sub section of the application.

Tool used (Development tools - H/w, S/w): Angular, Flask, MongoDB, Python, Bootstrap.

Objectives of the project: To develop the functioning for some analytics features of the app.

Major learning outcomes: Learnt various new technologies.
Details of papers / patents: None

Brief description of working environment, expectations from the company: It was a work-form-home internship. The people were supportive and approachable. Did not get much opportunity to interact frequently but they tried to assure that our expectations were fulfilled.

Academic courses relevant to the project: No

Name: SANYAM JAIN (2017A7PS0014P)

Student write-up

Short summary of work done during PS-II: We first need to identify the collections from which we need to extract data from the MongoDB database. Then, queries are written using aggregate pipeline in Mongo compass, and the desired code for the flask app is taken. The aggregation pipeline is a framework for data aggregation modeled on the concept of data processing pipelines. Documents enter a multi-stage pipeline that transforms the documents into aggregated results. Then, APIs are created in the flask framework using those previously written queries and then tested in Postman. API testing is used to determine whether the output is well-structured and useful to another application or not, checks the response on basis of input (request) parameter, and checks how much time the API is taking to retrieve and authorize the data too. In this way, we finally get the working APIs which can directly be used in Angular using HTTP requests. Here, while working with the APIs, it's the choice of the developer either to write less APIs and take most of the desired data (this way will require more operations in the frontend to filter the data) or to write a greater number of APIs and take specific data (in this case, developer don't need to make many efforts in frontend). Now, we use the APIs developed in backend using HTTP requests and perform several operations on data as per need. As screen requirements are shared with us before development, we first identify the materials used

and then write logic for each section. We used “Angular Materials” for all the statements to maintain consistency and better configuration options. Angular Material is basically a UI component library for Angular JS developers. Its components help in constructing attractive, consistent, and functional web pages and web applications while adhering to modern web design principles like browser portability, device independence, and graceful degradation. It helps in creating faster, beautiful, and responsive websites.

Tool used (Development tools - H/w, S/w): Postman, Angular, VS code, Python, Mongo DB, Mongo Compass, Robo 3T.

Objectives of the project: To develop frontend screen and backend code using flask of the problem statements.

Major learning outcomes: All the key technologies in full stack development such as Angular, Flask, Mongo DB, HTML, CSS JavaScript.

Details of papers / patents: None.

Brief description of working environment, expectations from the company: The company expects students to have knowledge of python, frontend frameworks and backend framework. Knowledge of Mongo DB is helpful. They will train interns if you don't have enough experience in these skills. They expect you to complete the assigned tasks before deadline. Company is small and hence it is more organized.

Academic courses relevant to the project: None

PS-II Station: Hevo Technologies India Pvt. Ltd., Bangalore

Faculty

Name: Jyotsana Grover

Student

Name: NIKHIL L (2016B4A70507H)

Student write-up

Short summary of work done during PS-II: Building a SAAS based connector to ingest data as reports and then push it to a data warehouse destination of user's choice.

Tool used (Development tools - H/w, S/w): Java, Angular, DropWizard (Java), Confluence, Jira.

Objectives of the project: Building a SAAS based connector.

Major learning outcomes: Intricacies of Java OOP, Exposure to modern software development tools.

Details of papers / patents: Due to be produced.

Brief description of working environment, expectations from the company: Communication with highly skilled engineers who are always glad to share knowledge. Highly learning oriented environment for interns.

Academic courses relevant to the project: Object oriented programming in JAVA, Database management and systems.

PS-II Station: Hindustan Times, Delhi

Faculty

Name: Y V K Ravi Kumar

Student

Name: P PRIYANKA (2016B1A30701H)

Student write-up

Short summary of work done during PS-II: There are 2 divisions at Hindustan times. I got allotted to HT media labs. The division during my internship period was still a start up. My work was primarily data mining related. I developed APIs for implementing some functionalities in the on going projects. There was full ownership of the work you do.

Tool used (Development tools - H/w, S/w): Python, BeautifulSoup 4, Selenium, AWS, MongoDB, Flask, Django.

Objectives of the project: Create python scripts to do different tasks.

Major learning outcomes: Got extremely good with Python and API development.

Details of papers/patents: N/A

Brief description of working environment, expectations from the company: My internship was completely remote. The environment is fast paced, but people are very co-operative. During our time there were no PPO chances.

Academic courses relevant to the project: Data mining.

Name: GOGULA VINAY (2016B2AA0646H)

Student write-up

Short summary of work done during PS-II: Worked on developing an API that would enable news authors to find trending news and understand how news trends stay relevant with time.
Tool used (Development tools - H/w, S/w): Spring Boot, MongoDB.

Objectives of the project: Was to help news authors identify news topics growing in popularity for breaking news.

Major learning outcomes: Learnt how to build APIs using Spring Boot and understood how to work with non-SQL databases.

Details of papers / patents: No paper was published

Brief description of working environment, expectations from the company: It was a complete work from home environment and no fixed working times. I used to have 2 meetings each week where I had to discuss project updates and further plans.

Academic courses relevant to the project: Object oriented programming was definitely relevant to my project. Basic knowledge of data structures and algorithms helps a bit too.

Name: MAANVESH JINDAL (2017A8PS0393P)

Student write-up

Short summary of work done during PS-II: My work was to improve UI, remove bugs and add more functions to the Healthshots App. It is an app developed by HT Media Ltd., with the millennial women as a target audience. It has several sections like period tracker, podcast, myth busters and various tools like mood music, 7 days of nirvana, period tracker which are very relevant for millennial women. The app majorly focuses on women health, mensuration and

sexual health & nutrition. The app was launched just sometime before my joining in the organisation. My role was to work with my manager Ashish sir and mentor Kamlesh sir in the field of fixing bugs and in the further development of the App.

Tool used (Development tools - H/w, S/w): Android studio, Visual code studio, Firebase, Web engage notification tool.
Objectives of the project: 1. To improve user interface of the Healthshots App. 2. To remove bugs of the Healthshots App.3. To add more functions to the Healthshots App.

Major learning outcomes: Learnt React-native language & andoid studio.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The work environment is good. Managers & HR are very friendly and approaching. But can't comment more because of the online mode of working.

Academic courses relevant to the project: Data structures & algorithm.

PS-II Station: Hourglass Research, Mumbai

Faculty

Name: Manoj Subhash Kakade

Student

Name: SANTOSH RAGHAV SRIVATSAN (2017A8PS1924G)

Student write-up

Short summary of work done during PS-II: The main work done here is related to Intellectual Property. I worked mainly on infringement analysis of patents. This involves understanding the claims of a patent and searching for products that infringe on these claims. Apart from this, I worked on a programming related assignment to download bulk patent data. Although, this was a one time assignment and the company does not have IT projects usually.
Tool used (Development tools - H/w, S/w): MS word, MS PowerPoint, IntelliJ.

Objectives of the project: My final project was a command line tool to download US and EP granted patents.

Major learning outcomes: I learnt how to add external dependencies and build projects using maven. I also learnt a lot about how the IP industry works and how to conduct an infringement analysis efficiently.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: My colleagues here were wonderful. They never hesitated to teach me new concepts and ideas. For anyone looking for a career in the IP sector, this is a great place to start.

Academic courses relevant to the project: None

PS-II Station: i-exceed Technology Solutions, Bangalore

Faculty

Name: Mohammad Saleem J Bagewadi

Student

Name: PRADHIT ONGOLE (2017A3PS0188P)

Student write-up

Short summary of work done during PS-II: Worked on backend of a digital application for Citi bank that includes a chatbot and security facility.

Tool used (Development tools - H/w, S/w): Spring boot, Spring, Java, Microsoft Azure.

Objectives of the project: Worked on backend of a digital application for Citi bank that includes a chatbot and security facility.

Major learning outcomes: Spring boot, Spring.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Good environment, Peers are helpful and supportive. Got a chance to work on main source code.

Academic courses relevant to the project: Yes- OOP, DBMS, DSA.

PS-II Station: IMarc Services, Noida

Faculty

Name: Sandeep Kayastha

Student

Name: JOSON MATHEW JOSE (2017A1PS0659P)

Student write-up

Short summary of work done during PS-II: Content, primary and secondary research for live client reports on various industries.

Tool used (Development tools - H/w, S/w): Teams, Excel, PPT.

Objectives of the project: To aid in content and research for live client reports.

Major learning outcomes: Primary and secondary research, Content, Market drivers for niche industries.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Deadline-based, Flexible working hours, Flexible assignments.

Academic courses relevant to the project: N/A

Name: AARYAN GOYAL (2017A4PS0505G)

Student write-up

Short summary of work done during PS-II: Conducted extensive secondary and primary research to gather market insights for various industries, including agriculture, chemicals, automobile, and energy. The data was gathered to create custom live client reports including key insights for the market, like historical and forecast market sizes, analysis of competitive

landscape using SWOT and Porter's analysis, and assessing the COVID impact on the market and the prominent regions in the industry.

Tool used (Development tools - H/w, S/w): Microsoft excel, Nexis, D&B Hoovers.

Objectives of the project: Create custom client reports for sale through the expert market research website.
Major learning outcomes: Learnt about niche industries, gathering insights from raw data, and market analysis.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The company environment is good. Everyone in the office is extremely professional and helpful. The employees are extremely motivated, disciplined, and dedicated. The company is strict about its assignment and report deadlines.

Academic courses relevant to the project: Principles of economics, Security analysis and portfolio management.

Name: MOHAMMED SADATH ULLAH KHAN (2017A4PS0592H)

Student write-up

Short summary of work done during PS-II: Worked on several market reports. The work involved extensive primary and secondary research to gather raw data. This data was analyzed to develop market insights such as regional analysis, market size, competitive landscape, SWOT analysis, Porter's five forces, and cost analysis. Additionally, COVID-19 impact on the industries was also analyzed.

Tool used (Development tools - H/w, S/w): D&B Hoovers, Microsoft excel, Beroe Live.

Objectives of the project: Market research reports and consulting.

Major learning outcomes: Fetching market insights by performing market analysis on raw data.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Employees are extremely professional. They are ready to provide guidance and help. Everyone at the office is well-disciplined, motivated, and dedicated. Abiding by the deadlines is a must.

Academic courses relevant to the project: Finance courses (basics), and technical report writing.

PS-II Station: Indian Electrical & Electronics Manufacturers - Association, New Delhi

Faculty

Name: Rajesh Kumar Tiwary

Student

Name: AYUSH HINGER (2017A3PS0445G)

Student write-up

Short summary of work done during PS-II: Estimation of transformers installed in India and analysis of failures in transformers.

Tool used (Development tools - H/w, S/w): MS excel, Python.

Objectives of the project: To analyse the growth of transformers in India.

Major learning outcomes: Learnt about transformer production in India, their growth and condition monitoring tools.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Due to Covid-19, the whole PS-II was work from home. The working environment is good. Mentors are very supportive and always there to help you.

Academic courses relevant to the project: Power electronics and power systems.

PS-II Station: Indian Institute of Petroleum, Dehradun

Faculty

Name: K Santosh Sopanrao

Student

Name: JUNNARKAR JUI SUBHASH (2017A1PS0320G)

Student write-up

Short summary of work done during PS-II: Hydrocarbons steam cracking is one of the most important process in the petrochemical industry as it generates highly valuable olefins – from which ethylene, propylene and butadiene are the most important ones – from lower value

feedstocks. Feedstocks for this process usually have fossil range from gaseous feedstocks, like ethane and propane, to liquid, heavier feedstocks, such as naphtha, gas oil and gas condensates. In this project, we focused on naphtha which is liquid, heavier feedstock. The petrochemical industry is currently facing a major shortage of propylene as a result of the increasing demand for propylene derivatives. The current work was intended to bring a much better understanding of naphtha steam cracking process. The need arises for the development of high fidelity mathematical models, able to fully an olefins plant operation and whose application in whole plant optimization is of the utmost interest of the petrochemical industry.

Tool used (Development tools - H/w, S/w): MATLAB

Objectives of the project: The production of ethylene and propylene from naphtha and gaseous feedstocks such as ethane, propane and other light alkanes via thermal cracking is a cornerstone of the chemical industry. We saw as to how the process has evolved through time and current.

Major learning outcomes: My project is the catalytic naphtha cracking technology. It is a relatively new field with little work done prior. The work I was associated with initially is reading and understanding the literature available based on my research topic. The work also includes some modelling and simulations as we proceed forward in the kinetic aspect of naphtha cracking. I learnt how to collect scientific data meticulously.

Details of papers / patents: None

Brief description of working environment, expectations from the company: IIP Dehradun is a national research facility with many different projects going on simultaneously. My instructor was very passionate and inquisitive about the project. The given project was experiment based, but due to COVID-19 the experimentation part was changed to literature review and modelling.

Academic courses relevant to the project: Petroleum refining technology, Kinetics and reactor design, Thermodynamics.

Name: LAGHUVARAPU SRINIVAS NAVEEN (2017A1PS0801P)

Student write-up

Short summary of work done during PS-II: Indian Institue of Petroleum has a patented one step process for the manufature of dimethyl ether. The product mixture separation to extract dimethyl ether is being done in different ways by different technology providers. The idea of the project is to simulate the product separation section to establish the material, energy balance and plant economics using Aspen plus as a tool and to further perform a techno-economic evaluation to compare it with other existing technologies.

Tool used (Development tools - H/w, S/w): Aspen plus, Microsoft vision.

Objectives of the project: To perform a techno-economic evaluation.

Major learning outcomes: Got an overall idea about how to proceed to perform a techno-economic evaluation. Leanrt using Aspen plus to simulate various unit operations and processes occuring in the industry.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment has no much relevance as the mode has been work form home. The organisation was very much focussed in letting the students learn rather than ending up results. Work has been decent and the expectations from the interns, I felt, has not been so great.

Academic courses relevant to the project: Separation processes, Process design principles.

Name: SHUBH BIRLA (2017A1PS0802P)

Student write-up

Short summary of work done during PS-II: Review of lignin modified bitumen different properties such convectional, constructability, rheological, anti- ageing, storage and thermal stability. The results from different tests such as low temperature, high temperature, moisure resistance and fatigue test. Discuss is done on the optimum content of lignin for best performance and variants of lignin modified bitumen such as cationic modified lignin bitumen and enzymic hydrolysis lignin modified binder. Lignin with other substance, such as diatomite, polyurethene and glass fibre, in bitumen is also studied for anti-UV and tensile strength properties.

Tool used (Development tools - H/w, S/w): Websites- Elsevier, American chemical society and Google scholar.

Objectives of the project: Review the preparation and properties of lignin modified bitumen.

Major Learning Outcomes: Different properties and standards for bitumen used for pavement and waterproofing, optimum lignin content in bitumen and benefit of various other polymer on the lignin bitumen composite.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The work environment is good , the mentors are very busy but very helpful.

Academic courses relevant to the project: Petroleum refining technology.

Name: SHREYA JOHRI (2017A1PS0878P)

Student write-up

Short summary of work done during PS-II: My project addressed the catalytic co-processing of bio-derived glycerol and methanol for the production of high-octane toluene and xylene. The aim of the project was to develop a modified HZSM-5 catalyst to achieve more than any published yield of benzene-free aromatics. Through this, we would be able to produce

renewable aromatics from bio-derived glycerol. We did several different modifications in the zeolite catalyst to alter its properties and we ran the glycerol to aromatics (GTA) process at different operational conditions to find the optimum combination to give us the maximum yield.

Tool used (Development tools - H/w, S/w): ASPEN, standard ASTM tests for the catalyst, and the micro-reactor unit.

Objectives of the project: The aim of the project was to develop a modified HZSM-5 catalyst to achieve more than any published yield of benzene-free aromatics. Through this, we would be able to produce renewable aromatics from bio-derived glycerol.

Major learning outcomes: I learnt about the detailed processes by which glycerol is produced. I got insights on how a catalyst works and what are changes can be made to improve the performance of the catalyst. I learnt about glycerol to aromatics (GTA) process. I created 7 different modified versions of the zeolite catalyst and performed ASTM standard tests on all the catalyst samples. I tested all the catalyst versions in the GTA process. I learnt about the micro-reactor unit in detail and the ASTM standards and tests like NMR, XRD, IR, TPD, TPR, etc.

Details of papers / patents: During our project, we achieved a yield much greater than what has been published yet. IIP is working on getting this work published.

Brief description of working environment, expectations from the company: Each student worked with a senior scientist in the department that they were appointed along with one or two PhD scholars. The mentor (scientist) ensured that we get a good understanding of the concepts involved. Together we worked as a team to get the desired results.

Academic courses relevant to the project: Process design and control, Chemical process calculations, Mass transfer, Heat transfer, Kinetics and reactor design, Fluid mechanics.

Name: CHANDA SAI KARTHEEK (2017A1PS1010H)

Student write-up

Short summary of work done during PS-II: " Production of biodiesel from used cooking oils".

1. Effluent treatment study from the bio-diesel plant. This will include the wastewater treatment.
2. Optimization, kinetics and thermodynamic study on mobile unit based on room temperature bio-diesel process.

Tool used (Development tools - H/w, S/w): ASPEN

Objectives of the project: To commercialize the process (as an outcome of this project) at few places like CBDA, Raipur.

Major learning outcomes: Designing and developing a biodiesel plant for any feedstocks with free fatty acids.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The research institute had an immense source of research papers and knowledge. The people that i have worked with helped me in reaching the objectives of my project in a professional way.

Academic courses relevant to the project: Process dynamics and control, Process design principles.

PS-II Station: Indian Institute of Remote Sensing (IIRS), Dehradun

Faculty

Name: Rekha A

Brief write-up on PS-II station: IIRS is a constituent unit of Indian Space Research Organisation (ISRO), Department of Space, Govt. of India. The students are involved in image

processing, geo-information for various societal applications and better understanding of Earth's system processes.

Student

Name: GANGURI SRI CHAND (2017A7PS0272H)

Student write-up

Short summary of work done during PS-II: Implementation of mathematics in the research paper.

Tool used (Development tools - H/w, S/w): Python.

Objectives of the project: Calculating backscatter coefficient.

Major learning outcomes: Remote sensing.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Mentor is very supportive and helpful throughout the work.

Academic courses relevant to the project: Remote sensing and image processing.

PS-II Station: Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam

Faculty

Name: Sindhu S

Student

Name: SUBHRATAVA MANDAL (2017A3PS0415G)

Student write-up

Short summary of work done during PS-II: Question / project description: - Fast breeder test reactor (FBTR) is 40 MW nuclear reactor situated in Kalpakkam. Nuclear heat generated in the reactor core due to fission is extracted using liquid sodium as coolant. FBTR is loop type reactor, which has two primary loops to exchange the heat to secondary sodium system. Further, heat in secondary sodium system is transferred to steam water system to generate electricity. The heat generated inside the core is distributed equally to two primary loops. Each loop has a heat exchanger and sodium pump. After exchanging the heat to secondary sodium in the heat exchangers in each loop sodium in both the loops is passed through a common inlet pipe into the reactor vessel. Over flow tank collects the excess sodium in reactor vessel, and through EM pump part of the sodium is passed through a sodium purification circuit. Sodium return to reactor vessel after purification. Over flow tank plays important role in the maintenance of sodium level in RV. The decrease in sodium level in OFT is one of the indirect indications of leak in primary sodium loop. Hence, OFT sodium level discordance alarm is provided in main control room to alert the operator, in case of change in the level of OFT. Presently, the alarm set-point is manually set by the operator in control station after OFT level stabilizes. However, OFT also changes during normal process. Since, the capacities of primary loops are interconnected, with increase in sodium temperature, sodium volume also increases and hence the level in various capacities and hence, it reflects an increase in sodium level in OFT. So, the operator has to frequently change or set the discordance alarm threshold during genuine process changes. Due to which it may happen that alarm due to actual leak may get masked during process transients. Hence, it is required to have automatic set-point tracker to ensure that set-point is automatically “tracked” following the OFT level in case of genuine process changes. The project is to design and develop an automatic set-point tracker, which includes signal conditioning of temperature signal, analyzing of data (sodium level vs temperature) and deriving relationship between the changes in OFT sodium level and changes in temperature and suitably changing the set-point.

Tool used (Development tools - H/w, S/w): Python3, MATLAB.

Objectives of the project: Automatic OFT level discordance setpoint tracker.

Major learning outcomes: Got experience in real world problems, apply knowledge in industrial process.

Details of papers / patents: Nil
Brief description of working environment, expectations from the company: Work from home environment.

Academic courses relevant to the project: None

Name: ISHAN PATEL (2017A3PS0431G)

Student write-up

Short summary of work done during PS-II: IGCAR is research institute. The work here is mainly research oriented. My project was to model temperature systems and make a soft sensor for the system.

Tool used (Development tools - H/w, S/w): MATLAB.

Objectives of the project: Make soft sensor for temperature predictions.

Major learning outcomes: State space analysis, Soft skills development.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Work environment was good and the guides were supportive.

Academic courses relevant to the project: Control systems.

Name: BADDULA NEERAJ (2017AAPS0436H)

Student write-up

Short summary of work done during PS-II: Project involves the processing of ultrasonic phased array signals obtained by advanced data acquisition approaches to visualize misoriented defects in a component. I implemented different algorithms for data processing and image-reconstruction. I built a scientific software application in python and some other dependencies, which provides a GUI for image generation using different algorithms and image analysis.

Tool used (Development tools - H/w, S/w): Python, PyQt5, Pyqtgraph, Tkinter.

Objectives of the project: To process the ultrasonic phased array signals to visualize the imperfections present in a component. To built a GUI for image generation and analysis.

Major learning outcomes: Learnt different advanced image processing algorithms.
Learnt how to build graphical user interfaces with PyQt5 and Pyqtgraph.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: IGCAR is an excellent place for research-oriented learning. The working environment was motivating and amicable. You will learn a lot of things relevant to the project domain from scientists and can experience hands-on research. My mentor was very approachable.

Academic courses relevant to the project: Object-oriented programming.

PS-II Station: Indium Software, Chennai

Faculty

Name: Lucy J. Gudino

Student

Name: RUSHIL GUPTA (2016B1A40631G)

Student write-up

Short summary of work done during PS-II: Work was based on frontend and backend development of their flagship software. We were supposed to learn languages such as Django, Angular, React etc. and provide necessary contributions.

Tool used (Development tools - H/w, S/w): Django, Angular, React.

Objectives of the project: Web development.

Major learning outcomes: React, Angular and Django learning.

Details of papers / patents: No

Brief description of working environment, expectations from the company: Work from home and expected to give us understanding of the software.

Academic courses relevant to the project: None

Name: MUSAIYAB ALI MIRZA (2016B4A40466H)

Student write-up

Short summary of work done during PS-II: Research into methods of data extraction using computer vision principles like semantic segmentation, RCNN, and other methodologies like regex and OCR. Automation of the above process for a corporate product.

Tool used (Development tools - H/w, S/w): Python related libraries.
Objectives of the project: To create a CLI application to extract required data from scanned documents to tabular formats.

Major Learning Outcomes: Computer vision, Automation.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The firm is very welcoming, promotes learning, and are eager to promote thorough learning. Definitely a good working environment with more than enough engagement campaigns including but not limited to artistic challenges.

Academic courses relevant to the project: DSA, OOPS, CP, Neural networks and Fuzzy logic.

Name: SHASHWAT PREM (2017A1PS1068H)

Student write-up

Short summary of work done during PS-II: Developing service oriented architecture (SOA) products for clients and maintaining them. The products are focused on data management, assortment and visualization.

Tool used (Development tools - H/w, S/w): Python; Pandas, Numpy, Matplotlib, pptx, VSCO code, Jupyter.

Objectives of the project: Developing SOA products for client and provide easy data solutions.

Major learning outcomes: Python programming, Data science with Python.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Very helpful mentors and managers. Uplifting environment with recreational activities.

Academic courses relevant to the project: C programming.

Name: HRITANK SINGHAL (2017A2PS0060P)

Student write-up

Short summary of work done during PS-II: Web development is building and maintaining websites, it is the work which is being done behind the screens to make website look great, to enhance the working of web applications and for a seamless user experience. TrimSail digital solutions Pvt. Ltd., is a marine tech start-up aspiring to provide voyage performance optimization solutions to ocean-going cargo ships. In this background, they want if data analytics could help optimize the utilization of time and fuel, leading to least possible direct cost for each voyage.

Tool used (Development tools - H/w, S/w): JavaScript, Python, Excel.

Objectives of the project: With voyage data and weather forecast or hindcast API made available for a voyage under study, it was expected that the performance model predicts the speed and fuel consumption to a high degree of accuracy.

Major learning outcomes: During the last four months, I undergone rigorous self-learning, adding HTML, CSS, Java script, Data structures and algorithms, NLP to my technical skills. I

have further enhanced my knowledge of some of the important libraries of python like quiver and some of the important machine learning models and algorithm. Apart from these, I have gained quiet good exposure to how the industry life works and how challenging it can become.

Details of papers / patents: None

Brief description of working environment, expectations from the company: People here are very cooperative and helpful. There are good projects available here. Mentors will provide you necessary help whenever you need it. Overall, a good station to gain some practical knowledge. I have gained quiet a good exposure to how the industry life works and how challenging it can become. They were expecting if data analytics could help optimize the utilization of time and fuel, leading to least possible direct cost for each voyage.

Academic courses relevant to the project: None

Name: DESHMUKH CHINMAY TUSHAR (2017A3PS0254G)

Student write-up

Short summary of work done during PS-II: Hands-on-experience developing a SQL Compiler website.
Done mini-projects to gain knowledge on Flask and Pillow libraries in python.
Worked on elasticsearch for storing and querying data.

Tool used (Development tools - H/w, S/w): Python (Flask mainly), Spyder, Elasticsearch Toolbox, Windows Powershell.

Objectives of the project: To gain learning experience on developing website and gain IT experience.

Major learning outcomes: Being from non-IT background, coding was something I didn't know at the start. Gradually according to project requirements, I was able to code and learn on the way quickly.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: WFH, not at all strict company. We had flexible work timings.

Academic courses relevant to the project: NA

PS-II Station: Indogulf Fertilizers Ltd., Jagdishpur

Faculty

Name: Samir Kale

Student

Name: ABHINAV KUMAR SINGH (2017A1PS0813P)

Student write-up

Short summary of work done during PS-II: Energy mapping of the entire ammonia plant.

Tool used (Development tools - H/w, S/w): Excel.

Objectives of the project: Theoretical computation of the energy requirements for ammonia production and comparing them to actual data.

Major learning outcomes: Energy mapping.

Details of papers / patents: none

Brief description of working environment, expectations from the company: Relaxed working environment.

Academic courses relevant to the project: Chemical engineering thermodynamics and Chemical process calculations.

PS-II Station: Innoviti Payment Solutions Pvt. Ltd., Bangalore

Faculty

Name: Pravin Yashwant Pawar

Student

Name: BONAGIRI SAILENDRA AKASH (2017AAPS0455H)

Student write-up

Short summary of work done during PS-II: We were allotted to the data platforms team consisting of six members. For the initial 2 months, we were given basic PHP work of writing APIs. Later, we started working in collaboration with the data platforms team as well as the marketing team to find the list of promising merchants' traits using data analytics techniques, which the marketing team would try to apply for the remaining merchants and newly on boarding merchants.

Technologies used: We have used PHP for writing the APIs and postman for the first project and used Python, Excel, PowerBI, Data analytics techniques for the second project.

Tool used (Development tools - H/w, S/w): Postman, PowerBI, Excel.

Objectives of the project: Writing APIs in PHP, To find most successful merchants' traits for their product using data analytics.

Major learning outcomes: PHP, Data analytics.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: We were allotted to the data platforms team consisting of six members. Our manager was very helpful in assisting us with the right resources and providing us with essential feedback on our work on a regular basis. Our project was independent from the others, so we haven't worked much with the other team members. Overall, the working environment (though online) in the company was collaborative and friendly.

Academic courses relevant to the project: No

PS-II Station: Insights Alpha, Delhi

Faculty

Name: Sandeep Kayastha

Student

Name: SHREYA RAI (2017A1PS0728G)

Student write-up

Short summary of work done during PS-II: I was a part of the business development team at Insights Alpha. I was working directly under the research manager of my team and was continuously in contact with him. The organization conducts consulting calls and interviews of the clients with the experts. I was continuously in touch with the clients for several projects and was catering to their choice of the experts. In this period of 5 months, I was also the part of 2 international projects where i single handedly recruited 4 experts as per the need of the client and conducted the consulting session. the work required us to take a project and complete it all on our own with the guidance of the researcher managers within the given deadline which gave us a chance to learn to take things in our control and not to depend on others for it.
Tool used (Development tools - H/w, S/w): Ms excel, PowerPoint, LinkedIn.

Objectives of the project: The objective of the projects was to conduct consulting calls and interviews of the clients with the experts as the per clients requirements.

Major learning outcomes: Analyzing data using Ms excel, Leadership skills, Negotiation skills, Professional code of conduct.

Details of papers / patents: nil

Brief description of working environment, expectations from the company: The working environment was very healthy as the working hours were clearly specified and nobody asked us to work beyond that if we are not willing to. The lunch break was also specified in between. All the research managers and the colleagues were very supportive and understanding, they always cleared any doubts we had and helped us with the projects if we hit a bump in the road. Only in the international projects we were supposed to work at nights due to the time lag.

Academic courses relevant to the project: Marketing research.

PS-II Station: Integrated Active Monitoring Pvt. Ltd., - Product & Business Dev., Pune

Faculty

Name: Manoj Subhash Kakade

Student

Name: Atharva Dubey (2017ABPS0973P)

Student write-up

Short summary of work done during PS-II: The objective was to develop multi-tracking algorithms and a face analytics module to count the number of people entering an establishment, plot the people distribution heatmaps, and estimate the face, age, and gender of a person.

Tool used (Development tools - H/w, S/w): Pytorch, TensorRT, OpenMP and thrust libraries, Nvidia Jetson Nano and Intel realsense camera.

Objectives of the project: The objective was to develop multi-tracking algorithms and a face analytics module to count the number of people entering an establishment, plot the people distribution heatmaps, and estimate the face, age, and gender of a person.

Major learning outcomes: Model deployment on embedded hardware.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment is that of a high paced startup with the objective of design developing and testing algorithms and making a product out of them.

Academic courses relevant to the project: Selected topic in computer science, OOP.

PS-II Station: Integrated Active Monitoring Pvt. Ltd., Pune

Faculty

Name: Manoj Subhash Kakade

Student

Name: NISHANT RAMAN (2017A3PS0226P)

Student write-up

Short summary of work done during PS-II: The project done during the course of the term can be simplified as the implementation of a micro-services based data-lake architecture for unstructured data generated from IoT devices deployed at client locations. It is mainly the development of a forwarding architecture that acts as a middle-ware between panels uploading images and the data lake. The entire architecture consists of multiple micro-services, servers and storages that communicate and exchange information between one another. One automated service periodically retrieves images from remote cameras and forward to a central server that handles storage and retrieval of images from MongoDB and Minio object store. Another server / service utilizes the image-store server to retrieve images and generate a timelapse based on parameters given to it. This is done automatically and periodically for all cameras, as well as on-demand basis. It was my task, along with another PS2 intern, under the guidance of project mentors to setup the entire architecture and make it scalable and efficient for future improvements and addition of microservices. At this point of time, the architecture is deployed on company servers and interacting with live data. All services that have been deployed have been containerised so that any future testing and updates may be done

seamlessly and efficiently. Apart from setting up the architecture, it was also my task to research new technologies that may be incorporated into the ongoing projects.

Tool used (Development tools - H/w, S/w): Python, FastAPI, Docker, FFmpeg, MinIO, MongoDB.

Objectives of the project: Design and devlopment of a micro-services based Data-Lake architecture for unstructured data.

Major learning outcomes: Major learnings may be summarised in terms of in depth exposure to modern tools and technologies needed in web-development applications. Along with this learning, project development from ground up and worlflow maintainance was a major learning.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The company has a great working environment, and especially due to COVID, the working hours were fairly flexible. Since the organisation is not very large, one gets to work on a project from ground-up and may get many live projects to handle. As a result, learning experience is also enhanced. The company expects that one should be open to learning about and working on new technologies, and take the initiative discover/research new technologies and tools which may aid in the work.

Academic courses relevant to the project: Basic knowledge of CP, Networking protocols and IoT frameworks were useful.

PS-II Station: Intel India Technology, Bangalore

Faculty

Name: Swapna S Kulkarni

Brief write-up on PS-II station: Intel India works in various areas like Motherboard chipsets, Network interface controllers and integrated circuits, Flash memory, Embedded processors, Software development, Biomedical signal processing, Verification and validation, Testing and digital image processing and many more. The students are working in various projects like development of Bluetooth low energy firmware for Intel Bluetooth controller (Chip), Assisted GPS & amp; GLONASS development will be done for Intel GPS & amp;GLONASS solution, signal processing techniques to extract ECG in presence of motionnoise, compressive sensing, power-efficient architectures for wearable sensing systems, design and verification of leading edge IPs/SoCs and development of tool for various applications. According to mentors feedback and observations, students need to be trained in scripting languages Perl, Tcl, etc, AMBA protocol, VLSI architecture and mobile communications. Intel is also looking at new technologies in machine learning and embedded system. Student need to be prepared with new challenges and show some interest. Students need to be proactive and passion to work in new fields.

Student

Name: NIBHRIT MOHANTY (2016B2AA0855H)

Student write-up

Short summary of work done during PS-II: Graphics hardware department. Mostly scripting work to automate small tasks. Some assembly language coding.

Tool used (Development tools - H/w, S/w): Python, SystemVerilog, Sed, Awk, Perl.

Objectives of the project: To automate processes for a microcontroller by processing text files through linux scripts and verifying signals in the simulations.

Major learning outcomes: Python, Sed, Perl, Vi editor, Soft skills.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Intel is a great place to work. The team was very friendly and accommodating. Plenty of time was provided to revise basics and learn the new skills required for the projects. Teammates are always willing to help out on any issues regarding the project. They also provide feedback regularly to ensure you stay on course.

Academic courses relevant to the project: Microprocessors, OOPS.

Name: PARTH GOYAL (2016B3A80483P)

Student write-up

Short summary of work done during PS-II: I was in a Post Silicon Validation (PSV) team. My work included writing test cases for validating certain IP related to the SoC which we are working on. I was responsible for debugging some automation scripts as well.

Tool used (Development tools - H/w, S/w): C programming, Python, UNIX environment.

Objectives of the project: To validate the SoC once the silicon comes up.

Major learning outcomes: 1. Learnt about how big projects are executed in companies 2. Learnt to write test cases 3. Learnt about how SoC works as a whole.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Project was work from home during the entire duration of our PS. All the meetings and work was done through online mediums on the laptop provided by them. Our mentor was really helpful and guided me throughout the PS.

Academic courses relevant to the project: For my team NO. But if you have some projects in Embedded Systems or ML that may be a plus.

Name: ANSHU MISHRA (2016B4A70107G)

Student write-up

Short summary of work done during PS-II: I was working in Intel labs, which is the research division of Intel corporation. My work was focused on Anomaly detection in time-series, images, and video databases and creating a privacy-preserving distributed architecture to implement these frameworks. I worked with three other people on this project (2 of them were research scientist and one Ph.D. Intern). The project covered ML, DL, Federated learning, Computer vision, Time-series analysis, and IoT. When writing this on 21/12/2020, we (me and my team) have submitted two patents and almost completed work for two publications. I am a CS student; that's why I was given this project, but if you are a EEE/ENI/ECE student, there is very little chance of getting the work that focuses on ML/DL. Most of the CS student (I think there were a total of 6-7 CS student) were given project based on ML/DL/CV/ Auto-ML/ GAN based projects, whereas EEE/ENI/ECC (there were around 20-25) were given mostly IC verification/Silicon / SOC blah blah kind of work. Most of the people who were with me in Intel Labs had to work for 12-13 hours a day. Nobody will ask you to spend this much time, but most of the Research Scientist do these kinds of hours, so they will have similar expectations from you, although I must say that it has been worth it for me, not sure about others. Your work will be heavily dependent on your team; my mentor was incredibly supportive, not the case with few others. Even though most CS students had a great project, not everyone has a very supportive mentor, so make a decision keeping this in mind. In December'2020, Intel Labs is on hiring freeze, so I can't comment on the PPO aspect; the situation might be different when you are reading this. All the best.

Tool used (Development tools - H/w, S/w): ML, DL, Federated learning, Computer vision, Time-series analysis, and IoT.

Objectives of the project: Anomaly detection in time-series, images, and video databases and creating a privacy-preserving distributed architecture to implement this.

Major Learning Outcomes: ML, DL, Federated learning, Computer vision, Time-series analysis, and IoT.

Details of papers / patents: No publication yet, although work is almost finished for 2 papers, So, I will have that in January (I am continuing here for next semester, as I am dualite). Two patent submitted but I am yet to get a confirmation, so cant write about this because of company.

Brief description of working environment, expectations from the company: Great working environment and very supportive people in general.

Academic courses relevant to the project: Machine learning, Neural networks, Data science.

Name: KARTIKEYA ARYAN AGARWAL (2017A3PS0253P)

Student write-up

Short summary of work done during PS-II: First project was on automated python script for converting data in excel sheet to OSXML files for RTL building. Secondly, I worked on a Perl script for the "Key Performance Indicator" dashboard to be displayed on the web for the respective IP.
Finally, I worked on functional and code coverage as part of a verification process.

Tool used (Development tools - H/w, S/w): Verdi, GVim, Linux, Verilog.

Objectives of the project: Automating and verification.

Major learning outcomes: Verification and IP designing.

Details of papers / patents: No patents or publications

Brief description of working environment, expectations from the company: The work environment is good. You have your mentor in the same team to guide you through the process. The manager is also really supportive. Every week you have a team meeting where you have to give updates on your project. You will be using Skype business to contact the people in your team or anyone in Intel. Intel TAC team helps you to rectify any technical issues with hardware or software and they are available 24x7. Work time is really flexible. You can work till 5 only, but somedays there might be a meet at night with people in the US.

Academic courses relevant to the project: Computer architecture (a little bit if you are working on VLSI project), must know some coding.

Name: SHIKHAR SHARMA (2017A7PS0102G)

Student write-up

Short summary of work done during PS-II: The objective was to design a flow automation that would enable a team within Intel to have automated way of generation of test logic for read-only semiconductor memories which was lacking as compared to read-write type of memories. Thus, increasing qualitative repeatability of outputs each time.

Tool used (Development tools - H/w, S/w): Python

Objectives of the project: The objective was to develop a robust automation that would fulfil the specifications of the design while maintaining the integrity and functionality of the existing use case.

Major learning outcomes: Programming on an enterprise level, corporate work ethic, basics of chip design processes.

Details of papers / patents: No papers / patents

Brief description of working environment, expectations from the company: The work environment was supportive and focused. Although limited to some extent because of the work from home nature of the internship, everyone in the team went above and beyond to welcome me to the company and provide an environment where I could learn, work and grow as a professional.

Academic courses relevant to the project: C programming, OOP, Python scripting.

Name: ADITYA MITHAL (2017A7PS0157P)

Student write-up

Short summary of work done during PS-II: Developed an auditing application to ensure consistency between various databases and file share systems. Automated regression testing.

Tool used (Development tools - H/w, S/w): C#, .NET, Python, SQL.

Objectives of the project: Ensure consistency between databases and file share systems. Automate regression Testing.

Major learning outcomes: Database management..

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Great Team to work with.

Academic courses relevant to the project: Computer networks, OOP.

Name: SHREYAS SRIKRISHNA (2017A7PS0162P)

Student write-up

Short summary of work done during PS-II: I worked for the Design and Manufacturing Data Hub (DMD) group of Intel (within Intel IT). This group is at the heart of Intel's enterprise BI (business intelligence) for chip manufacturing, design and validation. DMD has a legacy DaaS (data-as-a-service) platform that serves scientists and analysts all over the globe. It makes use of various data warehousing tools to extract, transform and load (ETL) multi-terabyte data into numerous data marts and cubes, which is then consumed by the business groups through various dashboards, web-apps and plugins. Although, this data warehouse is currently hosted on-prem, there is a plan to move it entirely to the cloud. Currently in the data collection pipeline there exist many operations / issues that require significant manual intervention. As part of the project, the aim was to reduce this manual intervention by automating the proactive monitoring and fixing of issues within the data collection pipeline and thereby bring in efficiency. In other words, building intelligence into the system so that it fixes issues automatically before customers figure them out. This involved coding .NET plugins in C# for a windows service that is primarily tasked to monitor / auto-fix issues within the data collector service. Also involved some scripting using PowerShell and Python. As part of contributing to cloud migration, my project also included modernization of the ServiceNow ITSM sub-system for the DaaS platform. This involved adding new C# code to make the system use the new REST-API endpoint instead of the existing on-prem SOAP endpoint.

Tool used (Development tools - H/w, S/w): C#/.NET, PowerShell, SQL, Python, Visual studio, Git.

Objectives of the project: Optimizing the data collection pipeline within the DaaS (data-as-a-service) platform by automating the proactive monitoring and fixing of issues. Also contribute towards the migration of the DaaS platform from on-prem to cloud.

Major learning outcomes: Practical application of object-oriented design patterns and several rounds of code review by software architects (with 20+ yrs exp.) in Israel helped me gain knowledge about best coding-practices in the industry. Learnt about data warehousing concepts and the data collection pipeline (ETLs). Learnt about the agile methodology in the software

development life cycle. Gained experience on development in a Windows based enviroment using the .NET/C# development stack. Practical application of SQL on highly complex schemas. Learnt PowerShell scripting and practiced it along with some Python scripting for efficient automation.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Working environment is really amazing at Intel. People are ready to help / guide you whenever needed. Almost everyone is approachable. There is high focus on learning / skill-development of all employees. Employees (including interns) are frequently recognized for their efforts in the form of reward points. You can expect to get guidance / mentoring from highly experienced engineers / architects, which is otherwise quite difficult to find while interning at smaller companies. Work-life balance (as far as IT is concerned) at Intel is really good. Interns also receive laptops for the entire duration of their internship.

Academic courses relevant to the project: Data structures & algorithms, Object oriented programming, Database systems, Data warehousing, Object oriented analysis & design, Software engineering.

Name: VENKATA RAJESWARA ADITYA KOTA (2017A7PS0245H)

Student write-up

Short summary of work done during PS-II: Intel's design and manufacturing group uses an in-house DaaS (data-as-aservice) platform to extract, load and transform data for various purposes. The DaaS makes use of various data warehousing tools to maintain many data marts and data cubes that deal with multi-terabyte data which is transformed, aggregated and stored in the data warehouse. The business group consumes this data for their dashboards and web-apps. Currently there are many operations and issues in the data collection / aggregation / transformation pipeline that involve significant manual effort. The customers (members of the business group who use the DaaS) report these issues, which are then manually handled. As

part of this project, the aim is to reduce this manual intervention by automating the proactive monitoring / auto-fixing of issues within the system and thereby bring in optimization and efficiency. In other words, building intelligence into the system so that it fixes the issues automatically before the customers figure it out.

Tool used (Development tools - H/w, S/w): .NET framework, C#, Python, SQL.

Objectives of the project: Develop plugins for DaaS platform.

Major learning outcomes: Learnt a lot about .NET frameworks and data as a service platforms.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Very good work environment, healthy amount of work and very good manager.

Academic courses relevant to the project: Object oriented programming, Data structures and algorithms, Database management.

Name: AYUSH AGRAWAL (2017A7PS0926G)

Student write-up

Short summary of work done during PS-II: My project was on event-based computer vision. Event camera is a new kind of camera which is inspired by the spiking nature of the neuro-ophthalmic pathways. It works in an asynchronous manner, every time a pixel reports a change in brightness an event is reported. An event consists of the spatial coordinate, timestamp and polarity. Due to the nature of its output (unordered events) and it's asynchronous nature, existing computer vision algorithms can't be used for it. My work was to develop a feature extraction algorithm from event-based data sets. I had access to many event data recorded from DAVIS 240C. I wrote algorithms to visualize these events on a frame by frame basis and

also wrote algorithms to extract features from it. The work was fascinating and holds immense potential for future research and higher studies. This technology might be a great breakthrough in the field of machine vision.

Tool used (Development tools - H/w, S/w): OpenCV, ROS. No other tools used as I worked on a very new technology and almost no software exist to operate on this kind of data.

Objectives of the project: To develop an algorithm for feature extraction from event data.

Major learning outcomes: 1. Learnt about the working and benefits of event camera and the immense potential it has to revolutionize computer vision 2. OpenCV 3. Feature detection and corner detection 4. Error calculation for huge data 5. Filtering data for relevant information 6. Soft skills like time management, professional ethics, working under pressure, writing research paper, giving presentation.

Details of papers / patents: I'm yet to write a research paper on it. Although, my PS has officially ended, I will be in touch with my mentors and need to work on few other results and then we will try to publish a paper on my work

Brief Description of working environment, expectations from the company: Complete internship was WFH. No fixed work hours, most of the time I could work any time I want. It was the results that mattered not when we did it. Fun activities and games were conducted from time to time and we could also win cash prize or amazon gift cards in these games. I received many gifts from Intel (joining gifts, diwali gifts, year end gifts). I worked at Bangalore design lab, many of the employees here have PhD and research work is done here in a proper manner. I definitely got to learn many things here.

Academic courses relevant to the project: None

Name: NIHAL SINGH (2017A7PS0934G)

Student write-up

Short summary of work done during PS-II: Understanding the working and flow of Graph Neural Networks. Profiling and characterization of different graph based NN models on different sets of hardwares, starting with a CPU, then 1 GPU, then 2 GPUs, followed by a cluster of 4 GPUs, and finally on a cluster of 16 GPUs. Building analytical model for different configurations to understand model's input output sizes, size of messages transferred amongst the GPUs.

Tool used (Development tools - H/w, S/w): Pytorch-Autograd profiler, Memory_profiler, etc.

Objectives of the project: To find the bottlenecks of running graph based models of different sets of hardware.

Major learning outcomes: Graph Neural Networks, Profiling and characterisation.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Work environment was good with flexible timings and approachable team.

Academic courses relevant to the project: Machine learning, NNFL, etc.

Name: SOURYAANSH AGARWAL (2017A7PS1578H)

Student write-up

Short summary of work done during PS-II: Most of our work at Intel, comprised of Remote Host Management. We worked on multiple projects for the same. Two of the main one were:

1. React Native App to control a remote host using android / iOS device.
2. Python script to update properties of the peripheral device to the BMC (Baseboard Management Controller).

Tool used (Development tools - H/w, S/w): React, React Native, JavaScript, Python, Ansible, Shell Scripting.

Objectives of the project: Remote host updation and management.

Major learning outcomes: 1. Working in professional environment 2. Working in server class machines 3. App development 4. Object oriented programming in Python.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Our team was comprised of hard working individuals, who were also very helping and understanding in all situations.

Academic courses relevant to the project: OOP, Software engineering.

Name: RITTVIK SARAN J (2017A8PS0251P)

Student write-up

Short summary of work done during PS-II: Worked in the graphics division of Intel. Project involved continuous improvement of diagnostics software and testing of the same on Intel's latest discrete graphics card. Major parts of the project was coded using the oneAPI programming model, Intel's equivalent for CUDA and other software stacks for accelerator hardware. Auxiliary use of OpenCL and OpenGL was also needed. Requirements of the validation team were aimed at testing specific parts of the discrete card so understanding of the underlying architecture was indispensable. Result of the project was a proof-of-concept application using oneAPI that was able to give the current status of the GPU as well as run computational kernels for testing overall functioning. Display tests using OpenGL and memory tests using OpenCL were added to the application.

Tool used (Development tools - H/w, S/w): C++/C, oneAPI, OpenGL, OpenCL.

Objectives of the project: Hardware diagnostics of discrete graphics cards.

Major learning outcomes: Parallel programming, Parallel computer architecture.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Virtual internship with a regular team sync that occurs once a week. Team members and mentor were always helpful and responded to queries and made time for calls if I had extensive doubts. Expectations in terms of work involved regular updates on the JIRA, clear documentation of work done in a format that can be understood by the team.

Academic courses relevant to the project: Computer architecture, Parallel computing.

Name: OM ADITYA PALIWAL (2017A8PS0557H)

Student write-up

Short summary of work done during PS-II: My work was in the IP logic team. I had to undergo training sessions initially on how to use their software and interfaces along with some on the architecture of UPI. The work was mainly finding difference in the registers between two excel sheet. I had to work on its automation too. Other than this work was debugging violations in code generation and updating RTL for the same.

Tool used (Development tools - H/w, S/w): VNC viewer.

Objectives of the project: To genreate a script giving register difference after comparing 2 excel files, debugging code for errors, updating code with new entries and making relevant changes.

Major learning outcomes: Got an experience of high pressure deadlines, learnt about the processes ongoing in Intel, how everything connects, tools used in my IP team, trainings on various tools usage .

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: It was WFH, they provided laptop. Timings were flexible and have to finish the work within deadline. The company understood that we were an intern and have limited knowledge, they were helpful and eager to help.

Academic courses relevant to the project: Computer architecture, FPGA lab.

Name: SHAH UTSAV MANOJ (2017A8PS0656H)

Student write-up

Short summary of work done during PS-II: Cannot reveal details due to NDA. However, the overview was to develop an application to solve the problems of managing multiple hosts / servers.

Tool used (Development tools - H/w, S/w): Vscode, Android studio, npm packages etc.

Objectives of the project: Developing new products for intel's customers.
Major learning outcomes: Python / bash scripting, Angular, React native, Software testing etc.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Intel as a PS2 station has been very good. A corporation as large as intel has multiple projects that would surely interest you. Each intern is assigned an aptly titled 'buddy' who is your go to for every small of your queries. My buddy was super chill and went out of his way to help me. During our

time, projects were alloted based on our resumes, so even phoenix students got software projects if they had the said resume to show for. Coming to work, in my case it was a tad bit hectic, but the learning opportunities were huge. I got to know various aspects of software development which we encounter in real life, how to think and evolve a product in its development stage. Overall, it was a very good experience, which could have been great if it was onsite at the beautiful campus.

Academic courses relevant to the project: Algorithms and data structures, Object oriented programming, Operating systems, Digital design etc.

Name: KSHITIJ CHHABRA (2017A8PS0691G)

Student write-up

Short summary of work done during PS-II: My work was in the CICG team which works on verification of server based interconnects. A deep understanding of corporate workflow and tools used in the VLSI industry was gained through the experience. The work also had smaller sub-tasks which further helped me develop my skills in Python too. A very deep knowledge of core electronics is not required as most of the work depends on your analytical and problem solving skills.

Tool used (Development tools - H/w, S/w): Python, Perl, System-Verilog, HDL.

Objectives of the project: Employ various techniques for verification of Server Based Interconnects.
Major learning outcomes: Tools used in VLSI industry, Workflow and cycle of projects in corporate.

Details of papers / patents: N.A.

Brief description of working environment, expectations from the company: Work environment is conducive of quality work. Mentors carry a large experience in the industry and therefore you'll have the chance to learn as much as you want.

Academic courses relevant to the project: Digital design, MuP, ADVD.

Name: CHALLA SUMANTH REDDY (2017A8PS0706H)

Student write-up

Short summary of work done during PS-II: My role here in Intel is physical design engineer. So, basically for the hardware implementation of a chip. In this chip design I worked on 3 partitions. I need to run the RTL codes provided by the RTL team in a runtime manager, oversee that the APR (automatic place and route) flow runs smoothly without any major fails. Solved any flow related issues, Re-run the design by making some modifications to the scripts to reduce violations and flaws in the design. Analyze all the timing related issues violations that are occurring in the assigned partition and at section level and fix them. Checked whether all the bounds in the design are properly placed, added any missing bounds and rerun the design to reduce timing violations. Regularly checked and ensured the quality summary of the design. Checking the design for verification checks like LVS check, DRC, shorts etc. and reported back the violations to the RTL team to resolve these issues. Verified the design with a standard golden library to make sure that the elements in the design satisfy all the verification constraints. Finally, I made sure that the design is free from any flaws and the chip performance is enhanced.

Tool used (Development tools - H/w, S/w): Linux, ICC shell, Prime time, Tickle (Tcl).

Objectives of the project: The objective of the project is to run the assigned partitions, ensure there are no flaws in the design and and reduce design and timing violations of the partition using different techniques.

Major learning outcomes: I learnt how a chip is designed and the contributions made by different teams in crafting and implementing the design. Learnt about different type of tasks done by a physical design engineer. Effective problem solving techniques in the chip design.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Online PS.

Academic courses relevant to the project: ADVD, DD.

Name: ANHADVEER DASMIT SINGH KHOKAR (2017A8PS0714G)

Student write-up

Short summary of work done during PS-II: I worked in the domain of ASIC physical design on a project titled 'Netlist Abstraction for a Complex Graphics Floorplan'. The purpose of the project was to extract the crucial parts of a large netlist and use it as an abstracted netlist to reduce the time duration and complexity of the following floorplanning stages. This was done using synopsys tools like design compiler and IC compiler 2.

Tool used (Development tools - H/w, S/w): Tool command language (TCL), Synopsys design compiler tool & ICC2 tool.

Objectives of the project: The objective of the project was to reduce the size of the original netlist by a satisfactory amount and integrate the resultant abstracted netlist into the existing floorplanning flow via the rollup process.

Major learning outcomes: ASIC physical design, TCL scripting.
Details of Papers/patents: N/A

Brief Description of working environment, expectations from the company: The internship format was WFH (Work From Home). A project is assigned to you, students do not get to

choose. Expectations from the company included a quick learning curve and the ability to meet deadlines. Other details are vastly dependent on which team you're assigned to, and what your project is.

Academic courses relevant to the project: Electronics Devices, Digital Design, C Programming

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Name: GOWAIKAR OMKAR MUKUL (2017A8PS0846H)

Student write-up

Short summary of work done during PS-II: As a part of my PS-2 project, I was working as a firmware validation intern at Intel. The project assigned to me was to automate some validation processes for the BIOS firmware of Intel's Ultra Path Interconnect (UPI). For this task, I automated the processes using scripting which considerably reduced the time required for validation to a few seconds when compared to the time required to manually validate the IP.

Tool used (Development tools - H/w, S/w): Python, C/C++, SystemVerilog, UVM, Synopsys Verdi, Vim editor, Linux and bash scripting.

Objectives of the project: To automate the firmware validation of Intel's UPI.

Major learning outcomes: Learnt and got hands-on experience in scripting, validation, and pre-Si verification of IPs and SoCs.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The work-life balance at Intel is amazing. The mentors spend a significant amount of time with the interns to help them ramp up.

Academic courses relevant to the project: Digital Design, Microprocessor Programming and Interfacing, Computer Architecture

Name: GOWAIKAR OMKAR MUKUL (2017A8PS0846H)

Student write-up

Short summary of work done during PS-II: As a part of the PS-2, I have worked as firmware validation intern at Intel. I worked on the automation of validation processes of Intel's Ultra Path Interconnect. My work considerably reduced the time required to some seconds when compared to the time required to perform the validation manually.

Tool used (Development tools - H/w, S/w): Python, C/C++, SystemVerilog, UVM, Synopsys Verdi, Vim Editor, Linux and Bash scripting.

Objectives of the project: To automate the validation of the UPI BIOS firmware.

Major learning outcomes: Learnt and got hands on experience in firmware validation and its automation.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The work-life balance at Intel is amazing. Also, the managers and mentors spend a significant amount of time helping interns ramp up.

Academic courses relevant to the project: Digital design, Microprocessor programming and interfacing, Computer architecture.

Name: KAARTHIK S R (2017AAPS0292H)

Student write-up

Short summary of work done during PS-II: Task 1) Automation of functional coverage: A novel python automation of functional coverage has been proposed which allows a design / validation to enter the coverage metrics into an excel sheet which is the input to a python script. The script outputs several .sv files which is the coverage codes. This method allows for uniformity in the coverage codes. It prevents any manual errors. It is easy to review for the microarchitect. Task was to build the python script from scratch.
Task 2) Clock gating formal property verification. Clock gating is a technique to reduce power consumption in a design by disabling the clock signal whenever un necessary. It does not change the functionality of the design. Task was to ensure the functionality of the design has not been altered once clock gating has been implemented.

Tool used (Development tools - H/w, S/w): Python, Verdi, Jasper Gold.

Objectives of the project: Task 1: To provide a viable automation of functional coverage which reduced the burden on the engineers Task 2: To ensure the functionality of the design has not been altered.

Major learning outcomes: Very familiar with python3 now, learnt functional coverage and also did an online course on the same.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Work timings are flexible. There was no particular timing which we had to follow. We were free to choose when to work. Only expectation was to deliver the work on time. The mentors were very knowledgable and were ready to provide help whenever required. There was no need to feel any restrictions which asking for help. Manager was very understanding towards my interest. After the first task, he assigned me to another task aligned with my area of interest.

Academic courses relevant to the project: Object oriented programming, Digital design.

PS-II Station: Invento Markerspaces Pvt. Ltd., Bangalore

Faculty

Name: Rejesh N A

Student

Name: KISHORE SUNDARA MOORTHY (2017A3PS1156P)

Student write-up

Short summary of work done during PS-II: Worked on fleet management and medical EHR system fully developed database and sophisticated user interface.

Tool used (Development tools - H/w, S/w): Django, Javascript, Node.js.

Objectives of the project: Fleet management of multiple robots and patient EHR development.

Major learning outcomes: Full stack development.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Very friendly, conducive and helpfull for learning.

Academic courses relevant to the project: Oop, Embedded systems, DSA, CP.

Name: KARTHIK B NAIR (2017A4PS0229P)

Student write-up

Short summary of work done during PS-II: The aim of my project was to design and develop a robotic arm for the Mitra robot so that it can perform tasks like pick-and-place operations. The InMoov robot and its functioning was prescribed as a reference for the conception and design of an arm. The InMoov hand was imported and simulated in Fusion 360. Various mechanisms for opening and closing a robotic hand were explored through a literature survey of research papers and commercial hands. Another parallel project was the design of a sheet metal covering for an industrial robot. A prototype of a 5-DoF manipulator was designed, fabricated, assembled and controlled using an Arduino UNO and servo drivers. The first version of the robotic arm was designed and modelled in Fusion 360, consisting mainly of 3D printed parts and 2mm thick Aluminium sheets. A simple robot with arms was designed and simulated for the purpose of learning the simulation of the mechanics of an arm in MATLAB Simulink®.

Tool used (Development tools - H/w, S/w): Fusion 360, MATLAB Simulink, Arduino IDE.

Objectives of the project: The aim of my project was to design and develop a robotic arm for the Mitra robot so that it can perform tasks like pick-and-place operations.

Major learning outcomes: Gained modelling skills on Fusion 360. Gained overall knowledge about robotics and navigation. Learnt about robotic arms and how to actuate them.

Details of papers / patents: N.A.

Brief description of working environment, expectations from the company: Friendly and helpful employees. Good environment for working on robotics, especially navigation. Moderate chances of a PPO being offered.

Academic courses relevant to the project: Machine design and drawing, Computer programming.

PS-II Station: JPMS – GR & C AM Investment Market & Principle Risk, Bangalore

Faculty

Name: Sidharth Mishra

Student

Name: SAARTHAK MODI (2017A3PS0287G)

Student write-up

Short summary of work done during PS-II: The work mainly revolves around market risk coverage of JPMC funds and the underlying portfolios. The team monitors some metrics (also known as sensitivities) associated with the different aspects of risk pertaining to the portfolios. Any limit breach is escalated to the chief risk officer along with an extensive analysis of what caused the breach. The team also maintains the risk repository, and is responsible for updating the data source regularly using data from the business side. The team is also responsible for some submissions related to the federal reserves regulations. Most work was related to analyzing on why limit breaches happened and on further necessary actions. We worked closely with the analytics team to ensure that we have access to quality data. Some automation based tasks were also performed to optimize/streamline the regular processes that are performed on daily / weekly / monthly / quarterly frequency by the team.

Tool used (Development tools - H/w, S/w): Tableau, Excel, Bloomberg.

Objectives of the project: I worked on multiple projects. Some of them were to automate the existing processes using Excel VBA and python. The objective was to reduce human effort and error. Other process, I worked on was to analyze SPAC mechanism and to compare our portfolio of SPA.

Major learning outcomes: Major learning outcomes were Excel VBA, making and publishing dashboards on Tableau, using financial data sources such as Bloomberg and Reuters.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The team is very flexible in terms of the working hours you put in. They were also very supportive and encouraged any questions I might have. They do expect a certain level of dedication and commitment, and expect high quality error free work from interns.

Academic courses relevant to the project: Derivatives and risk management, Financial management, Security analysis and portfolio management.

PS-II Station: JPMS (Fintech) CIB R&A Banking (CRG), Mumbai

Faculty

Name: Shekhar Rajagopalan

Student

Name: ADVAIT SAMIR PATIL (2017A7PS0048G)

Student write-up

Short summary of work done during PS-II: The role was centered around CRG's automation initiative. Along with deploying Python libraries and creating VBA macros, we were expected to understand business challenges affecting the department, and work with off-shore and on-shore teams to arrive at solutions. The task usually started with automating time-consuming manual tasks, however most projects evolved far beyond their original scope in terms of time saved,

functionality and target users. During my internship, I worked with selenium (for scraping websites and databases), pandas and numpy for data operations and other Python libraries to interact with MS Office. VBA is a fundamental requirement as all investment banking work is done on MS office; most projects will have their front-end coded in VBA.

Tool used (Development tools - H/w, S/w): Python, VBA, MS office, Databases.

Objectives of the project: Robotic process automation.

Major learning outcomes: Python / VBA / MS office skills, Financial modelling, Communication skills.

Details of papers / patents: Not Applicable.

Brief description of working environment, expectations from the company: The CRG office serves as a middle office to investment and corporate banking operations around the world. There is a first-name culture wherein you can call your senior management by their first name, and you're expected to be asking questions and constantly questioning ideas, and suggesting better solutions. In the FinTech role, we had full end-to-end technical ownership, and were expected to set our own deadlines and approach. In 4 months, I developed 9 projects from scratch, however on average you're expected to develop at least 1 project a month. Buddies were assigned during the project who communicated the business requirements. The role serves as a great way to network with senior members of the department and on-shore investment bankers, and helps gain exposure to the world of investment banking.

Academic courses relevant to the project: BAV, DRM, SAPM, FinMan, DRM, DBMS, CP, DSA.

PS-II Station: JPMS (Technology - IT) GR & C Wholesale Credit Solutions - Data Science - Fintech, Mumbai

Faculty

Name: Shekhar Rajagopalan

Student

Name: APURV BAJAJ (2016B3A70549P)

Student write-up

Short summary of work done during PS-II: > Designing the framework and implementing it in code.
> Analyzing the outcomes and verifying it with historical data.
> Visualizing the results and presenting them to the team.
> Identifying the concerns, making the required changes and repeating these steps.

Tool used (Development tools - H/w, S/w): Python, Hadoop, Spark, Pandas, Sklearn and Matplotlib.

Objectives of the project: 1. Develop a data-driven framework for asset-based lending 2. Develop an alerting framework for liquidity-stressed clients.

Major learning outcomes: 1. Understanding data analysis techniques and processes 2. Understanding asset-based Lending and Liquidity terminology 3. Time management 4. Effective communication 5. Ownership of the project and team collaboration.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Good working environment.
• There was sufficient time at the start of a project to consider multiple approaches to the problem before committing to a specific direction.

• Development of the project invited assistance from teammates, coordination with data and tech teams, and guidance from senior leadership.
• Overall, a very rewarding ecosystem to work in.

Academic courses relevant to the project: Data structures and algorithms, Database systems, Foundations of data science, Machine learning, Fundamentals of finance and accounting, Financial management, Security analysis and portfolio management.

Name: KUSHAGRA AGRAWAL (2017A7PS0107P)

Student write-up

Short summary of work done during PS-II: The work is here is divided in two parts – Business as Usual (BAU) and the project. The BAU stuff involves helping people across the team working on different projects – data extraction, summarization etc. This gave a good overall experience of what projects the team was working on. I worked on two major projects – first was related to time series analysis and data visualization and the second was related to news analytics and involved extensive data analysis and some basic knowledge of NLP. My work on the project helped put the model in production and then extend it to majority of clients across the firm.

Tool used (Development tools - H/w, S/w): S/W - Python, MS excel.

Objectives of the project: 1. Help the team in various day to day tasks 2. Write and test code for various modules in the project 3. Perform data analysis for showing the relevance of project.

Major learning outcomes: Advanced functions in MS excel including big data handling functions, NLP, Time, Series analytics.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Working environment - Code is to be written and tested in Jupyter notebooks, data analysis and validation is done in excel. Expectations from the company - Deliver the work assigned on the assigned deadline and ensure that the deliverable is tested and correct in all aspects.

Academic courses relevant to the project: Machine learning, OOP, DSA.

PS-II Station: JPMS CIB R&A - Markets (Derivatives Analyst Group, Mumbai

Faculty

Name: Shekhar Rajagopalan

Student

Name: PARV V PANTHARI (2016B3A30550P)

Student write-up

Short summary of work done during PS-II: The team supports local market sales teams across Asia excluding Japan, devising and providing pricing on derivative structures using internal pricing models as per the client requirements. The team also helps with client analysis and monitoring, providing information to the teams on their clients; preparing sales pitches etc. Preparing term sheets, confirmations, and internal risk policy / committee papers for different FX and rates products. Working with the structuring / sales desks on various flow and bespoke structuring requests, building models in excel, back-testing of strategies, reconciling back-tests prepared in parallel. You are expected to take up initiatives to come up with product ideas based on market research and analysis.

Tool used (Development tools - H/w, S/w): MS excel, VBA, PowerPoint, Bloomberg, Internal pricing softwares.
Objectives of the project: Assist the team in BAU and automate certain processes of reporting and term sheet generation to improve efficiency.

Major learning outcomes: 1. The internship experience expanded my horizons in the FX and interest rate derivative markets, covering a wide range of products from basic vanilla options to exotic structured products with complex, digital payoffs.
2. Getting exposed to OTC markets, understanding JP Morgan's role as a market maker, and being instrumental to live deals was an enriching experience.
3. Got to understand the entire life cycle of a trade, from different stakeholders' economic rationale to the finer legal nuances of the deals and conventions followed.

Details of papers / patents: NA.

Brief description of working environment, expectations from the company: 1. The learning curve is really steep, but the team is very helpful in showing you the ropes and helping you grow.
2. The work can get dry and methodical at times because softwares do most of the job, but the team expects you to understand the nuances of everything that's happening on the backend because you have to constantly deal with structurers and traders.
3. The responsibilities that you get depends directly on the enthusiasm and precision you show in your work.
4. Usual working hours are from 9am-6pm, and rarely extend beyond 7. But there are has weekly 6 am shifts in rotation (one week a month).

Academic courses relevant to the project: Derivatives and risk management, Mathematical and statistical methods, Applied econometrics.

PS-II Station: JPMS CIB R&A Global Research, Mumbai

Faculty

Name: Shekhar Rajagopalan

Student

Name: JASH ASHISH PATWA (2016A4B30292G)

Student write-up

Short summary of work done during PS-II: I worked more on franchised dealers and their omni channel initiatives to adapt to a changing consumer climate driven by COVID-19. I have worked primarily with the US autos team on these lines trying to understand the business structures, create reports, collect data and predict future trends. We also see Vehicle Miles Travelled (VMT) in the U.S as a major indicator of increased road transport translating into higher wear and tear impacting parts and services segment at franchised dealers.

Tool used (Development tools - H/w, S/w): Microsoft excel, Python, Microsoft word and Bloomberg API were key skills in implementing the project.

Objectives of the project: The project involves preparing research reports, models and in-depth analysis of business models helps the organization to effectively service its clients request for data and research commentary along these lines.

Major learning outcomes: Apart from technological know how, key skills I gained were on the side of interactions and corporate communication. The style with which analysts at J.P Morgan write as well as presents ideas were key learnings I picked up on and hope to improve.

Details of papers / patents: N\A

Brief description of working environment, expectations from the company: Equity research is a dynamic experience with numerous variables at play and vision is key in picking the right companies. We were pushed through a rigorous training program focusing on

accounting, excel skills and valuation techniques followed by an internal in-house training regarding compliance, cross border interactions and technology.

Academic courses relevant to the project: Courses such as Technical report writing, Fundamentals of finance and accounting, SAPM, FinMan, DRM, Business analysis and valuation. Additionally, supply chain management course has helped me immensely.

Name: NIDHI BEERAVOLU (2016B3A30480H)

Student write-up

Short summary of work done during PS-II: My work mainly consisted of research and tracking of the high yield bonds and leveraged loans market. I helped the team members in their tasks and through it I have learnt how to derive valuable results from a large amount of data and help investors make decisions. I also learnt about the bond and loan default universe. I wrote code to get results of analysis faster from the data files.

Tool used (Development tools - H/w, S/w): Python , VBA

Objectives of the project: Monior and analyze the high yield bond and leveraged loan markets.

Major learning outcomes: I am grateful that in my current role, I was able to learn the skills that will benefit me in this industry along with the nuances and workings of the financial industry and the Investment Banking sector. I have a better understanding of the bond and loan market. Also being able to go through the research and reports by various teams helped me increase my knowledge of the financial markets in various countries. I have learnt that attention to detail is one of the most important qualities required for this role.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The team I was assigned to consisted of senior analysts. The team members were open and helped me clear even small doubts. The work environment was suitable for me where I was given space to

figure things on my own without micro managing. My experience was in line with my expectations from the company where I could work on my skills and also gain knowledge.
Academic courses relevant to the project: Economics CDCs --They helped me understand the market at a macro level. Financial management, Security analysis and portfolio management.

Name: VISHAKHA (2016B3A30547P)

Student write-up

Short summary of work done during PS-II: Building financial models in excel for stock price valuation, making company reports, attending earnings calls and other conference calls and making notes.

Tool used (Development tools - H/w, S/w): MS excel, Bloomberg.

Objectives of the project: Giving buy / sell / hold recommendations on stocks to clients.

Major learning outcomes: Advanced excel skills, report writing skills, market research and data collection from Bloomberg and other relevant websites.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Internship has been work from home for 5 months.

Academic courses relevant to the project: BAV (most relevant and mandatory), FundaFin, SAPM, FinMan (Note: Exploring companies' websites and a basic understanding of their annual reports and quarterly reports will be very useful for the internship).

Name: SHRAJAL JAIN (2016B3A30557P)

Student write-up

Short summary of work done during PS-II: I was responsible for updating models, i.e., post the quarterly reports, the models are updated and adjusted for the estimate changes. Besides that, I assisted my team with notes, i.e., preparing the previews and alerts during the earnings period, and working on the bi-weekly and other company notes. I also took part in data collection from relevant data sources, Bloomberg and IQVIA which was used for publications. I also created models from scratch and prepared the income statements, balance sheets and cash flow statements along with various valuation multiples. We also kept a regular track of global capital markets, coverage universe and healthcare sector for updating models post earnings, deciding on corporate action and publishing material news items. The work also involved automating charts and creating various macros to hasten the time taken to publish reports.

Tool used (Development tools - H/w, S/w): Microsoft excel, VBA, IQVIA database, Bloomberg.

Objectives of the project: As part of the equity research team, we seek to develop and communicate to investors insights regarding the value, risk and volatility of a covered security and thus assist the investors in deciding whether to buy, hold, sell, sell short or simply avoid it.

Major learning outcomes: We had a five day training at the beginning of our internship that provided skills for accounting, excel, valuation and basic finance concepts along with a brief idea of corporate banking. During the span of this internship, I have learnt about the practical side of equity research and gained an insight into the fundamentals of the sector that I have had the chance to work with. Additionally, I continually gained understanding of macroeconomics through weekly mock morning meetings.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: These 4.5 months at JP Morgan as an intern has played a crucial role in bridging the gap between the theoretical knowledge and applying it to the practical work front. It helped me understand the

workings and organizational culture and behavior in a global level only because JP Morgan is a large MNC where following the rules and being completely professional is vital. Further courses such as fundamentals of financial accounting, security analysis and portfolio management, derivatives and risk management, business analysis and valuation and financial risk analytics and management have been very useful in grasping things easily. In my free time, I am leaving no opportunity to venture into learning new things from sources on Internet and Morgan markets. This internship has been exciting and resourceful.

Academic courses relevant to the project: Fundamentals of financial accounting, security analysis and portfolio management, business analysis and valuation, financial management, derivatives and risk management, financial risk analytics and management.

Name: VIGYNESH BHATT (2016B3A80465P)

Student write-up

Short summary of work done during PS-II: Updated models, attended earnings calls, wrote notes on the earnings call for investors, Initiated coverage of a couple of companies.

Tool used (Development tools - H/w, S/w): Excel, Word, Bloomberg.

Objectives of the project: Learning about interpreting company's financial reports and earnings.

Major learning outcomes: Learnt about reading company's financial reports, analyzing company's performance from their earnings call, writing recommendation notes for the investors etc.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Friendly atmosphere, easy to talk to any member of the team. Team expects the work to be completed in a timely manner and communication and attention to detail is important.

Academic courses relevant to the project: Business analysis and valuation, fundamentals of finance and accounting, principles of economics, microeconomics, macroeconomics, financial management.

Name: VIVEK GUPTA (2016B3A80481P)

Student write-up

Short summary of work done during PS-II: I am part of the ASEAN equity strategy team, which analyzes macroeconomic and geopolitical factors for equities of ASEAN countries using a data-driven approach. My major work includes supporting the analysts with their day-to-day tasks such as preparing research reports, making data models, automation, and completing data requests of the key indicators, and looking for news that can impact the equities market in the given country, etc.

Tool used (Development tools - H/w, S/w): MS excel, VBA, Bloomberg terminal, Python.

Objectives of the project: Equity and sector analysis based on country level and making strategy reports for the clients.

Major learning outcomes: Top-down approach of investment, data-driven research, improved research writing skills and attention to detail.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: J. P. Morgan has a wonderful environment to learn about the nuances of the financial world. In times of COVID-19, there is much less interaction but the people here are very supportive and helpful.

The company treats you like full-time employees and expects you to work with high accuracy and precision in the given time limits.

Academic courses relevant to the project: SAPM, Financial management, FundaFin, Macroeconomics.

Name: SHRUTI DASH (2016B3AA0434G)

Student write-up

Short summary of work done during PS-II: My role was to keep track of market developments and update spreadsheets based on recent developments, formulate, simplify and consolidate models and assist the team with publishing research notes. Furthermore, I also helped the team with any client requests that needed to be attended to.

Tool used (Development tools - H/w, S/w): MS excel, Bloomberg.

Objectives of the project: The main objectives of the project were to understand and apply the concepts of financial modelling to forecast fnancials of stocks as well as collating data regarding market devleopments and incorporating them into the estimates.

Major learning outcomes: Gained proficiency in financial modelling, financial analysis and MS excel. Learnt how to appply theoretical knowledge to industry tasks.

Details of papers / patents: Formulated and simplified models for the company and assisted with publishing reserach notes for clients.

Brief description of working environment, expectations from the company: The working environment was very conducive for learning and the team was very helpful. The company provided numerous opportunities to learn and there were many tasks to boost understanding and contribute meaningfully. The benefits of industry exposure were there as well as the opportunity to transalte theoretical learning to real-time tasks.

Academic courses relevant to the project: Financial management, Business analysis and valuation.

PS-II Station: JPMS CIB R&A Markets- Equity Derivatives Trading & Structuring, Mumbai

Faculty

Name: Shekhar Rajagopalan

Student

Name: DAFTARY NEEL SUNIL (2017A3PS0322G)

Student write-up

Short summary of work done during PS-II: The work involved backtesting new ideas / data sources to design an algorithmic investment strategies and to extract maximum possible alpha value to make better Investable / tradable indices for the clients of the corporate & investment banking arm of JP Morgan. Due to the remote nature of the PS 2 term we weren't able to work a lot on daily tasks of the team. A majority of the work and time spent was on understanding the underlying infrastructure to run such ideas and large data based strategies with less effort and ease of making tweaks in the strategies. I particularly was assigned work on investable equity portfolios but the team also works in making products based on option, commodity strategies. The work that is given to interns is actually based on a lot of research previously conducted by other teams and a fairly decent amount of time is associated with conducting additional research to improve the performance of the portfolio. My projects ranged from fairly basic data analysis to machine learning based variations of portfolio construction.

Tool used (Development tools - H/w, S/w): Mainly worked with Python and a lot of new libraries over the course of the PS2. There were also projects using VBA for automation of a few tasks done by the team.

Objectives of the project: Analysing a entirely new type of data source and extracting alpha value in market neutral portfolios.

Major learning outcomes: The best learning outcome would be the exposure to the kind of financial products that are in demand in the investment banking Industry and how new technology is being used to solve problems that weren't solvable a decade ago.

Details of papers / patents: None

Brief description of working environment, expectations from the company: We were given sufficient training modules 2 weeks prior to joining to familiarize with conventionally known and unknown products of the financial services industry. Post joining, we were given small introductory sessions on the infrastructure and processes the team used in their day to day operations. Thus by the end of week one we had enough basic knowledge to begin our PS2. Post this all interns are divided into respective teams and allocated different task. The learning never stopped and I'm sure I'll learn something new at even the very last day of my PS2 experience. Expectations from the company can be thought of as constant capacity to learn, since my very first project involved writing custom queries on a 3rd party API and my second project was on something nobody in the team had previously worked on. Thus, we were offered a high amount of responsibility with regards to the tasks that were assigned to us.

Academic courses relevant to the project: Optimization, Derivatives and risk management, Securities & portfolio management.

Name: GUDUGUNTLA VENKATA SAI SUMANTH (2017A3PS0561H)

Student write-up

Short summary of work done during PS-II: The company reaches out to new clients and has to share the current month performances of existing customers' portfolios. As they have to explain this crisply, they present the data as ppts, every month, which has data from a supporting excel sheet based on Bloomberg data and some calculations. As the monthly reports updating process takes much time to copy manually, paste, update data columns, VBA could be used to automate this task. Also, the company has the scripts in older python versions, which are to be migrated to a new version as older versions are no longer supported and new ones have much more useful tools and libraries. To achieve this, the migration of code should be done.

Tool used (Development tools - H/w, S/w): Python, Excel, Bloomberg, VBA.

Objectives of the project: PPT automation, Scripts migration, Debugging, and Testing.

Major learning outcomes: How to use VBA, Excel functions, Version control, Scripts debugging, Testing.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Team members are really supportive, and help with our doubts as soon as possible. The company expects students to be familiar with python, basic oop, some inbuilt python libraries and a bit of version control. Though financial knowledge is important for coping up with the work, the main work is mostly IT related.

Academic courses relevant to the project: SAPM, DRM, FRAM.

Name: SHANTANU GUPTA (2017A7PS0137H)

Student write-up

Short summary of work done during PS-II: Work was mostly related to the code that goes behind financial strategies - writing scripts, maintaining them with edits and new versions, debugging, and so on. I also used MS office suite (mostly Excel and Powerpoint) for recording, organizing and analyzing trading data.

Tool used (Development tools - H/w, S/w): Python, Excel.

Objectives of the project: I was fortunate to have the opportunity to work on multiple tasks rather than a single long term project. The objective of most of my work was to learn and contribute to the work of the supporting office. Majority of my codes were on reporting i.e. communication.

Major learning outcomes: Writing production level code, Handling live requests with windows of a few hours or less, Work etiquette.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The company's culture is exemplarily inclusive and welcoming. There is always some fun event you would be looking forward to, for instance, sports contests, cultural celebrations, expert talks, and townhalls to name a few. The average colleague is quite young and enthusiastic about learning. My seniors were very helpful and made my virtual internship experience much smoother.

Academic courses relevant to the project: DRM, SAPM, FRAM, OOPS.

PS-II Station: JPMS GR & C Auto Risk Strategy Analytics, Bangalore

Faculty

Name: Sidharth Mishra

Student

Name: CHADALAVADA KHYATHI KIRAN (2016B3A40467H)

Student write-up

Short summary of work done during PS-II: Worked on the general business work of the team. Creating monthly reports on the performance of portfolio and working on any other special request from business partners or other teams.

Tool used (Development tools - H/w, S/w): SAS programming, Excel, PowerPoint.

Objectives of the project: Analysis and minimization of losses in portfolio and know where the losses are coming from.

Major learning outcomes: Working on SAS, Presentation skills, Communication skills.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Given that we joined the team virtually, everyone on the team was really helpful with letting us understand even the most basic things if needed. They encouraged to get involved with most of the things, be it work, presentations or the general fun sessions we had. The only expectation from the company would be for the person to be more enthusiastic with everything they are working on and show interest to learn more.

Academic courses relevant to the project: BAV, FM, SAPM.

PS-II Station: JPMS GR & C Cards Risk Strategy Analytics, Bangalore

Faculty

Name: Sidharth Mishra

Student

Name: MOHAMMED ANJAL (2016B3A70238G)

Student write-up

Short summary of work done during PS-II: My primary project was the implementation of a data anomaly tracker to be used for different strategies in the credit card business. Upon completion of the primary phase, I could work to extend the implementation of the tracker to other functions. Generation of the daily / weekly data anomaly report and analysis of its effects in the strategy was the later phase of the work. The firm provided various training programs which were relevant for the project.

Tool used (Development tools - H/w, S/w): Python, SQL, SAS.

Objectives of the project: Finding the anomalies in the input data to various strategies and summarizing its effect on the strategies.

Major learning outcomes: 1. Statistical understanding about various data anomalies 2. Credit card business and various functions 3. Different strategies in the banking business.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working hours are from 1 PM to 10 PM on Monday - Friday. I was working alone on the project with the

guidance of my manager. The progress in the project was monitored weekly and the deadlines given were fair enough. The team was very helpful in professional and personal contexts.

Academic courses relevant to the project: Probability & Statistics, Mathematical & Statistical methods, Computer programming, Database management system.

Name: LAKSHITH D (2016B3AA0357H)

Student write-up

Short summary of work done during PS-II: In charge of the monthly strategy report for the overdraft account, contains certain metrics that help explain customer behavior in OD accounts. We come up with strategies to better improve profitability from such accounts and prevent losses in the same.

Tool used (Development tools - H/w, S/w): SAS enterprise guide, Excel, SQL Teradata.

Objectives of the project: Customer behavior analysis of overdraft accounts.

Major learning outcomes: Softwares: SAS enterprise guide - Coding in SQL for data management and analysis; Excel for further data analysis and visualization. Soft skills: Slide making for data visualization, presentation skills and team work.

Details of papers / patents: Created and tweaked several existing strategies to better identify the right customers to implement different strategies so as to save the company millions in losses and improve profitability.

Brief description of working environment, expectations from the company: Working environment is above expectation. All employees are nice and communicate on first name basis. Team is well integrated with work. New hires / interns have a chance to present to upper management and they are all very kind to new comers.

Academic courses relevant to the project: Applied econometrics.

PS-II Station: JPMS GR & C CCB Business Banking Reporting Strategy, Bangalore

Faculty

Name: Sidharth Mishra

Student

Name: SEHAJDEEP SINGH ARORA (2017A2PS0796P)

Student write-up

Short summary of work done during PS-II: I was working in the consumer and community banking (CCB) LOB for JP Morgan Chase. CCB has many sub LOB's like cards, auto, home lending, business banking etc.. In my station, I was typically working for the business banking risk reporting team. The major work of the team is to make reports and dashboards containing various risk and performance metrices for various stakeholders and senior management, from which they could draw conclusions and take business decisions. I worked on developing reports using SAS and SQL. I also worked on Tableau creating dashboards that served as a key piece for a larger report. In addition to this, I was involved in various Ad-hoc projects that required modification of existing reports or extracting data to derive key business and risk information. I also worked on proprietary company tools, learning how credit requests are processed and understanding the life cycle of the Loan.

Tool used (Development tools - H/w, S/w): Programming Language: SQL, SAS, Python (Numpy and Pandas)
Software : Tableau, Alteryx
Others: Various proprietary services provided by JPMC.

The main tools used are SQL, SAS, Tableau. SQL was used everywhere to extract data and write queries.

Objectives of the project: I did not work on one big project, as my work was more business as usual (BAU). I created and modified various reports and each served a different objective. The dashboards created were a piece of a larger report.

Major learning outcomes: Technical skills: In my internship I worked on a variety of tools like SAS, SQL, Tableau and Alteryx. I applied these tools to in real life scenarios, that helped me gain a better understanding of them. I also learnt a lot about the bank and how they have improved their risk culture after the 2008 financial crisis.
Professional communications: One of the most valuable skills that I have gained from my internship is the ability to speak with people in a professional setting. This made me more confident and will help me sound more mature and experienced in a business setting.
Networking: As an intern, I learnt how important networking is for my future career. Connecting with people in my desired career path through my internships has led me to solidify my desire to work in this industry, and I now have mentors to turn to when I have questions regarding the field and my work.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: In such a huge corporation experiences are bound to be different for everyone, however, there might be some sort of uniformity within groups. For my business, the environment was always very relaxed and friendly. The majority of the people got along with each other and you could approach everyone from analysts to Managing Directors with no sense of fearing they'd shut you off. My colleagues were always willing to help me out and they embraced me. Since, we were WFH the whole time, there were many employee engagements events and fun sessions that helped us connect better with the team and know about our senior leaders. To summarize, JPM has a great work culture, one of the best I have ever experienced.

Academic courses relevant to the project: Fundamentals of finance and accounting, Financial management. None of these courses were directly related to the work or my project,

but these courses provide an understanding about the financial industry and financial products, that was very useful in the work.

PS-II Station: JPMS GR & C CCB Chase 360 Strategy, Bangalore

Faculty

Name: Sidharth Mishra

Student

Name: ASHISH K MATHEW (2016B3A30482H)

Student write-up

Short summary of work done during PS-II: Analyse data from various lines of business and external sources to deliver valuable insights and tools.

Tool used (Development tools - H/w, S/w): Python, Spark, R, SQL.

Objectives of the project: Fraud detection.

Major learning outcomes: Learnt technical skills such as python, SQL and R to leverage data and draw analysis. Also gained soft-skills such as collaborating with a global team and breaking down a project into segments to ensure timely delivery.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment is great, people are always ready to lend a hand and help tackle any issues. Opinions and suggestions are always welcome, regardless of designation and experience.

Academic courses relevant to the project: Finance courses, Basic programming knowledge and statistics.

PS-II Station: JPMS GR & C Corporate Risk - Risk Project Solutions, Mumbai

Faculty

Name: Shekhar Rajagopalan

Student

Name: RWEETAM BHATTACHARYA (2016B1A20938H)

Student write-up

Short summary of work done during PS-II: Risk projects & solutions - The work was on project management to build out a risk report repository to help the firm reach its Basel compliance targets.

Tool used (Development tools - H/w, S/w): Excel, Tableau, SQL.

Objectives of the project: To co-ordinate and manage various stakeholders to build out the repository.

Major learning outcomes: Basel norms, Project management skills, Stakeholder management, Pivoting.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Great work culture in JPMS. Very flat hierarchy, everyone is approachable. Company is also very much understanding of general needs of students. Good learning experience.

Academic courses relevant to the project: Principles of management.

PS-II Station: JPMS GR & C Corporate Risk - Firm Wide Risk Reporting, Bangalore

Faculty

Name: Sidharth Mishra

Student

Name: TATIREDDY SAI CHARAN KUMAR REDDY (2017A4PS0667H)

Student write-up

Short summary of work done during PS-II: My work mostly revolves around automation. I have automated an entire report using Alteryx, Tableau and Excel VBA.

Tool used (Development tools - H/w, S/w): Alteryx, Tableau and Excel VBA.

Objectives of the project: To reduce the manual processes involved and time taken to run the report.

Major learning outcomes: When I first started, I didn't know Alteryx and Tableau. This project enabled me to learn them and apply them in real life applications.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The internship was virtual. The team is very supportive. They have guided me in each and every instance. There will some expectations from you to perform.

Academic courses relevant to the project: Some finance knowledge would be good but not required.

PS-II Station: JPMS GR & C Credit Forecasting Strategy, Bangalore

Faculty

Name: Sidharth Mishra

Student

Name: YASH PALIWAL (2016B3A80289G)

Student write-up

Short summary of work done during PS-II: I worked on a report that the company was using for a particular purpose but due to the very manual update process of that report, it was not updated and eventually not being used by the team. So I was assigned the work to revamp that

report and make it easier to update so we can continue using it. As it was WFH this time, things went a little slow as compared to on site PS. Most of my team's work is done on excel and we use tableau for some purposes. The best part was presenting my work in front of the team as that is when we know that how important is the work that we have done.

Tool used (Development tools - H/w, S/w): Tableau and excel.

Objectives of the project: The objective of my project was to revamp the old report so that the report can assist in making business decisions.

Major learning outcomes: I learnt a lot more about Excel, Tableau. Being my first time in a corporate, there were a lot of learning experiences besides the software skills.

Details of papers / patents: Nothing as such.
Brief description of working environment, expectations from the company: The working environment is great. The company is very employee oriented and the culture is great. A lot of diversity and even the colleagues treat each other really well. Well established processes for every thing. According to me, the company met my expectations but I think it would be even better if the work was on site rather than from home. But overall a good experience and I won't mind working here full time if offered a PPO.

Academic courses relevant to the project: Principles of Economics, Macroeconomics, Money banking and Financial Markets.

Name: SALONI MISHRA (2016B5A20566H)

Student write-up

Short summary of work done during PS-II: Analysis of financials to determine valuation benefits in future.

Tool used (Development tools - H/w, S/w): Excel, SQL.

Objectives of the project: Analyse the financials and develop a model inorder to increase the over all value of the company.

Major learning outcomes: Got technical and functional understanding of how things work in practical world.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Good work culture.

Academic courses relevant to the project: Security analysis and portfolio management.

PS-II Station: JPMS GR & C Credit Risk Counterparty Credit Infrastructure & Capital, Mumbai

Faculty

Name: Shekhar Rajagopalan

Student

Name: CHEEMALAMARRY SAI KARTHIK (2016B3A10374H)

Student write-up

Short summary of work done during PS-II: It was mainly BAU (Business As Usual) which involved analysis & reporting of the daily counterparty trade exposures for JPMS AG & PLC.

Work also involved handling queries sent by the senior colleagues at JPMS regarding the exposure trends of certain counterparties.

Tool used (Development tools - H/w, S/w): Excel, Internal software, Python.

Objectives of the project: Analysis of expected exposure & settlement exposure.

Major learning outcomes: Conceptual understanding of the counterparty credit risk metrics for OTC derivatives and other products.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: They have a friendly and inclusive work environment. We could reach out to anyone to get our queries resolved.

Academic courses relevant to the project: FRAM, DRM.

PS-II Station: JPMS GR & C Quantitative Research - Fintech, Mumbai

Faculty

Name: Shekhar Rajagopalan

Student

Name: KUMAR SAPTARSHI (2016B3A70419G)

Student write-up

Short summary of work done during PS-II: I worked in the quantitative research department in JP Morgan. This department develops and maintains sophisticated mathematical models, cutting-edge methodologies, and infrastructure to value and hedge financial transactions ranging from vanilla flow products to high and low-frequency trading algorithms. My team is the quantitative research, valuation research group. They ensure that the valuation of assets are in line with the external market places and don't deviate much from their actual value. They compare their asset valuation with that of the front office market desk and informs them in case of any discrepancies.

Tool used (Development tools - H/w, S/w): The main development tools were Python and its inbuilt libraries such as Pandas, Numpy and Sklearn. Other than that knowledge of Excel and VBA is also required. Knowledge of interest rate derivatives, swaps and cash products were also needed.

Objectives of the project: The objective of the project was to add to the transparency spectrum of the department. The tools, I built were used by the external members of the company to understand the highly technical processes being used by the Quant team.
Major learning outcomes: 1. Knowledge of interest rate derivatives, Swaps and yield curves of all major currencies 2. Gained understanding of proper development flow used at JPMC.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: A remote server and remote access was provided to us due to the remote nature of working. Overall the team was really nice and the work culture is not at all hectic. Managers are understanding and helpful and the work pressure is manageable.

Academic courses relevant to the project: Object Oriented Programming, Data Structures and Algorithms, Computer Programming, Derivatives and Risk Management

Name: Daksh Gupta (2016B3A70500P)

Student write-up

Short summary of work done during PS-II: Developed an analytical tools.

Tool used (Development tools - H/w, S/w): Python, OOP.

Objectives of the project: Create a one stop solution for running existing processes.

Major learning outcomes: Gained experience in coding and also exposed to the development of the solution.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Good environment.

Academic courses relevant to the project: FINE OOP.

Name: MUKUNDHAN JAYARAMAN (2016B4A70355H)

Student write-up

Short summary of work done during PS-II: The projects done so far lies in the realm of software development and time series management: (i) Adding certain features to pre-existing tools in the Falcon data tools suite (ii) Performing BAU tasks to manage the integrity of time series services used in JP Morgan (iii) Automating tasks within production execution team to save man-hours. The Falcon tools are used throughout the MRQR division to track data across different realms and perform subsequent analysis. The production execution team ensures that the time series used in the calculation of VaR are flawless. The objectives of the Falcon tools were specifically aimed at the bespoke needs of the product specialists within MRQR who use these data tools to run models, while the production execution team has a larger mandate, to monitor the VaR which has firmwide implications.

Tool used (Development tools - H/w, S/w): Visual studio, MS excel, Typescript, Python, Enaml.

Objectives of the project: 1) Prepare software tools for use within the bank 2) Monitor the VaR numbers and flag issues with time series data 3) Automate report generation tasks to save man hours.

Major learning outcomes: 1) How JP Morgan monitors value at risk 2) The different bespoke software used by modelling divisions within the bank and how they are created.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Since, the overlap with NY office is significant in terms of objectives, the reporting time is 11:30 AM and at-least 9 hours of work is the norm. The managers expect you to deliver the work well within the timelines allocated. New insights and curiosity are welcome. Be prepared to learn a lot in a short span of time.

Academic courses relevant to the project: Derivatives and risk management, Object oriented programming, Financial risk analytics and management, Computer programming.

Name: SAI SRAVANTHI KANAKAMEDALA (2016B5A70591H)

Student write-up

Short summary of work done during PS-II: I'm working on training a machine learning model to predict volatility for the future months using the last few months' data. I also worked on a project on analyzing the performance of a model with respect to the real data and deduced its applicability. I will be looking at backfilling the signals for the past few months. I worked on developing a new signal from scratch.

Tool used (Development tools - H/w, S/w): Python, Q studio, Reactive, Athena studio.

Objectives of the project: Analyzing the data generated from signals which has been generated through trade tickers. This'll help predicting the stock prices in the future. Addressing erroneous scripts in development phase and pushing them to production.

Major learning outcomes: I got well-versed with building and training various machine learning models which are useful in predicting the prices based on some particular features which are being primarily focused under our purview. I am also improving my Python skills in unexplored areas and simultaneously developing other technological arenas like database management and some other company specific softwares.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: I work in the data analytics team at quantitative research division is under CIB which's under electronic trading. Over this lies, equities business which is a branch in itself of the firm.

Academic courses relevant to the project: DRM, FRAM and CP.

Name: SHUBHAM SAXENA (2017A7PS0302P)

Student write-up

Short summary of work done during PS-II: Optimization of existing program - in terms of both memory and time, along with some work involving financial modelling.

Tool used (Development tools - H/w, S/w): Visual studio, Python, C++, Distributed computing framework, Profiling tools, Debuggers, Various Python libraries.

Objectives of the project: Optimise existing program to allow them to run on low spec machines.

Major learning outcomes: Learnt a lot about bonds, Options and their valuation along with some technical experiences such as with SDLC, Profiling tools, Distributed computing.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The firm consists of highly motivated individuals who work diligently, which is the standard expected from anybody who joins the firm. A positive environment exists with strict code of conduct, etiquette, and good support system. People are very responsive and open to communication, more than willing to help out, and the focus is on personal development as well.

Academic courses relevant to the project: Financial management, Fundamentals of finance, Derivatives and risk management, Security analysis and portfolio management, Operating systems, Database systems, Data structures and algorithms, Design and analysis of algorithms, Object oriented programming.

PS-II Station: JPMS GR & C WCS - Credit Portfolio Analytics, Mumbai

Faculty

Name: Shekhar Rajagopalan

Student

Name: CHALLA MAHADEV SAI KARTHIK (2016B2AA0605H)

Student write-up

Short summary of work done during PS-II: We get the forecasted data on various financial metrics at client level and our job is to analyze that data and come up with ratings and transition matrices based on LGD and PD data.

Tool used (Development tools - H/w, S/w): Python, SQL, SAS, VBA, Tableau, Excel.

Objectives of the project: To analyze the clients business position on the credit side and forecasting their exposures.

Major learning outcomes: I learnt how ratings would be populated on a corporate scale and usage of python and SQL to pull and manipulate huge amount of data.

Details of papers / patents: Nothing have been published as everything is a kind of a project work involving confidential data which should not be disclosed.

Brief description of working environment, expectations from the company: The team has been very friendly helping to understand many unknown things and also helping us whenever we are struck somewhere. Also, they are open to multiple solutions irrespective of how efficient it is allowing us to come up with an optimal solution.

Academic courses relevant to the project: FRAM, FOFA, SAPM.

PS-II Station: JPMS GR & C Wealth Management - Data Science - Credit Risk, Mumbai

Faculty

Name: Shekhar Rajagopalan

Student

Name: AYUSH VACHASPATI (2016B3A70398P)

Student write-up

Short summary of work done during PS-II: I had 2 projects which ran in parallel.
First one involved using OCR to extract data from tax documents in pdf format.
Second one involved analyzing data using python and pandas to draw insights for the business and add value.

Tool used (Development tools - H/w, S/w): Python, Pandas, Tesseract OCR, Alteryx.

Objectives of the project: Automate data extraction from pdf files to reduce manual work. And to draw insights from data collected by the firm to improve credit analysis.

Major learning outcomes: Corporate workflow, Tesseract OCR, Pandas, Data analysis.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The team was helpful and environment was conducive to learning.

Academic courses relevant to the project: DSA, DAA.

PS-II Station: Jupiter, Mumbai

Faculty

Name: Ashish Narang

Student

Name: MALAIKA RASTOGI (2016B1A70926P)

Student write-up

Short summary of work done during PS-II: I was in the data science team. I have worked on three projects. Firstly, web development project to create a voice annotation tool. This tool would help the annotators to annotate text to speech in order to collect data for creating speech to text models.
Second was financial data aggregator. It provides the user with a consolidated view of account balance(s) across different bank accounts on a single platform i.e. the Jupiter app. My role was to create full backend framework and related tasks for the product. The project was developed from scratch and in the end operationalized to production.
Third was to create a user friendly Retool UI for financial manager project which can be used by developers and also product managers to add and update data to the various databases and can provide them a seamless experience for the same.

Tool used (Development tools - H/w, S/w): HTML, CSS, Scala, Play framework, AWS, Kubernetes, Apache Kafka.

Objectives of the project: To develop and maintain the various projects of personal finance management.

Major learning outcomes: Writing good quality code, Scala, Akka streams, Apache Kafka, CI / CD.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The work environment was comfortable and conducive to learning and exploration. My colleagues were experienced, knowledgeable and always available for help. The projects were well defined, with clear goals and end user applications. Great place to learn and grow. Long working hours and high deadlines though.

Academic courses relevant to the project: DSA, OOP.

Name: Nayan Nilesh (2017A3PS0190P)

Student write-up

Short summary of work done during PS-II: The experience of PS-2 was wonderful and I learnt many real-world practices followed in the software and business domain (especially in the Fintech domain). All this was possible because my PS-2 was in a Fintech startup Jupiter, which is a leading Neobanking startup of India. Neobank is a virtual bank without any physical branches but having all its facilities like savings account, FD, loans, credit card, etc. Jitendra Gupta, Founder and CEO of Jupiter, was a seasoned entrepreneur in this domain (he had already co-founded Citrus Pay now known PayU Money India). I was a part of the data science team at Jupiter and had collaborated in various projects ranging from backend engineering, AI model engineering, DevOps to data analytics domain. During this journey, I got a hands-on experience in using Python & Scala languages, Cloud services of AWS (EC2, S3, EKS, CloudWatch, Balancer, Elasticache, Athena, etc.) and cutting-edge technologies like Flair model for NER, Redis for low latency database, Airflow scheduler (by Airbnb) for analytics jobs, SonarQube for code-quality checking, etc. Since, I got the opportunity to work in various groups in data science team, I had the chance to interact with various other members of the organization and also our few mentors at Jupiter were BITSians. Also had a face-to-face interaction with COO of Jupiter. This kind of exposure is only possible in a startup and I'm grateful to BITS administration, PSD and Jupiter (& not to mention my parents) for allowing me to get such experience.

Tool used (Development tools - H/w, S/w): Cloud services of AWS like EC2, S3, EKS, CloudWatch, Balancer, Elasticache, Athena, etc. Flair model (deep learning technique), Redis for low latency database, SonarQube for code-quality checking, Airflow scheduler for analytics jobs, Docker & GitHub.

Objectives of the project: Applications of AI and cloud services by Fintech firm to improve customer experiences.

Major learning outcomes: Got a good exposure and hands-on experience in working with production level software and DevOps. Enhanced my skill related to data science project planning and work involved in the implementation of it. Also, not to mention communication and presentation skills were tested throughout the internship period and improved a lot from before. Lastly, formal report writing and documentation skills also were improved during PS-2.

Details of papers / patents: Nothing published

Brief description of working environment, expectations from the company: Since Jupiter is a startup related to finance domain, the work here is done with a fast pace. Everyone here is talented, well experienced and passionate about their area of work. We as interns are also considered as full-time employees and have to take the ownership of work. They follow Agile framework with 14 days sprint planning and other long-term goals planning (like monthly or within 2-3 months). Here the hierarchy is Founder & CEO leading the firm along with leadership teams comprising of CXOs and VPs. Data science team here is led by VP and then all kinds of roles are there like ML engineering, Data scientist, Analyst, Product manager, etc. As an intern, I learnt a lot about the work culture followed here along with an enormous amount of technology which no course (online or offline) could provide. We had regular stand-ups (mostly on a daily basis) to ensure that the project progress is smooth and fast as wells as keeping the team on the same page. Our mentors were very helpful and answered and helped us resolve issues by taking some time out from their busy schedules. The company is strict in terms of the work load and the progress and ownership skills displayed by an employee and you are expected to work even on weekends or holidays if needed. Nonetheless, the overall work culture here at Jupiter is quite great and everyone is very approachable right form the founder to your mentor.

Academic courses relevant to the project: Data science and minor courses like Machine learning, Information retrieval & applied statistical methods, Computer programming, Neural networks and fuzzy logic, Operating systems.

Name: MANTHAN ATULBHAI MEHTA (2017A4PS0408P)

Student write-up

Short summary of work done during PS-II: I worked on various projects including web development pn a voice annotation tool, deep learning project on named entity recognition, devops, aws, analytics working on queries, faq for Jupiter. The work here was very nice, people were very helpful. If you are looking to grow as a engineer or a analyst or PM this organization gives you a huge amount of learning. Most productive 6 months of my life. Its a startup to PPO can be risky here. Other than that if you are planning to go for MS and looking to build your profile on data or PM front perfect place to be in.

Tool used (Development tools - H/w, S/w): Fastapi, Python, HTML, JS, AWS, Flair, Scala, SQL.

Objectives of the project: To get used to the professional environment and deliver the products in such a manner that they are scalable, industry ready and easy to read.

Major learning outcomes: We came accross a lot of technology and mainly system designs and how things are done in an industrial level gives you a whole lot of experience from ground 0. This gives you an edge over someone who worked in a well settled firm where you dont have anything new to setup everything is just there for you. And also, we got to know what are the expectations that a company like Jupiter or any other company has from you. Skills are really important to IT industry.

Details of papers / patents: No papers.

Brief description of working environment, expectations from the company: The company expected us to write readable, object oriented code which was of the top class. They had expectations from us as they were a startup and every person counts for them. The working environment was super chill, they never asked you if you would take a levae, always supportive, always ready to help.

Academic courses relevant to the project: Well the projects done in IR and NNFL were relevant. But still you would have to brush up your skills. So dont rely on them start coding developing your skills now.

PS-II Station: Kerala Infrastructure and Technogy for Education (KITE), Trivandrum

Faculty

Name: Sindhu S

Student

Name: DODDAKA SAI PHANI DEEPAK (2017A7PS0010H)

Student write-up

Short summary of work done during PS-II: Language lab project is an initiative taken by KITE to built an online learning platform that provides different learning modules for students. Students can use these learning modules to enhance their listening, speaking, reading, vocabulary, pronunciation. I am assigned to built quiz module that is part of the language lab project. The purpose of the quiz module is to create online learning quizzes belonging to a topic and difficulty level. I have created a web page that take details of quiz questions such as question text and choices, topic, and difficulty level. After creating questions for quiz activity,

questions are managed with the admin page of the quiz module. On the admin page of the quiz module, modifications can be done to the quiz question. Only suitable questions are selected for the quiz activity. The student attends the quiz by selecting the difficulty level and topic title. After finishing the test, student gets a complete report of his performance in the quiz. Next module, I have assigned is picture comprehension module, it is used to conduct picture comprehension activity for school children. I have created a web page that takes details of picture comprehension passages such as passage, image, difficulty level, and topic. I have created an admin page to manage picture comprehension passages for picture comprehension activity. Students can start picture comprehension activity by selecting the difficulty level and title. After finishing the test, student gets a complete test report about his / her performance.

Tool used (Development tools - H/w, S/w): Angular 9, HTML 5, CSS, JavaScript, InteractJS, Flask rest plus web services python, Visual studio code IDE, SQL Alchemy.

Objectives of the project: The language lab project is an initiative by KITE to promote online learning for school children. Since, English is the most used language in the world, it is imperative for children to have a good grasp of the English language.

Major learning outcomes: Learnt Angular 9, Flask rest plus web services python, SQL Alchemy.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The mentors are really good in providing technical support for the project work. Too much work to be done in the project.

Academic courses relevant to the project: Database management system, Object oriented programming.

Name: SHREYAS SHASHANK PATIL (2017A7PS1568H)

Student write-up

Short summary of work done during PS-II: I worked on 2 modules which were a part of samagra.net, which is an e-learning initiative of KITE. These modules were developed independently using Angular9 for frontend development and flask framework for backend.

Tool used (Development tools - H/w, S/w): Angular9, HTML, CSS, Typescript, Flask, Python, MySQL, SQL Alchemy, PHP, SQL workbench.

Objectives of the project: E-learning website: Language Lab – KITE's initiative towards making English learning a fun activity.

Major learning outcomes: Learnt Python, Angular web frameworks, Flask micro framework and REST API development.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: As interns, we worked with the language lab team, which is a subdivision of the IT department of KITE. We collaborated among ourselves and with senior employees, and worked on web development projects.

Academic courses relevant to the project: Computer programming, Object oriented programming.

PS-II Station: Keysight Technologies India Pvt. Ltd., Kolkata

Faculty

Name: Vineet Kumar Garg

Student

Name: VASANTH MARGABANDHU (2016B2A80737G)

Student write-up

Short summary of work done during PS-II: Worked on generation of HTTP packets using Deep Convolutional Generative Adversarial Networks (DC-GANs). Later worked on anomaly detection of time series data obtained from cloud computing platforms, using robust random cut forest algorithm.

Tool used (Development tools - H/w, S/w): Keras, Jupyter notebook, TICK stack, Grafana.

Objectives of the project: Deep learning and anomaly detection.

Major learning outcomes: Learnt to build and train various machine learning and deep learning models.

Details of papers / patents: N.A.

Brief description of working environment, expectations from the company: Great environment, great camaraderie. Very helpful and knowledgeable mentors and managers. There was a learning curve but they helped every step of the way. Really interesting and challenging work.

Academic courses relevant to the project: Computer networks, Machine learning.

Name: MOHIT BHATIA (2017A8PS0611P)

Student write-up

Short summary of work done during PS-II: We used different types of GANs such as MLP, CNN to generate network packets. And in the second project, my work was to detect anomaly in dataset by applying machine learning models and also find the root cause analysis of the anomaly.

Tool used (Development tools - H/w, S/w): Python, InfluxDB, Grafana, Telefraf, Ubuntu, Vcenter.

Objectives of the project: Generating pseudo-real network packets using GANs.

Major learning outcomes: Machine learning, Database, Deep learning.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The company did not differentiate with the intern and his employee. We made a very warm relation with our manager and mentor. They guided us in every part of the complex project we were undertaking. Though due to COVID 19 lockdown, we were not able to meet physically but we have to report daily to give update to them about the work assigned. It was a good learning experience and I would recommend Keysight as PS2 for a wonderful experience to anyone.

Academic courses relevant to the project: Data science minor courses.

PS-II Station: Knolskape Solutions Pvt. Ltd., Bangalore

Faculty

Name: Mohammad Saleem J Bagewadi

Student

Name: KAUSHIK PERIKA (2017A7PS0207H)

Student write-up

Short summary of work done during PS-II: Spent the first two months fixing bugs and adding new features to Knolskape's flagship business simulation called "ChangeQuest". Bugs involved working on both the front-end and the back-end side of code. Later on moved to a different team that was working on developing an all-new business simulation from scratch, that tests the decision-making and data interpretation ability of the player called the "Data Viz Sim". I worked on weaving a storyline for the simulation and worked on the content that goes into the simulation, work involved a lot of data analysis done using Excel and Python.

Tool used (Development tools - H/w, S/w): Javascript, PHP, Git, Python, Excel.

Objectives of the project: Enhance ChangeQuest Simulation by fixing bugs and adding new features and develop a new simulation later on.

Major learning outcomes: Writing production-quality code, Learnt the life cycle of a product (simulation in my case), Working and collaborating with multiple stakeholder such as writers, designers and the product managers.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Knolskape had done a good job in providing a virtual internship experience by succesfully onboarding 6 interns. The training program lasted for nearly a month, where we got to do courses from basic HTML / CSS to learn hard skills like react and redux, and everything in between (PHP, JS, Unit testing, Git-version control & Laravel) and even got assigned mentors to clear our doubts during the training phase. The experience had been great, with the interns getting a lot of ownership of the work.

Academic courses relevant to the project: DBMS, OOP & Software engineering.

Name: NIMMAGADDA BHARGAV (2017A7PS1574H)

Student write-up

Short summary of work done during PS-II: Working on company simulation.

Tool used (Development tools - H/w, S/w): JS, React JS, Redux.

Objectives of the project: Bug fixing, Adding additional features.

Major learning outcomes: Web development.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Learning based environment, company expects the given job to be completed although they help you in completing the work.

Academic courses relevant to the project: DBMS, OOPS.

Name: NIMMAGADDA BHARGAV (2017A7PS1574H)

Student write-up

Short summary of work done during PS-II: Developed a simulation started segment integration fixed bugs.

Tool used (Development tools - H/w, S/w): JavaScript, React Js, Node Js, Redux.

Objectives of the project: Develop a business simulation.

Major learning outcomes: Web develpement.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Learning environment, the developers are friendly and teach even the smallest aspects.

Academic courses relevant to the project: DBMS, DSA, OPPS.

PS-II Station: Kovax Abrasives South Asia Pvt. Ltd., Chennai

Faculty

Name: Sandeep Kayastha

Student

Name: ISHAAN (2016B5AB0704P)

Student write-up

Short summary of work done during PS-II: Gathering the data required for the team to expand the business into different industries. Using LinkedIn and ZoomInfo to estimate the business size and gather the contacts of the desired executives, directors, chiefs and the vice-presidents of the targeted companies.

Tool used (Development tools - H/w, S/w): Excel, Zoominfo.

Objectives of the project: Gathering the data required for the team to expand the business into different industries. Using LinkedIn and ZoomInfo to estimate the business size and gather the contacts of the desired executives, directors, chiefs and the vice-presidents of the target.

Major learning outcomes: Data analytics

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: As a non technical PS station, the work given was at the level of expectation and the working environment was also good.

Academic courses relevant to the project: No

PS-II Station: LOGIQ LABS Pvt. Ltd., (eShipz.com), Bangalore

Faculty

Name: Satya Sudhakar Yedlapalli

Student

Name: PARTH SAMNANI (2017A3PS0298P)

Student write-up

Short summary of work done during PS-II: 1. Single-handedly built an application for the company's clients 2. Coded the interface of an existing tool for the clients and embedded in a website 3. Helped in minor individual tasks wrt the backend of existing products.

Tool used (Development tools - H/w, S/w): Dart, Flutter, Python.

Objectives of the project: Build a full stack cross platform logistics management application for the company's clients.

Major learning outcomes: Full stack development.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: WFH. Very Flexible hours, worked directly under the co-founders. Had full responsibility over my project.

Academic courses relevant to the project: OOP, DBMS, DSA.

Name: PARTH SAMNANI (2017A3PS0298P)

Student write-up

Short summary of work done during PS-II: Built a cross platform application for the company's clients to manage logistics. Released into production. Single handedly managed the entire project.

Tool used (Development tools - H/w, S/w): Android studio, Postman.

Objectives of the project: Creation of a logistic management application for the company's clients.

Major learning outcomes: Application development.
Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment was good and very professional. If we have some doubts we can approach anyone in our team and they will respond whenever they are free. At mid-point, we had a mid evaluation

where the self-evaluation form that we submitted to HR few days back was discussed. There other people expect that we will also be as professional as them and will be mindful about the hierarchy. They expect us to be familiar with SQL (this is must as they take this for granted for PS-II student). They also expect the PS-II student to be good at linux shell commands and if we know any programming language then it will be better. They expect us to be familiar with basic version control terminologies and basic git commands. Though when faced with any difficulty they will readily help.

Academic courses relevant to the project: Database systems, Object oriented programming and Probability & statistics.

PS-II Station: MapMyIndia - Software, New Delhi

Faculty

Name: Ashish Narang

Student

Name: ISHAN SHARMA (2016B2A70773P)

Student write-up

Short summary of work done during PS-II: Initially for 2 weeks, we were given an assignment to design any app what utilises functionality of MapmyIndia REST APIs. This assignment was basically given to assess our skills in software / app development and make us familiar with MapmyIndia REST APIs. Later we were divided into various projects as groups. Our group project 'A' was assigned to conceptualise and develop a new MapmyIndia product 'Pray' as a mobile and web application. We decided upon using React native as framework for building the

app because of its easy of deployment over cross platform mobile devices having just one code base.

Tool used (Development tools - H/w, S/w): Softwares: XCode, Android studio.
Websites: Google Firebase, FIGMA
Frameworks: React Native
Programming Language: Javascript and Python

Objectives of the project: Conceptualise and develop a whole new MapmyIndia product 'Pray' as a Mobile application.

Major learning outcomes: Javascript, React native, Mobile App development, Database management, UI/UX Prototyping, Product research strategies.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Company environment was very open and helpful. MapmyIndia founder Mr Rakesh Verma is an BITS Pilani alumnus himself, he was directly involved in our project for PS2 helping and guiding us in the path to develop this product.

Academic courses relevant to the project: DSA, OOP and DBMS.

Name: KEDIA MOHIT RAJEEV (2016B2AB0921P)

Student write-up

Short summary of work done during PS-II: Was part of the corporate growth and strategy team and the aim was to onboard and get as many clients as possible. The role included to reach the user personas on LinkedIn and connecting with them giving them demos and selling the product. The role also included driving a LinkedIn campaign from scratch. Preparing pitch decks, proposal decks for clients. Also maximizing retention / engagement on the platform using

a data-driven approach. Since it is a startup, there are different teams I had to work with and learnt different skills.

Tool used (Development tools - H/w, S/w): Sales, Powerpoint, Excel, LinkedIn, Content writing, Data analysis.

Objectives of the project: 1. Reach and onboard as many clients as possible 2. Maximize engagement / retention on the platform using a data driven approach.

Major learning outcomes: LinkedIn reachout, Sales, Marketing, Management, Communication skills.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment is pretty nice. It's a startup and people are willing to help you at every step. They try their best to keep you motivated. A lot to learn from the co-founders and the leads. The company is growing at a great rate and hence a good opportunity to work.

Academic courses relevant to the project: Introduction to mass communication.

Name: PRUTHVIRAJ SINH RATHOD (2016B3A30211G)

Student write-up

Short summary of work done during PS-II: Consultative work for enterprise clients involving banking and financial institutions with offerings such as Map data analytics, telematics, geospatial analysis etc.

Tool used (Development tools - H/w, S/w): S/w tool-Brainshark.

Objectives of the project: Onboarding and Liasion with clients.

Major learning outcomes: I have been able to successfully implement the tasks assigned to me at MapMyIndia. The tasks assigned to me were relevant to the field of marketing from which I have gained insights into how marketing of products and services is carried out. I read the research papers of the products of MapMyIndia and prepared documentations for the same before proceeding with client outreach. The pitch meetings conducted by my mentor served as a learning experience for pitch preparation and pitch presentation. I even got the opportunity to put this learning into practice as I conducted pitch meetings and made pitch calls to numerous companies.

Details of papers / patents: No papers

Brief description of working environment, expectations from the company: My pitching to HDFC ERGO and IffcioTokio got them interested into the services offered by MapMyIndia. In addition, I carried out market research and competitiors analysis to support the sales and marketing team. An exhaustive list containing the C-level executives of the target companies was prepared by me along with identifying their problems to serve them better. The work that I have done so far for MapMyIndia has provided me with an extensive networking opportunity and a real-world insight into B2B business development. I look forward to learn more in the world of marketing.

Academic courses relevant to the project: BAV, FUFA, MR, Finance Management, SAPM, DRM.

Name: SHROFF YASH SURESH (2016B4A80495G)

Student write-up

Short summary of work done during PS-II: Work on basic stuffs like extracting reviews and using ML on the google reviews, getting more information of how the customers feel about the app, also later I did some front end development of their website.

Tool used (Development tools - H/w, S/w): Python, CSS, HTML, JavaScript.

Objectives of the project: Objective of the project was to get more information on the current market scenario of the consumer market and how to make it better and also develop various websites for further use.

Major learning outcomes: Major learning outcomes included front end development and data analytics.

Details of papers / patents: No papers or patents were published.

Brief description of working environment, expectations from the company: The staffs are quite friendly and helps you whenever you are stuck with something.

Academic courses relevant to the project: OOP and NNFL helped a bit on the courses.

Name: SRI PRIYANKA KARRI (2017A3PS0567H)

Student write-up

Short summary of work done during PS-II: We were to onboard clients by reaching out to leads on LinkedIn, with HR heads as our primary user personal. We were also assigned to launch a marketing campaign on LinkedIn, and also measure the impact of the services being offered to our clients.

Tool used (Development tools - H/w, S/w): LinkedIn, Sheets.

Objectives of the project: Onboard as many leads as possible by reaching out on LinkedIn.
Major learning outcomes: Sales, Marketing, Customer retention.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: It was a very open environment to brainstorm ideas and discuss probable approaches to onboard clients. We were given flexible timings, and the mentors were very personally invested in our growth, and guided us time to time.

Academic courses relevant to the project: Strategic management, Negotiation skills and techniques.

Name: BEKKEM SAI MAHITH REDDY (2017A7PS0028H)

Student write-up

Short summary of work done during PS-II: I need to postprocess the instance or binary mask images to detect the lane lines.

Tool used (Development tools - H/w, S/w): Python, OpenCv.

Objectives of the project: Understanding Hough Transform, Image slicing, Polyfit, OpenCv.

Major learning outcomes: Learnt different functions of OpenCv, Image slicer, NumPy.

Details of papers / patents: Towards end-to-end lane detection: An instance segmentation approach, 15 Feb 2018.

Brief description of working environment, expectations from the company: The manager and the other employees are friendly to ask questions and they have taken me through a good approach to tackle my project.

Academic courses relevant to the project: Machine learning.

Name: AJITABH RAWAT (2017A8PS0258P)

Student write-up

Short summary of work done during PS-II: Work was mostly related to prototyping and web development. Wireframing was done using Balsamiq and prototyping was done using Figma. For backend, we used the Firebase database and for frontend, we used HTML and CSS.

Tool used (Development tools - H/w, S/w): HTML, CSS for frontend, Firebase for backend.

Objectives of the project: Design and development of a web app using which users can interact with their neighbours.

Major learning outcomes: HTML, CSS, Firebase.

Details of papers / patents: The work was very simple and didn't involve any research.

Brief description of working environment, expectations from the company: The manager was very experienced and helping.

Academic courses relevant to the project: Not at all.

Name: PRANAV NAIR (2017A8PS0607H)

Student write-up

Short summary of work done during PS-II: My role as a strategic alliance business development intern includes striking out the metrics of various horizontal and vertical organizations so that the company can approach them and build a formal relationship. In order to strike the right balance in those metrics, it is important that the potential alliance is intended to create value for the parties involved in some way so that the risks and rewards of the joint venture can be shared in a strategic partnership.

Tool used (Development tools - H/w, S/w): Microsoft excel.

Objectives of the project: 1) To search and scout the perfect horizontal and vertical companies with whom MapmyIndia can approach for a potential partnership 2) To do the preliminary endeavour of research about the economic status of the potential new markets.

Major learning outcomes: Undstanding 1) The world of business development via the corporate lens 2) The importance of partnerships and alliances for an organisation to grow.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: A very work friendly team and management staff, incredibly responsive and understanding. Due the the predicament of having to work from home, at certain instances there were a few communication gaps but it was well complimented by a cohesive team members. One can expect a wide range of assignments / projects to be assigned while interning here, in other words - the work here has never been monotonous. I would recommend company to everyone who is interested in the roles offered by them, without a shadow of doubt.

Academic courses relevant to the project: New venture creation, Probability and statistics, Business communications.

Name: SHIKHAR SRIVASTAVA (2017A8PS0794H)

Student write-up

Short summary of work done during PS-II: In the first two weeks, we had to build an app / website using MapmyIndia's APIs. After that we were divided into teams. Our team was tasked with development of a new product. We had to start from research, design the UI / UX, develop the app, and then launch it on playstore.

Tool used (Development tools - H/w, S/w): Figma, VSCode, Git, Android studio, XCode.

Objectives of the project: The objective was to develop a product from scratch and release the app on playstore and appstore.

Major learning outcomes: Learnt about the entire process of how an app is developed, tested and released.

Details of papers / patents: An app was released on the playstore.

Brief description of working environment, expectations from the company: The work environment was good. However, a lot depends on your manager. Working hours are roughly 9:30 - 6. Had two meetings per day at the minimum: 1 at 10:30 AM, and one at 4 PM. We were expected to give updates twice a day, this became a bit hectic over the course of the project given that it is 6 working days a week. We also had to work for 1 or 2 sundays. But overall, the leadership is very supportive and encouraging.

Academic courses relevant to the project: Object oriented programming.

PS-II Station: MapMyIndia, Bangalore

Faculty

Name: Ashish Narang

Student

Name: AVTANSH PANDEY (2017AAPS0368G)

Student write-up

Short summary of work done during PS-II: Project was related to computer vision using deep learning. It was an independent project and involved creation and execution of the architecture from scratch. I was included in the development actively. Created a content based image retrieval model by performing feature extraction of images.

Tool used (Development tools - H/w, S/w): PyTorch, OpenCV, ANNOY.

Objectives of the project: Creating a CBIR architecture to parallel it with the existing model to improve the overall performance of it.

Major learning outcomes: Insight into how a company works, system designing and implementation, deep learning experience, improved professional understanding.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The work environment was decent. The Bangalore branch is a research and development branch, hence the work involved a lot of independant research.

Academic courses relevant to the project: Object oriented programming, Computer programming.

PS-II Station: Matdev Investment Advisers Pvt. Ltd., Bangalore

Faculty

Name: Akanksha Bharadwaj

Student

Name: SHUBHAM SINGH (2016B5A20720P)

Student write-up

Short summary of work done during PS-II: Full stack web development, JavaScript / Typescript was used for both front end and back-end, React was used for front end, Node.js Express framework for back-end and database was MongoDB.

Tool used (Development tools - H/w, S/w): HTML, CSS, Bootstrap, React, Node.js, Express, MongoDB, Jest, Postman.

Objectives of the project: Full stack development of symbl landing page.

Major Learning Outcomes: Technical skills: Web development technologies as mentioned above.
Soft Skills: Since the company is a very early-stage startup (I mean the company registered in July and I started working in August), I was entrusted with various tasks. We had weekly meetings with the founders about our progress. I was involved in various tasks outside of my work description and got to see how upper-level management works and different things that need to be done in order to create a stable foundation for any startup. The company is a FinTech one, so also picked up a few investment tips.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Work environment is not hectic, there is flexibility with regards to time and expectations were realistic as to how much work can be done in a week.
Academic courses relevant to the project: N/A, had to learn everything from Coursera or YouTube.

Name: VENKAT AKSHAT BOLLAPRAGADA (2017A8PS0500G)

Student write-up

Short summary of work done during PS-II: Worked on documentation of roles and functions of a third party linked with the organization. Had to understand and analyze structure of documents involved in the exchange between the third party and the organization. Developed some code for a feature to be deployed in the main product. Used various Python libraries for the same. Used excel to analyze data and provide some computations for giving back results to the user. Also, performed market research as per requirement of mentor.

Tool used (Development tools - H/w, S/w): Python, Microsoft excel, Microsoft word, Google sheets, Google docs.

Objectives of the project: Documentation, Product development, Market research.

Major learning outcomes: Intensive Python learning- new libraries, Summarising and documentation, Research.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The mentors were very helpful. They were very accomodating as well, they tried to give us projects according to our interests. They were also prompt and cordial. They expected us to inform them about the progress of our work continuously, and to be self-starters, and keep asking them for more work. Overall, a good, positive environment to work on.

Academic courses relevant to the project: Computer programming, Technical report writing.

PS-II Station: MBB Labs Pvt. Ltd., Bangalore

Faculty

Name: Akshaya G

Student

Name: YASHAS CHANDRA (2016B4AA0430H)

Student write-up

Short summary of work done during PS-II: Web development and few frameworks in Java, created microservices for the other department in the organization.

Tool used (Development tools - H/w, S/w): Spring Boot, Hibernate.

Objectives of the project: Creating microservices for other teams in the company to use.

Major learning outcomes: Learnt web development in Java, and how the flow of work in a banking company proceeds. Learnt how to use a few frameworks in Java.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Flat hierarchy in the company. Fast paced work environment, which follows Agile methodologies. Each of my team members were very approachable and were really helpful when we were facing issues. We are expected to complete our work on time, as a delayed completion would result in the team not being able to redeem points for the work you have done in that sprint.

Academic courses relevant to the project: Object oriented programming, Operating systems, Database management systems, Data structures and algorithms.

PS-II Station: MEL Systems and Services Ltd., Chennai

Faculty

Name: Kranthi Kumar Palavalasa

Student

Name: NITHIN P M (2016A4PS0298P)

Student write-up

Short summary of work done during PS-II: The project was based on vibrations data forecasting using time series machine learning algorithm. A circuit was set up for vibrations data collection from a 12V 1000 rpm motor using Raspberry Pi 4 B, ADXL345 accelerometer and L298N motor driver. Python programming was used for data collection and handling using modules such as NumPy and Pandas. The data set was analyzed for stationarity properties using the augmented Dickey-Fuller test. The data analysis for forecast was done using Autoregressive Integrated Moving Average (ARIMA) model. The project gives a brief look into the vast potential of integration of machine learning algorithms into the field of electrical and mechanical engineering thereby helping in improving the overall functionality and reliability of day to day motorized machines.

Tool used (Development tools - H/w, S/w): Python 3.7.7, Jupyter labs, Raspberry Pi 4 B, ADXL345 accelerometer, L298N motor driver.

Objectives of the project: Vibrations data forecasting using time series machine learning algorithm.

Major learning outcomes: Major learning outcomes include a good understanding of Python modules used for data handling such as Numpy and Pandas. Also, the project gives a good understanding of data analysis modules such as statsmodels and pmdarima.

Details of papers / patents: No papers or patents were published as part of this project.

Brief description of working environment, expectations from the company: Due to COVID-19 crisis, the PS 2 was entirely work form home. The circuit setup and data analysis were done from home. All the data and programs were shared with the company via google drive. The company also provided good support in terms of technical knowledge and resources for circuit setup.

Academic courses relevant to the project: Computer programming, Data structures and algorithms, Electrical sciences, Mechanical vibrations.

PS-II Station: Melio, Bangalore

Faculty

Name: Rekha A

Student

Name: Ritwik Prabhat (2017A1PS0629G)

Brief write-up on PS-II station: Melio conduct online challenges in speaking, speed math, story telling, poetry reciting, debating, spelling bee across India and now the entire world. The students are working in automation which focuses on some key issues like maintaining the participant data sheets and processing and managing them for the operations prospective, managing the competitions category.

Student write-up

Short summary of work done during PS-II: My main job was to manage the competitions team for Melio. My tasks ranged from planning the design and launch of new challenges, preparing the entire back-end of challenges, and iterating on the existing challenges. Apart from this, I was able to work a bit on product and product marketing as well. Since, the team was relatively small when I joined, I got to work on more things like business development too.

Tool used (Development tools - H/w, S/w): G-Suite, Excel, Google script.

Objectives of the project: Manage the competitions team.

Major learning outcomes: Got first hand start-up experience, ran quite a few initiatives of my own, witnessed how strategic business decisions were taken.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The founders of this company met while building Swiggy. Overall, it provides a very relaxed environment with a great learning curve. The interns are given the same respect and responsibilities as the full-time employees. Thus, you are also held accountable for your tasks.

Academic courses relevant to the project: Data structure and algorithms, Machine learning.

Name: MOHIT KULHARI (2017B4TS1206P)

Student write-up

Short summary of work done during PS-II: As an part of operations team at Melio, you will get most of the exposure and your work starts right from launching the product till closing the product, most of my work at Melio is managing product variants on website, backend work is mostly managing inventory view tables and keeping everything ready for other teams, helping out support team with customer queries. Meeting the deadlines, cohort analysis also part of my

work which usually a analytics of customer behaviors. So, updating google sheets with required information, creating send grid standard templets for support team, adding / closing product variants on shopify, pages on website, maintaining Melio websites home page. and responsible for cross time sync ups, involved in regular discussions with marketing, business & development teams and also responsible for optimizing operation teams processes.

Tool used (Development tools - H/w, S/w): Shopify, Python, HTML, MS office suite, SQL, Send grid, Google-Add on, Google scripts.

Objectives of the project: Automations and cohort analysis at Melio, introducing automations and product management role.

Major learning outcomes: Operations team functioning, product management, how gaming industry works and gamification term in particular. Managing products and inventory management system.

Details of papers / patents: Project report on automations and cohort analysis at Melio.

Brief description of working environment, expectations from the company: Melio, an early stage startup which runs online competitions and challenges for children aged 5-17 years, so its an online platform for competitions among school going children challenges like speed math, spelling bee, storytelling, debating, speaking, quizzes all these challenges are based on co-curriculum activities of a child Melio is an product based company but we can say that Melio services are their product. Each registrations starts from a order placed by a participant till last mail to them which has their scores, rank, certificates and prizes. lot of work for operations team. Most of the work at Melio is from contract- based external teams, but the size of core team is only around 10 members where small teams with 2-3 members, operations team responsible for tech pieces also.

Academic courses relevant to the project: Data structure and algorithms, Machine learning, DBMS.

PS-II Station: Millet & More Foods, Pune

Faculty

Name: K Venkatasubramanian

Student

Name: SHINDE JAY DATTATRAY (2016B2A10554G)

Student write-up

Short summary of work done during PS-II: The work at Millets and more foods was based on digital marketing and building of an image on social media. It involved researching existing marketing trends followed by competitors as well as understanding the feedback from existing customers, and then working on creation of social media posts. This was followed by working on sponsoring posts, improving their website and listing on shopify, a vendor platform. Lastly, an influencer marketing program was implemented to bring about greater audience to the brand.

Tool used (Development tools - H/w, S/w): Befunky, Pulpkey, Adobe Premiere Pro.

Objectives of the project: Establishing a social media presence.

Major learning outcomes: Digital marketing.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The work was mostly remote (work from home), and there were regular weekly entries. There used to be regular meetings in the past over the proceedings of the work. Occasionally, the work required to call up customers and negotiate with influencers to deal for barter-proposals.

Academic courses relevant to the project: None

PS-II Station: Mobileum, Bangalore

Faculty

Name: Mohammad Saleem J Bagewadi

Student

Name: S SAI KRISHNA (2017A7PS0092G)

Student write-up

Short summary of work done during PS-II: Audio classification using random forest: Matching audio files to their corresponding labels using machine learning and deep learning algorithms after extracting relevant spectral features.

Tool used (Development tools - H/w, S/w): Python and its data science libraries.

Objectives of the project: Achieve high accuracy on ML algorithms after establishing important features.

Major learning outcomes: Understanding of the random forest algorithm and its applications, meaning and usage of spectral features and their importance, teamwork.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Working environment is friendly. Expectations are fair and reasonable, deadlines are flexible.

Academic courses relevant to the project: Foundations of data science, Machine learning.

Name: DARSHAN AGRAWAL (2017A7PS0233P)

Student write-up

Short summary of work done during PS-II: The project that I have been working on is time series forecasting, whose core aim is to forecast the total number of roaming calls originated within each telecom network and their duration. I have been provided with the past years of data to build a machine learning model that fits the best for forecasting.

Tool used (Development tools - H/w, S/w): Python, Pyspark, Numpy, Pandas, Machine learning, Deep learning, Big data, Data science, Statistics, Jupiter.

Objectives of the project: Time series forecasting.

Major learning outcomes: Data science and Big data analytics.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Mobileum is a leading provider of telecom analytics for roaming, security, and risk management and end-to-end domestic and roaming testing solutions. The manager under which I was working and the mentor assigned to me was very good. They gave me full freedom to come up with new ideas for the solutions of the problems and helps me wherever I stuck in the process. There was not much workload and the project was pretty good. It helps me in learning about data science and big data analytics while dealing with the real world problems. Overall, the working environment is good.

Academic courses relevant to the project: Machine learning, Statistics.

PS-II Station: Mocxa Health Pvt. Ltd., - Tech, Bangalore

Faculty

Name: Kranthi Kumar Palavalasa

Student

Name: GAURAV PATEL (2016B2A30745P)

Student write-up

Short summary of work done during PS-II: Required generation of 3D images from input RGB frame. Next step was to transfer facial features to another facial 3D model (generated from RGB images from StyleGAN). Last step was to realign the new face and seamlessly stitch back onto original patient's face.

Tool used (Development tools - H/w, S/w): Python, Tensorflow, Pytorch, 3DDFA, OpenGL, Blender.

Objectives of the project: De-identification of faces in medical data.

Major learning outcomes: Learnt about 3D graphics and machine learning techniques. Also learnt about OpenGL and video transcoding.
Details of papers / patents: 3DDFA, Face-alignment.

Brief description of working environment, expectations from the company: The work time was very flexible. Being a startup, the workflow wasn't very structured, but since the number of people were few, thus regular interactions with the founder happened.

Academic courses relevant to the project: NNFL, Computer programming, DSA.

Name: NIPUN GUPTA (2016B5A30559H)

Student write-up

Short summary of work done during PS-II: My work was focused on computer vision and machine learning. The objective was to anonymize the identity of patients having epileptic seizures in video recordings needed for a better diagnosis. We tried various approaches like face swaps and 3D landmark mapping.

Tool used (Development tools - H/w, S/w): Ubuntu was required as the OS and often times google colab was used.

Objectives of the project: De-Identify faces.

Major Learning Outcomes: Learnt about various computer vision algorithm and got a grip on Python.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: MOCXA is a small start-up and as result the corporate hierarchy was not clear. The founders were motivated towards the work but still some chaos subsides, as, their products are very dormant, a lot of major decisions and implementations were expected from the interns. Sometimes, the instructions provided were not very clear which led to confusion and in-efficiency, this stands true at least in the tech department.

Academic courses relevant to the project: Neural networks and Fuzzy logic.

Name: PARVATHY UNNIKRISHNAN (2017A3PS0149P)

Student write-up

Short summary of work done during PS-II: Had to render 3D hollow surface face from a single image. This model was generated along with the mouth coordinates and hair model attached. This assisted in developing their products to accurately diagnose seizures and strokes.

Tool used (Development tools - H/w, S/w): Python, Meshlab, Matlab, Blender.

Objectives of the project: Diagnosing seizures and to aid in de-identification of patient data.

Major learning outcomes: Learnt a lot of different applications related to image processing and computer vision domain.

Details of papers / patents: N/a

Brief description of working environment, expectations from the company: Will be directly working with the two co-founders. They are very supportive and provide a relaxing environment to work in.

Academic courses relevant to the project: Nil

Name: NAMAN AGGARWAL (2017A5PS1110P)

Student write-up

Short summary of work done during PS-II: Learnt about Indian and American healthcare system as well as various processes involved from invention to commercialization of a product.

Tool used (Development tools - H/w, S/w): Google scholar, Market reports, MS word, MS excel.

Objectives of the project: To study the video eeg market and the gait analysis applications in the Indian and the American healthcare market.

Major learning outcomes: Got to know a lot about ins and outs of the Indian and American healthcare system. Also got to know about how to proceed from an invention to making it a commercial product from all perspectives.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The working environment is extremely great and helpful. The people are extremely helpful and overlook the project in a very detailed manner. Can be contacted 24*7.

Academic courses relevant to the project: None

PS-II Station: Molde Analytics India Pvt. Ltd., Hyderabad

Faculty

Name: Gopala Krishna Koneru

Student

Name: RANGA SRIRAM (2017A7PS0047P)

Student write-up

Short summary of work done during PS-II: Created proof-of-concepts for multiple experimental animation related features included in the company's products. Designed and

implemented a server-client model web application which generated a feedback video for users with custom text, speech and animation elements.

Tool used (Development tools - H/w, S/w): Web dev - Html, CSS, JS
Server side dev - NodeJS, Python, AWS Multimedia - Ffmpeg,
Amazon polly Animations - Lottie, Adobe after effects

Objectives of the project: The objective of the project was to find a way to customize lottie animations - light weight, scalable animations used in the company's various products.

Major learning outcomes: Animations, Multimedia, Web development, Server side development.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The mentor and manager were supportive and guided me through the project. I was expected to be ready to learn new technologies quickly and experiment with them to investigate the feasibility of various ideas they came up with.

Academic courses relevant to the project: CP, OS, OOP.

PS-II Station: Morgan Stanley Advantage Services, Mumbai

Faculty

Name: Chetana Anoop Gavankar G

Student

Name: PRANSHU KABRA (2016B3A70595H)

Student write-up

Short summary of work done during PS-II: The aim of the first project was to comprehend the impact of correlation between two risk factors on backtesting. The goal was to discern whether backtesting was effective when it was done on a synthetic risk factor that is dependent on both the risk factors and the correlation between them. The next task was the addition of percentiles of simulation for IMM backtesting. This task also had to do with the UAT environment. The third task was to build a template in Python for loan participation. The goal was to calculate the counterparty exposure monitoring metrics in order to capture the counterparty risk arising from loan participation and fronting transactions. The last task was to modify the backtesting reporting tool. This tool is used to combine the results from quarterly backtesting and present it in an appropriate manner to the regulators.

Tool used (Development tools - H/w, S/w): Python, DB Artisan.

Objectives of the project: Various works concerning backtesting.

Major learning outcomes: 1. Various topics of finance 2. Python

Details of papers / patents: N.A.

Brief description of working environment, expectations from the company: It was a very learning experience. Everyone including my manager and the other members of the team were very helpful. We had a weekly chat with the director which was very helpful.

Academic courses relevant to the project: DSA, DRM.

Name: ROHAN DUDEJA (2016B4A30516P)

Student write-up

Short summary of work done during PS-II: Performed the validation checks on the automated process for capital and risk planning models using Python. Justified the model limitations and proved the accuracy and conservativeness of the scaling parameters in the risk planning models.

Tool used (Development tools - H/w, S/w): Python, STATA, Pycharm, MS excel, Matlab.

Objectives of the project: Justify the CVA model limitations and validate the automation process.

Major learning outcomes: Automated various parts of the review process using Python. Implemented testing framework for validation of risk models. Understood the model review process at the firm.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Amikable and open working environment. Supportive mentors and team members. Flexible but long working hours.

Academic courses relevant to the project: DSA, POE, DRM.

PS-II Station: Morningstar - Index Data Calculation, Mumbai

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: MAHIR VIRAL PATRAWALA (2017A7PS1327H)

Student write-up

Short summary of work done during PS-II: I worked in the tech team of Morningstar Indexes. I was involved in creating an end to end process for processing and storing of data from a vendor that is used in creating an index. Created an ETL on the AWS infrastructure to map the data points and this ETL would run forever. After finishing the project, an error logging and alerting mechanism was set up so that if there is any issue that comes up in the future, it can be caught.

Tool used (Development tools - H/w, S/w): Worked on the AWS infrastructure.

Objectives of the project: Process and storing data.

Major learning outcomes: Gained a lot of industrial exposure and understood what part of CS is important in industry.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: As it was WFH, a lot of things were different compared to a normal internship so it was difficult in the beginning to know the people and work according to their expectations but as time passed, it got easier to adapt to the work environment and Morningstar has a really flexible timing and workflow timing. There wasnt much pressure put on me, and the environment was really helpful.

Academic courses relevant to the project: Technically, every course was important concepts from Database management, OOPS concepts, DSA concepts etc.

PS-II Station: Morningstar - Indexes - Data and Content, Navi Mumbai

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: MUSKAN AGARWAL (2017A1PS0863G)

Student write-up

Short summary of work done during PS-II: I was entrusted with the ownership of developing a robust model to map the data vendor's company IDs to Morningstar's company IDs. I formulated a waterfall mapping code which resolves all discrepancies and shields Morningstar from any technical error based fines. It was challenging because a small error can cost investors millions of dollars. I was also involved in doing the quality checks of various data tables which helped me get in depth knowledge of the work that my team does and also what information is required to build out an index.

Tool used (Development tools - H/w, S/w): Python, SQL.

Objectives of the project: To map the Morningstar's company IDs to data vendor's company IDs to maintain a uniformity in data tables.

Major learning outcomes: It gave me the much required push to venture out of my comfort zone and learn coding.

Details of papers / patents: No patents.

Brief description of working environment, expectations from the company: I worked with the new product development team. The team members are very friendly, encouraging and accommodating. They always motivated me to do well and to speak up during meetings. They also made sure that I felt psychologically safe and wasn't hesitant when I had to ask questions and raise my concerns. The company is amazing where people concentrate not only on work but also on the mental health and well being of the employees. We had regular online office parties and get togethers so that people feel well connected.

Academic courses relevant to the project: None

PS-II Station: Morningstar - Indexes Product and Sales Operations (IPSO), Mumbai

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: HARSHWARDHAN MUKUL MITTAL (2016B2A40856P)

Student write-up

Short summary of work done during PS-II: Interned in the IPSO department. My work involved servicing clients and sales team with data requests.

Tool used (Development tools - H/w, S/w): Excel Morningstar direct SQL.

Objectives of the project: Automation of PPT generation.

Major learning outcomes: Indexes business, Capital markets and asset management industry.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The work environment was friendly and the company values your hard work.

Academic courses relevant to the project: Security analysis and portfolio management.

PS-II Station: MSCI Index and Research, Mumbai

Faculty

Name: Krishnamurthy Bindumadhavan

Student

Name: PRAGYA GUPTA (2016B3A40529P)

Student write-up

Short summary of work done during PS-II: I worked along with the new product development team to make new thematic indices, maintaining them by quarterly and annual rebalances. Other tasks included running assemblies, making reports using Excel and PowerPoint. Data crunching using Python (Pandas) was base of most of the work done.

Tool used (Development tools - H/w, S/w): Python3, MySQL, MS excel.

Objectives of the project: Maintaining and constructing Indices.

Major learning outcomes: Data analysis using Python, Interpersonal skills when dealing with clients, Economics concepts related to Index construction.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The working environment is quite good, people are helpful. Due to WFH, timings were quite long but the work is interesting. The company expects you to have some coding skills, and willingness to learn and contribute. Definitely, not for people who want to do side tasks with PS.

Academic courses relevant to the project: Yes, knowledge of portfolio management and derivatives market would be great.

PS-II Station: My Smart Price – Non-Tech, Hyderabad

Faculty

Name: Anjani Srikanth Koka

Student

Name: ADITYA MISHRA (2016B4AB0532H)

Student write-up

Short summary of work done during PS-II: I worked in as a product management intern in the sales, Renewal and user dashboard vertical.

Tool used (Development tools - H/w, S/w): Zoho CRM, Notion, CleverTap, R, Figma.

Objectives of the project: The objective of the project was to increase the top line revenue of the product in the Middle East market.

Major learning outcomes: UI UX, Wireframe design, PRD formulation, Team building.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment is extremely friendly.

Academic courses relevant to the project: Supply chain management, Optimization, Project appraisal.

Name: ADITYA MISHRA (2016B4AB0532H)

Student write-up

Short summary of work done during PS-II: I worked as a product management intern working in growth, product and strategy projects across multiple business functions. My work was primarily focused on setting up a sales system and maximizing our revenue channels across all our international geographies.

Tool used (Development tools - H/w, S/w): CRM, Google suite, CleverTap, XD, Figma, Balsamiq.

Objectives of the project: The objective of the project was to setup q hybrid sales system which is scalable across all international geographies without any revenue gaps.

Major learning outcomes: Stakeholder management, Product management, Team building, Business strategy.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: MySmartPrice and it's subsidiary Brightchamps is one of the best working environments possible for a fresher.

Academic courses relevant to the project: Supply chain management.

Name: AQIL MOHAMED ARSHAD (2017A4PS0439G)

Student write-up

Short summary of work done during PS-II: • Led the BrightChamps YLP across the Middle East reaching out to 5000+ potential leads.
• Conducted extensive research about user communication funnel of over 7 competitors.
• Streamlined operations of 200+ demo classes on a daily basis over a span of 4 weeks.
• Ideated dashboard with critical daily operational metrics for the founder.
• Ideated teacher dashboard for bottlenecks in demos decreasing intervention time by 50%.
• Implemented student-teacher matching system that led to 30% increase in demo class completion.

Tool used (Development tools - H/w, S/w): MySQL.

Objectives of the project: Maximize number of leads that register for demo classes.

Major learning outcomes: Stakeholder management, Optimization of operations.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Senior employees are very approachable. There is great ownership of work.

Academic courses relevant to the project: Principles of management.

Name: SUNKARA AAKASH (2017A4PS0729H)

Student write-up

Short summary of work done during PS-II: My Smart Price took us as interns for another company affiliated to it called BrightChamps. We did our internship at Brightchamps, which is an online edtech startup established in the year 2020.

Tool used (Development tools - H/w, S/w): Video editor, Google sheets, BrightChamps admin panel.

Objectives of the project: To optimize the website and its operations and assist in its growth.

Major learning outcomes: Working for a startup has helped me understand how any business gets established. I assisted in building some of the critical foundations of the company such as setting payment gateways, researching about countries and deciding where should our website be launched and the pricing in those countries, gathering info about softwares that makes our operations easier etc.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Being a startup you cannot expect fixed working hours. Nevertheless, the total no of working hours are optimal and I rarely felt that I was being overloaded. Managers are friendly, approachable and are always there when you need their help. Overall, my experience was very good with the company.

Academic courses relevant to the project: None

PS-II Station: My Smart Price - Tech, Hyderabad

Faculty

Name: Rekha A

Student

Name: AYUSH KUMAR SINHA (2017A1PS0839P)

Brief write-up on PS-II station: At Mysmartprice, students are working automation, SQL analytics, Educational web app application.

Student write-up

Short summary of work done during PS-II: Work at Mysmartprice involved expanding their startup called 'BrightChamps'. We had to automate processes such that there was no manual intervention needed. Some part involved front-end development, backend development, database management. There was extensive use of rest APIs for achieving our goals.

Tool used (Development tools - H/w, S/w): SQL, HTML, PHP, Javascript, Rest APIs.

Objectives of the project: Expansion of startup.

Major learning outcomes: Almost everything was new for me. So, I learnt a ton of stuffs, some examples would be What is an api, how to use api. Learnt about the company culture, startup culture at Brightchamps.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Long working hours almost 12-14 hours a day, as it was work from home. No sunday offs. You get around a day off every 3-4 weeks. This was in starting of ps2. As company expanded a bit, workload was reduced to 10 hours a day, with sunday offs. Still one should be able to manage the stress that comes with such long working hours.

Academic courses relevant to the project: Computer programming, OOPS.

Name: PRASHANT GUPTA (2017A4PS0509P)

Student write-up

Short summary of work done during PS-II: To build a web based educational app that will teach students concepts of coding along with mathematics using the block based coding format. App is build with the help of Google Blockly API.

Tool used (Development tools - H/w, S/w): Javascript, HTML, CSS, Blockly API, Blender.

Objectives of the project: Build a web based educational App.

Major learning outcomes: Frontend development with a bit of backend.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Work environment is very good, mentors are supportive but as we worked in a new product launched by MySmartPrice i.e. BrightChamps it required a lot of hours of work, you are expected to solve the challenges on your own most of the time.

Academic courses relevant to the project: DSA, OOP.

PS-II Station: my HQ & (Just Work Technologies Pvt. Ltd.,) Tech, New Delhi

Faculty

Name: Pravin Yashwant Pawar

Student

Name: BHUMIKA NAYYAR (2016B2A30874P)

Student write-up

Short summary of work done during PS-II: I worked as a front end developer. The tech stack used were Typescript, React and SCSS, and Ant design.

Tool used (Development tools - H/w, S/w): The tech stack used were Typescript, React and SCSS.

Objectives of the project: The goal was to build a corporate dashboard from scratch. The dashboard is now being used by team executives to manage everything related to the team, including buying plans and adding new team members etc.

Major learning outcomes: Front end development using React.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Since, it's a startup with a very small tech team. The project which we worked on was of great importance. Thus we were expected to write production-level code. The timelines were narrow and we were expected to work 9 hours minimum.

Academic courses relevant to the project: None

PS-II Station: MyHQ (Justwork Technologies Pvt. Ltd.,) Non-Tech - Onsite, New Delhi

Faculty

Name: Gaurav Nagpal

Student

Name: AKHIL VERMA (2016B4A10483G)

Student write-up

Short summary of work done during PS-II: I was working in the marketing domain of the company. Did projects where I used Google analytics and other tools to churn campaign data and suggested improvements. Also, got a chance to single handedly structure a whole campaign and chalkout the plan to roll it out.

Tool used (Development tools - H/w, S/w): Google analytics, Zoho social, Ubersuggests etc.

Objectives of the project: Multiple projects targeted at increasing the DAU and brand visibility.

Major learning outcomes: Learnt about how to carry out a marketing campaign, about different analytics tools, SEO.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Working environment is really competitive. They would require you to give your best to achieve the decided targets.

Academic courses relevant to the project: N/A

Name: DIVYANSH SHARMA (2017A4PS0421G)

Student write-up

Short summary of work done during PS-II: It was a great and comfortable experience working with myHQ. Mostly, I worked in the domains of Web analytics and Digital marketing. Web analytics involved analyzing & reporting the insights from paid marketing activities to track leads, conversions, and other KPIs like CPA, CPC, ROAS, CPM, Impressions etc. I had to work on tools like Google analytics, Zoho, and Mixpanel for tracking the numbers. The second broad domain was Digital marketing. Digital marketing comprised three segments, email marketing, social media operations and blog management. I was the project lead for space promotion and space launch campaigns, in direct communication with renowned workspace marketing teams of WeWork, Garage society and Awfis. All operations and releases were carefully coordinated and framed from the support of business development team as well. My projects included hyperlocal marketing (Google my business and other 3rd party listing platforms), keywords research (extensive research for the keywords for blogs and Ads), content distribution, content writing & clustering, GIPHY marketing and Google & Facebook Ads and some special targeted marketing campaigns.

Tool used (Development tools - H/w, S/w): HTML, Mailchimp, WordPress, Photo + Video Editors.

Objectives of the project: To initiate and contribute to digital marketing channels to promote the brand's image and values to its potential customers. The motive is to test and observe real-world marketing strategies, acquire knowledge and overcome bottlenecks.

Major learning outcomes: 1. Learnt how to ideate, drive and deliver performing marketing campaigns from scratch.
2. Soft skills- Efficacy in team communication & team conflict management and pitching.
3. Data management- Ads sampling on Google analytics, audience segregation on Mail chimp, keyword research etc.
4. Social media marketing- Popcorn content creation, short time consumables, increasing user engagement, promotions, tracking insights.

Details of papers / patents: None

Brief description of working environment, expectations from the company: I was working remotely, so I don't have much to say about the working environment. The working hours were flexible but some projects had tight deadlines. The working hours varied sporadically from 6 to 13 hours, depending on the ongoing processes and campaigns in the company. Learning is self, and not much training is involved. According to me, the culture in the company presents a great opportunity to explore and experiment autonomously. The marketing team gave me immense freedom to discover and learn more by trying new things.

Academic courses relevant to the project: Although marketing is a totally different and evolving domain, which is not present in our curriculum, but I guess having knowledge about finance can definitely help to understand and appreciate the significance of things in a much better way.

PS-II Station: Nable IT Consultancy Services Pvt. Ltd., New Delhi

Faculty

Name: Preethi N. G

Student

Name: MUKKAMALA VENKAT SAI RAM (2017A7PS0133P)

Student write-up

Short summary of work done during PS-II: The project involved building an application and model for car damage assessment through computer vision. Work also involved building demos

and presentation decks that would be used in client meetings. I was also required to attend these meeting to pitch to clients.

Tool used (Development tools - H/w, S/w): Python, OpenCV, Colab, AWS.

Objectives of the project: Prelimary steps of the entire car damage assessment model.

Major learning outcomes: Computer vision, Machine leanrning, Building deep learning based models.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The work was completely WFH due to the Covid situation. Regular review and meetings would be conducted discussing work carried out and the future working plan. The primary point of contact would be the CEO of the company, Mr.Rajiv Sodhi. You are encouraged to explore and come up with solutions and are also guided when required. Meetings with prospective clients would be conducted, which would require you to pitch the product effectively.

Academic courses relevant to the project: ML, NNFL, DM.

PS-II Station: National Chemical Laboratory (NCL), Pune

Faculty

Name: K Santosh Sopanrao

Student

Name: Utkarsh Tiwari (2017A1PS0542G)

Student write-up

Short summary of work done during PS-II: My work revolved around model predictive control (MPC): studying different algorithms for predictive control and how they can be used in the field of process control. MPC has the same functions as a PID controller, however the fundamental difference lies in the operating principle. I had to research papers on MPC, implement an algorithm and experiment with parameters to understand how the system works. A small part of my work was also related to studying the use of neural networks in predictive controllers using a MATLAB toolbox.

Tool used (Development tools - H/w, S/w): MATLAB & Simulink.

Objectives of the project: To understand different predictive control methods.

Major learning outcomes: The advantages and disadvantages associated with using MPC controllers over conventional PID controllers.

Details of papers / patents: None

Brief description of working environment, expectations from the company: As this is the first time PS2 has been WFH, it is not possible for me to exactly talk about the environment at the organization. However, the mentor at NCL Pune expected the students to work independently and report the progress to him frequently. The institute expects the students to perform research work and contribute towards research.

Academic courses relevant to the project: Process dynamics and control.

Name: RITVIK HEGDE (2017A1PS0743G)

Student write-up

Short summary of work done during PS-II: My work was to research the topic of forced periodic operations and find ways to implement it into various reaction processes, in the hopes of increasing efficiency and productivity of the process. This was done using predefined models and MATLAB simulations.

Tool used (Development tools - H/w, S/w): MATLAB, Simulink.

Objectives of the project: To show how forcing of a single input or variable periodically to increase the yield of the process, in most cases, where the process was constraint by one or more of the other parameters.

Major learning outcomes: That simple steady state optimal conditions do not always imply the best yield. If implemented correctly, periodic operation could improve the yield and efficiency of a magnitude of chemical and bio-processes. However, the most simplest of processes can be optimized using new methods or technologies. Improved my coding skills namely Python and MATLAB.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Due to the covid situation, it was mainly a work from home internship. Our mentor from NCL keep in touch with us frequently, helped me acquire materials or papers that I did not have access to. Helped us whenever we were in a pinch, all in all was willing to help and guide us every step of the way.

Academic courses relevant to the project: PDP, PDC, Numerical methods, CPC.

Name: VIGNESH SATHYASEELAN (2017A1PS0744G)

Student write-up

Short summary of work done during PS-II: Worked on dynamic modelling and intelligent control of reactive distillation using Fuzzy logic and Neural networks.

Tool used (Development tools - H/w, S/w): MATLAB, Simulink.
Objectives of the project: Dynamic modelling and Advanced control of reactive distillation.

Major learning outcomes: Process systems engineering, Computational science.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: PS 2 was completely virtual. I had to call the scientist on a weekly basis to give updates pertaining to the project.

Academic courses relevant to the project: Process dynamic and control, Numerical methods & Process optimization.

PS-II Station: National Council for Cement and Building Materials (NCCBM), Ballabgarh

Faculty

Name: Mahesh K Hamirwasia

Student

Name: RAHUL SAINI (2016A2PS0610H)

Student write-up

Short summary of work done during PS-II: Project titled 'Reinforcement proportioning in High Strength Concrete Reinforced Concrete (HSC-RC) members'. Limiting longitudinal and

transverse reinforcement proportions provided for RC members in IS code is based on normal strength concrete, and not applicable to high strength concrete members. Compare the provisions of Euro codes and propose modifications to these limits in IS 456.

Tool used (Development tools - H/w, S/w): It was a research based project thus most of the study was done through internet in the form of research papers and data collection.

Objectives of the project: To extrapolate data of normal strength concrete for high strength concrete.

Major learning outcomes: Data collection and mathematical modelling to compare and contrast different materials.

Details of papers / patents: The report is on 'Reinforcement proportioning in High Strength Concrete Reinforced Concrete (HSC-RC) members'.

Brief description of working environment, expectations from the company: Company was very supportive and motivated to work with me as an intern and helped me throughout the way. The title and topic of the project was suggested by the mentor as well. And also guided me through the process of doing a research based project.

Academic courses relevant to the project: Mix design.

Name: RAHUL SAINI (2016A2PS0610H)

Student write-up

Short summary of work done during PS-II: Reinforcement proportioning in High Strength Concrete reinforced concrete (HSC-RC) members'.

Tool used (Development tools - H/w, S/w): Stad-Pro

Objectives of the project: Limiting longitudinal and transverse reinforcement proportions provided for RC members in IS code is based on normal strength concrete, and not applicable to high strength concrete members. Thus finding the numerical values for HSC-RC members.

Major learning outcomes: Numerical modelling / mathematical modelling for extrapolation of percentage reinforcement in RC members.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The PS and people there were very helpful regarding choosing and pursuing of topic of my interest. Amd guided me where ever I needed it.

Academic courses relevant to the project: Mix design, Design of concrete structures.

PS-II Station: National Institute of Rural Development and Panchayati Raj, Hyderabad

Faculty

Name: Naga V K Jasti

Student

Name: KALIGOTLA S S V SHIVA KRISHNA (2017A7PS0076P)

Student write-up

Short summary of work done during PS-II: All of our works lied around adding functionalities to the ERP of the organization. My project is to create a website to record the annual property

returns details of the officers at the organization along with automating the report generation. My mentor was guiding me through any problem I faced during the project. It was a great learning experience for me.

Tool used (Development tools - H/w, S/w): Visual studio for ASP.NET, HTML, CSS, Bootstrap and Javascript; SSMS for MS SQL.

Objectives of the project: My project is to create a website to record the annual property returns details of the officers at the organization along with automating the report generation.

Major learning outcomes: Full stack development.

Details of papers / patents: None

Brief description of working environment, expectations from the company: There is a lot of freedom for the interns which helps in the learning process.

Academic courses relevant to the project: Database management systems, Data structures and algorithms.

Name: ADITHYA VIMALAN (2017A7PS0123G)

Student write-up

Short summary of work done during PS-II: Made a fully functioning guest house management system using ASP.NET webforms with support for managing rooms and bookings as well as generating reports.

Tool used (Development tools - H/w, S/w): .NET 4.0, SQL server 2012, JQUERY, AJAX, RDLC.

Objectives of the project: To digitalize the existing manual process of booking a guest house.

Major learning outcomes: Full stack web development using .NET framework.

Details of papers / patents: None

Brief description of working environment, expectations from the company: As it was WFH, there were no strict working hours. Weekly meetings were held to evaluate the progress made.

Academic courses relevant to the project: DBMS.

Name: GAJULA SAI SARATH KRISHNA (2017A7PS0154P)

Student write-up

Short summary of work done during PS-II: My project was to make a web portal for non-academic staff Annual Performance Appraisal Report (APAR) at NIRD. This portal was made in .net framework using web-forms template in visual studio 2019 version. This portal enables the non-academic staff at NIRD to submit their annual performance easily online.

Tool used (Development tools - H/w, S/w): IDE - Visual studio 2019
Framework - .net
Languages used - C#, HTML, Javascript
Backend - Microsoft SQL server

Objectives of the project: The objective of this project is to make annual performance submission online without any difficulty for non-academic staff at NIRD Hyderabad.

Major learning outcomes: I learnt how to make websites using .net framework and working with databases.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: PS-II at NIRD was completely work from home. I had a very supportive mentor and PS-II faculty. We had regular meetings with our mentors and weekly review meetings with our PS-II faculty discussing our progress throughout the week. NIRD gave me a project to build non-academic staff APAR by myself. I completed the project and got positive feedback and appreciation from both my mentor and PS-II faculty.

Academic courses relevant to the project: Database system, OOP (for C#).

Name: AREPALLE HIMA SIVA KALYAN REDDY (2017A7PS0235P)

Student write-up

Short summary of work done during PS-II: Developed a website based meeting rooms using Visual studio.

Tool used (Development tools - H/w, S/w): Visual studio 2019, Microsoft SSMS.

Objectives of the project: Develop a website to book meeting rooms.

Major learning outcomes: Bootstrap, JavaScript, C#, SQL.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Each student was allotted a mentor and they were very helpful with the project. The deadlines and working hours were also flexible, so the working environment was very stress-free. Though, the mentors were busy with their own projects they always tried their best to help students.

Academic courses relevant to the project: DBMS, CN.

Name: BHUBHANSHU GURJAR (2017A7PS0951G)

Student write-up

Short summary of work done during PS-II: Built an asset management system for the institute using ASP.NET framework.

Tool used (Development tools - H/w, S/w): MS visual studio 2019, MS SQL server management studio.

Objectives of the project: Building an asset management system.

Major learning outcomes: Learnt ASP.NET framework and C# language.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Work from home. Working as per the requirements and deadlines.

Academic courses relevant to the project: DBMS course was relevant for this project.

Name: BUDARAJU NAGA SAI PREETHAM (2017A7PS0967G)

Student write-up

Short summary of work done during PS-II: Web-development using .NET framework and C#.

Tool used (Development tools - H/w, S/w): IDE: Visual studio, DB: Microsoft SSMS.

Objectives of the project: Create a web-application for health management system.

Major learning outcomes: Learnt working with ASP.NET framework, C#, HTML, CSS, JS.
Details of papers / patents: None

Brief description of working environment, expectations from the company: As the work was done from home, the timings are 9 am to 5:30 pm from monday to friday. The organization staff were understanding and provided the necessary guidance. The company expected us to learn more about the software used and to complete the assigned work before the deadline presented.

Academic courses relevant to the project: DBMS, DSA.

PS-II Station: National Institute of Science, Technology and Development Studies (NISTADS), New delhi

Faculty

Name: Shree Prasad Maruthi

Student

Name: NARLAGIRI SHILPA (2017B3PS1251H)

Student write-up

Short summary of work done during PS-II: I was working on a project called benchmarking of public research institutes (PRIs). Benchmarking is the process of improving performance by continuously identifying, understanding, and adapting outstanding practices found inside and outside the organization. Benchmarking is an improvement process that is used to identify best practices within a peer group and facilitate its incorporation into the organization. Studying best practices provides the greatest opportunity for gaining a strategic, operational, and financial

advantage. Benchmarking goes beyond comparisons with competitors to understanding the practices that lie behind the performance gaps.

Tool used (Development tools - H/w, S/w): Worked using tools like MS Excel and MS Word.

Objectives of the project: We considered public research institutes like CSIR- Indian Institute of Chemical Technology, Hyderabad, CSIR- Institute of Genomics of Integrative Biology, Delhi, CSIR- Central Food Technological Research Institute, Mysore.

Major learning outcomes: I got to know how public research institutes carry out the benchmarking processes to improve performance, quality, etc., and also how PRI's will publish research papers, patents, projects.

Details of papers / patents: Benchmarking of public research institutes.

Brief description of working environment, expectations from the company: I mostly worked in an environment where I did more research part by reading research papers, understanding them, and making reports. I read more than 25 research papers in understanding about benchmarking of PRIs both in private as well as in the public sector. After completing the literature part, I did data analysis by considering publications, patents, rewards, projects, technologies developed, human resources, etc, taken data from year wise and plotted graphs respectively according to that data.

Academic courses relevant to the project: The project is relevant to my academic course in doing research part and analysis. Where research helps me in getting to know more about the literature side. Which is more important in understanding the process.

PS-II Station: NBC Bearings, Jaipur

Faculty

Name: Nithin Tom Mathew

Student

Name: SETTY PRANEETH (2017A4PS0798H)

Student write-up

Short summary of work done during PS-II: Design and optimization of bearings based on the input sheet provided by the customer. And make a tool for the estimation of the weight of the raw material used and estimation of the cost.

Tool used (Development tools - H/w, S/w): AutoCAD, CREO, EXCEL.

Objectives of the project: 1) Create a tool for quick estimation of weight of raw material required and cost of the bearing 2) Make a sales drawing of the single row cylindrical bearing based on the input sheet by the customer.

Major learning outcomes: Sales and part drawings of bearings.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: There has been decent amount of work that is begin given as a part of our internship program. Its good that we are being treated as a newly joined employee rather than a student. There is a huge support from the company's side. Overall, it is a great learning experience.

Academic courses relevant to the project: Material design and drawing, Engineering graphics.

PS-II Station: NetApp, Bangalore

Faculty

Name: Mohammad Saleem J Bagewadi

Student

Name: Meet Kanani (2017A7PS0128P)

Student write-up

Short summary of work done during PS-II: Applying cost cutting methods to container deployments in GCP.

Tool used (Development tools - H/w, S/w): GCP, Golang, Kubernetes.

Objectives of the project: Reduce cost for container deployment.

Major learning outcomes: Cloud infrastructure, Kubernetes usage, Container deployments.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: People are very friendly. Managers are easily approachable. Many extra curricular activities are held.

Academic courses relevant to the project: DSA, DBMS.

PS-II Station: NewCo Inc., California

Faculty

Name: Rejesh N A

Student

Name: KAUSTUBH (2017A4PS0417P)

Student write-up

Short summary of work done during PS-II: Automating features using Selenium, Javascript. I was not familiar with any of the IT work or any of the following software tools. I learnt every thing there. I had to change my PS2 company 2-3 times. Still, IT sector was prominent in all so what all I learnt came to use.

Tool used (Development tools - H/w, S/w): CSS, HTML, Javascript, React JS, Selenium, Cucumber, BDD.

Objectives of the project: Automating a feature and documenting the procedure to do it.

Major learning outcomes: CSS, HTML, Javascript, React JS, Selenium, Cucumber, BDD, Presentation skilll, Formal communication.

Details of papers / patents: Automation guide for beginners was made by me for helping out the next batch of interns in doing automation.

Brief description of working environment, expectations from the company: Great work environment, encouraging helping atmosphere.

Academic courses relevant to the project: No. I took none in IT field.

PS-II Station: Niyo Solutions, Bangalore

Faculty

Name: Pravin Yashwant Pawar

Student

Name: PRATEEK SHARMA (2017A7PS0171P)

Student write-up

Short summary of work done during PS-II: Kong is an API gateway, as a gateway it acts as an entry point to all the request / response messages to the APIs. Plugins are the add-on functionalities to the Kong, Kong allows us to create custom plugins according to our need in Golang language. My project was to develop custom plugins for Kong in Golang. Plugins in this project was developed for sending and receiving secure messages with the help of various cryptographic techniques.

Tool used (Development tools - H/w, S/w): Golang, Kong, Ubuntu.

Objectives of the project: To develop Go plugins for kong api gateway.

Major learning outcomes: I have learnt several topics such as API gateways, Kong plugins, GO, Cryptography etc.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment was good, mentors were supportive.

Academic courses relevant to the project: Computer networks, Cryptography.

PS-II Station: Niyo Solutions Non-Tech, Bangalore

Faculty

Name: Sandeep Kayastha

Student

Name: AKANKSHA SINGH (2016A8B30261G)

Student write-up

Short summary of work done during PS-II: Worked on the NiYO Bharat app that provides blue-collared workers with a zero-balance bank account and several other features like fund transfer, recharge, bill payments etc. Several projects were taken up in order to increase the app engagement of our customer base which involved data analysis with SQL. Creation of a construct for the premium subscription plan was one of the major projects I worked on. It started with data analysis to project increase in revenue margins with premium subscriptions, followed by launching surveys to capture the take rates by the audience. This was done as an iterative process till the final construct was finalized. In all, the work alloted was very good. It was made sure that I was given work from very diverse domains to get a 360 degree experience of product management.

Tool used (Development tools - H/w, S/w): Metabase (SQL).

Objectives of the project: Creating a construct for the premium subscription plan.

Major learning outcomes: Strong hold of SQL and understanding of all aspects of product management.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment was great. Since, it was WFH, the interations with other team members was limited. I reported directly to my manager in daily review meetings. I was often given a task and was expected to experiment on my own to come up with solutions. It was a great way to learn. They expect very good hold of SQL. They appreciate you when you deliver. They would trust you with more and more important projects as you continue, and the ownership increases too.

Academic courses relevant to the project: NA

PS-II Station: Nomura - Change Management Team, Mumbai

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: SAURABH TIWARI (2016B3A70352G)

Student write-up

Short summary of work done during PS-II: Successfully automated various CAO office processes using various different digital tools like Alteryx, PowerBI, SharePoint designer and Confluence. Coordinated and managed schedule and content for the monthly governance meetings with senior management and regional stakeholders. Working as project manager on a finance project.

Tool used (Development tools - H/w, S/w): Alteryx, PowerBI, SharePoint and Confluence.

Objectives of the project: Understand current CAO office operating model and come up with ideas, to define and design a new model which is efficient and provides opportunity for data reporting and senior management transparency.

Major learning outcomes: The project has helped a lot in gaining hands on experience on various digital tools. It helped me to build a different perspective when it comes to data analytics and problem solving. I learnt to create process workflows, automating manual processes thus reducing time and efforts spent in recurring tasks.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment is really good. The team is very supportive and engaging. The company expected us to get a hang of our projects and start working intensely on it post our training sessions.

Academic courses relevant to the project: None

PS-II Station: Nomura – FinTech, Mumbai

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: GANDHI GAURAV MEHUL (2017A8PS0724G)

Student write-up

Short summary of work done during PS-II: We worked on three Projects - Extraction & Encryption of Personal Identifiable Information, Research into Wealth Management FinTechs and BlockChain based FX trading platform. The work involved research and analysis along with programming in python for encrypting algorithms.

Tool used (Development tools - H/w, S/w): Python.

Objectives of the project: The key objective was to create a concise and effective presentation for senior management highlighting the conclusions and recommendations. The programming project involved building a tool which would identify and encrypt personal information.

Major learning outcomes: Understanding of emerging technologies and their role in financial markets.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Extremely conducive for learning and growth, lots of opportunities to learn and interact.

Academic courses relevant to the project: Fundamentals of finance and accounting, Security analysis and portfolio management.

PS-II Station: Nomura Global Markets, Mumbai

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: SHANTANU TOMER (2016B3A30461P)

Student write-up

Short summary of work done during PS-II: Majority work involved pricing deals on the proprietary software. Apart from pricing you would be asked to prepare outlook reports and also automate pricing tools using Excel and VBA.

Tool used (Development tools - H/w, S/w): MS Excel.

Objectives of the project: To gather knowledge of finance work how of industries.

Major learning outcomes: Pricing expertise.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment depends a lot on the team you are allotted so need to make sure in beginning itself that you are in the team you are comfortable in working with. Some teams work with Singapore and Hong Kong team so the timing followed are with regards to those so might be a little difficult for somebody. Global markets is the most sought after division in Nomura and learnings available are reflective of that.

Academic courses relevant to the project: Fine, DRM.

Name: HRISHAV RAJ (2016B3A40555P)

Student write-up

Short summary of work done during PS-II: Live pricing of counterparty credit risk and consulting the sales and structuring team about the charge to be levied on any new trade. Worked on both vanilla as well as complex derivatives products. Hedging daily market risks in my team's trading book. Sending out daily profit loss on our various market positions and strategies to senior management. Automation of daily and weekly reports to improve data visualization and optimize operational time.

Tool used (Development tools - H/w, S/w): Python, SQL, MS Excel, VBA, Power BI, Bloomberg terminal.

Objectives of the project: To learn concepts related to counterparty credit risk valuation and use it to price trades going live. To learn the different trades being done and manage risks in trading books. To monitor market movement of deployed strategies. To automate reports to sampling.

Major learning outcomes: Learnt about different type of derivative trades that are done in the market. Learnt about CVA/DVA/FVA and the regulations on which over the counter markets work. Learnt about collateralization of these trades and calculation of funding cost for posting this collateral. Learnt commodities trading concepts and monitored prominent positions for my team. Learnt risk management as I daily hedged exposed market risks in trading books. Learnt automation of daily reports in python from scratch.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: People at Nomura GM are brainy and very frank. Senior managers are experienced and have immense exposure to the markets, which makes it is an excellent opportunity for everyone to learn. Unfortunately, for me, it was a remote internship, so I didn't get to see the office working environment. In terms of expectations, you can expect to work with the derivatives market. Therefore, a basic understanding of this will be useful to start with. You will get to see complex trades coming into the market and understand how they work.

Academic courses relevant to the project: Derivatives and risk management, Security analysis and portfolio management, Fundamentals of financial accounting, Business analysis and valuation, Financial management, Money banking and financial markets.

PS-II Station: Nomura Global Risk, Mumbai

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: HIMANSHU AGARWAL (2016B3A30570P)

Student write-up

Short summary of work done during PS-II: Work is mostly based on automation of reports previously created manually through Python, creating and testing tools for stress testing analysis by the firm, writing and updating codes on Python and VBA to assist the day-to-day activities of the team.

Tool used (Development tools - H/w, S/w): Python, SQL, Excel.

Objectives of the project: Automatation of reports to be produced regularly, development of stress testing tools for different financial models, analyze and perform functions on large datasets through Python and VBA.

Major learning outcomes: Python data analysis, SQL, VBA, Organisational structure and work flow of finance back office, Regulatory knowledge of investment firms.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Great work environment, helpful team members, decent work life balance.

Academic courses relevant to the project: 1. Object oriented programming 2. Derivatives and risk management 3. Security analysis and portfolio management 4. Financial risk analytics and management.

PS-II Station: Nucleus Software Export Ltd., Noida

Faculty

Name: Ritu Arora

Student

Name: YADURAJ GUPTA (2016B3AA0459H)

Student write-up

Short summary of work done during PS-II: Screenshot capture and masking utility problem statement. Make a web application that takes screenshots of web pages and masks out input fields which contains private information and data migration utility.
Problem Statement: Make a Java application that takes data from one database and copies it into another database provided the tables are identical in both databases. The data is in many different table and is related by foreign key constraints.

Tool used (Development tools - H/w, S/w): Javascript, Java, Spring framework.

Objectives of the project: Making utilities for Nucleus.

Major learning outcomes: Web developpment.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Work environment was ok.

Academic courses relevant to the project: OOPS, DSA.

Name: GANGULA NIKHIL REDDY (2017A3PS0526H)

Student write-up

Short summary of work done during PS-II: I worked on integration of a chat bot with a webservice and made some modifications to the bot.

Tool used (Development tools - H/w, S/w): RASA, Spring, OpenCV, REST API, REACT.

Objectives of the project: Integration of the bot with rest webservice.

Major learning outcomes: I learnt how IT companies work and their working culture. And also how to behave with other employees in the company etc. Regarding technical skills, I learnt about Spring, RASA framework, Python.

Details of papers / patents: Nothing

Brief description of working environment, expectations from the company: The company was nice. Due to Covid, we worked remotely from home this entire PS. But we had daily meetings with my mentor and project review meeting once in 2 weeks. The work environment was good and mentors are very cooperative and helpful.

Academic courses relevant to the project: OOPS, DSA.

Name: ANSHUMAN SRIVASTAVA (2017A8PS0241P)

Student write-up

Short summary of work done during PS-II: Going though a jira page for the Id entered, getting all log files, separating information about exceptions and then notifying the author of code that there is a particular exception in his code at this line due to this reason.

Tool used (Development tools - H/w, S/w): Java.

Objectives of the project: Automating the process of reading logs on JIRA.

Major learning outcomes: Java, Maven, Exceptions.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Good working environment with proper guidance from mentor and ample time to learn new technologies.

Academic courses relevant to the project: OOP

Name: SHASHWAT KHARE (2017A8PS0249P)

Student write-up

Short summary of work done during PS-II: The first project, titled 'Encrypted Database Communication with a Spring Boot application in FinnOne Neo', is based on the SSL (Secure Sockets Layer) encryption technology and Spring Boot framework for building Java applications. The second project, titled, 'In-Memory Database with ACID Support' requires to find and integrate an in-memory database that supports the ACID (Atomicity, Consistency, Isolation, Durability) properties of a database.

Tool used (Development tools - H/w, S/w): Spring Boot framework, MySQL, PostgreSQL, Oracle, Wireshark, LMDB.

Objectives of the project: The objective is to have an encrypted channel for database communication with Spring Boot applications in the FinnOne Neo product and each of the MySQL, PostgreSQL and Oracle databases.

Major learning outcomes: Learnt how production-level databases work. Learnt SSL encryption technology. Gained an understanding of the working of Java framework like Spring Boot.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work environment included a lot of free time. Mentors were helpful. There was little inefficiency from the company-side regarding the resources allocation required for the completion of the projects.

Academic courses relevant to the project: Object oriented programming, Database systems.

PS-II Station: Nurture.farm (A Subisidiary of UPL Ltd.,), Bangalore

Faculty

Name: Kranthi Kumar Palavalasa

Student

Name: RAHUL SINHA (2016B1A80773G)

Student write-up

Short summary of work done during PS-II: Worked as a product analyst where the main work was to write SQL queries to analyze data related to given problem. Also, built dashboards using various tools. Along with this also worked on website development project.
Tool used (Development tools - H/w, S/w): SQL, Quicksight, Angular.

Objectives of the project: To analyze required data.

Major learning outcomes: Learnt SQL and angular.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Really enjoyed working at nurture. The people there were really friendly and helpful. Lots of learning opportunities were present. Learnt a lot of things and enjoyed the work overall. Whenever stuck at something, people helped out whenever possible.

Academic courses relevant to the project: DBMS.

PS-II Station: Nutanix Technologies India Pvt. Ltd., Bangalore

Faculty

Name: Chandra Shekar R K

Student

Name: G ADITYAN (2016B1A70929P)

Student write-up

Short summary of work done during PS-II: Part of the MSSQL driver development team of Nutanix Era. Era provides one-click simplicity and life-cycle management solutions by removing the issues faced in legacy database environments.
Tool used (Development tools - H/w, S/w): Majorly: Era server UI, Python, SSMS.

Objectives of the project: Further development of the product by addition / modification of features to be offered in the upcoming version of Era.

Major learning outcomes: SQL server, Copy data management, Database life cycle management, Hyper-converged Infrastructure.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Fast paced work culture, daily sync-ups to give work update, helpful team members.

Academic courses relevant to the project: DBMS, OOP, OS.

Name: TUSSANK GUPTA (2016B3A70528P)

Student write-up

Short summary of work done during PS-II: The objective of the internship was to understand the disaster recovery and backup offering by Nutanix and contribute to the development of the

same. Initially, it was difficult to adjust to the work as the codebase was huge and I had no idea about how different modules worked. During the first 1-2 months, I worked on some unit tests for already existing code. This helped me to explore some portion of the team's code and get some idea of the different modules. After that, I started getting tasks in one of the core projects of the team. It was quite challenging but the team members were very supportive and they helped me whenever I got stuck.

Tool used (Development tools - H/w, S/w): Python, Go, C++, Protocol buffers, YAML, REST, Postman, Fudge framework, JIRA, Jenkins, Git, Gerrit, Sourcegraph, Proprietary tools.

Objectives of the project: The objective of the internship was to understand the disaster recovery and backup offering by Nutanix and contribute to the development of the same.

Major learning outcomes: Learnt about Distributed systems, Hyper-convergence, Virtualization, Hypervisors, Disaster recovery, Backup etc. At Nutanix, there is no difference between an intern & an employee and like other developers in the team, I worked on one of the core projects. It was challenging and I learnt how different pieces for a large project are built by a team and then joined to form a fully functional product.

Details of papers / patents: N.A.

Brief description of working environment, expectations from the company: The working environment was great. Though, I did not get a chance to work in the office environment due to remote internship this time, I received abundant help from my teammates and others in the organization. A sprint model was followed in my team where tasks for 3 weeks are assigned at once and weekly review meetings are held to update the status of the tasks. Other than that, daily code review meetings were held which were very helpful in improving the code quality. Nutanix has a complex architecture and a knowledge of core computer science courses help in understanding it.

Academic courses relevant to the project: Operating systems, Computer networks, Data structures & algorithms, Object oriented programming, Database systems, Network programming.

Name: ABHISHEK DASS (2016B3A70550G)

Student write-up

Short summary of work done during PS-II: My work at Sizer as an intern is similar to a full-time employee in my team. I get the tasks similar to what others in my team get which are to be deployed by the end the sprint. I started off with the backend tasks and would be slowly moving to frontend. Till now, I have completed more than 30 tasks in the 8-9 sprints I have been a part of. All my tasks have been deployed to production and create value to the users every day. My tasks can be broadly categorized into – feature improvements, bug fixing and security improvements. These tasks can be raised by PMs in the product backlogs, raised by HackerOne to bring security flaws to the notice, or raised by QA while testing.

Tool used (Development tools - H/w, S/w): Java Spring Boot, ReactJS.

Objectives of the project: Full stack web development for sizer, SaaS engineering.

Major learning outcomes: MVC architecture, DB optimisation, Full stack web development.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work is very hectic as the sprint is 2 week long and sometimes we end up working on the weekends to complete the tasks. Usually takes 10-11 hours everyday. Work is similar to any full time employee in my team, no differentiation between an intern and full timer. The team holds huge expectations from each other.

Academic courses relevant to the project: DSA, OOP.

Name: KABRA AKASH PRASAD (2016B3A70562P)

Student write-up

Short summary of work done during PS-II: I made a complex API with multiple design discussions using appropriate design patterns. Also, I made a Python based microservice hosted on docker and made a Python library above Python setup tools.

Tool used (Development tools - H/w, S/w): Python, SQL.

Objectives of the project: The project aims to enhance test report generation & consumption for a Nutanix product- LCM-Development Test Tool (DTT). The first phase involves report generation that leverages existing distributed data and log bundles to summarize basic cluster statistics.

Major learning outcomes: Project was divided into two phases. First phase involved developing a modular report generator API using Python which uses different databases to complete the work. Second phase involved ingesting the phase-1 results in database and integrating data to another qualification platform. It was a customer facing project, i.e. post release, it would be directly visible to consumers. Majot learning was: Making Python libraries using Python-setuptools, Making python microservices and running them on docker, Writing modular code using design patterns such that the module can change its behavior based on the inputs at runtime, Using git for making version control in a collaborative development environment and Using Linux cluster commands and debugging tools for dealing with high-sized unstructured data.

Details of papers / patents: No papers / patents were made. Project was an improvement over existing products.

Brief description of working environment, expectations from the company: Working environment is healthy. All full time employees are very reachable. Company expects quality work from you which can directly be passed to customers. Your work generally goes in production, which gives you an incentive to work up to the mark. Work is not hectic. You get a lot of time to work. There are no deadlines. If you think you can pick up more, ask for it. Team is pretty chill. They organized team games every month (virtual games in our case), to get in touch with all employees.

Academic courses relevant to the project: Object oriented programming.

Name: ABHISHEK GUPTA (2016B3A70576P)

Student write-up

Short summary of work done during PS-II: I worked with the AIOps team at Nutanix, Pune. My work majorly involved implementing collectors from scratch. Integrated the new collector end to end. It was majorly a backend development project which involved working with APIs, gRPC with their system.

Tool used (Development tools - H/w, S/w): Golang, NodeJS, Docker, Git.

Objectives of the project: Implementing collector end to end.

Major learning outcomes: 1) Experience with new technologies, frameworks, and techniques 2) Exposure to enterprise-level code 3) Greater understanding of software development process and software industry.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: We have flexible timings and the work environment was quite informal even in WFH experience. It is expected that one would be punctual enough for meetings and will seek help instead of getting stuck on some bug for a long time.

Academic courses relevant to the project: Object oriented programming, Computer networks.

Name: SAMARTH SINGH (2016B3A70609H)

Student write-up

Short summary of work done during PS-II: Worked like a regular employee of the team developer productivity Nutest and while doing so taken part in quite interesting challenges and projects.

Tool used (Development tools - H/w, S/w): H/w- Laptop S/w- Python, Nutanix specific tools.

Objectives of the project: Software migration from Python2 to Python3 and its qualification.
Major learning outcomes: Python migration, Software qualification and quite a few soft skills.

Details of papers / patents: N.A.

Brief description of working environment, expectations from the company: A helpful and interactive environment. The people are quite helpful and willing to solve even small doubts. The work might tend to get a bit boring initially but there is a lot to learn.

Academic courses relevant to the project: None

Name: VIKRAMJIT SINGH (2016B3A70866P)

Student write-up

Short summary of work done during PS-II: I worked alongside on a feature called APP DR (Application Disaster Recovery) which basically aims at protecting an application by creating a remote connection between two data centers.

Tool used (Development tools - H/w, S/w): JavaScript, CSS, HTML, React, Redux, Golang, Python.

Objectives of the project: Worked alongside on a feature called APP DR which basically aims at protecting an application by creating a remote connection between two data centers.

Major learning outcomes: Product development.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Work environment is good. The manager and mentor are of friendly nature. A good place to work.

Academic courses relevant to the project: NA

Name: INDER RAJ SINGH KHOKHAR (2016B4A70473H)

Student write-up

Short summary of work done during PS-II: I was part of the core infra team based out of Bangalore office. Worked on two different projects. A short introductory project to understand alerts generated when any Nutanix cluster violates any health checks. Main project was automation for Expand Cluster 2.0. Expand Cluster involves adding a node to a cluster. Wrote all the test cases, failure scenarios, manually verified and automated all testcases for expand cluster 2.0. Was also part of the UI and UX planning.

Tool used (Development tools - H/w, S/w): Nutanix's internal tools, Core Python.

Objectives of the project: Complete automation for new feat conceived by core infra team- Expand Cluster 2.0.

Major learning outcomes: Core Python, Multithreading, Decorators, Advanced OOPS, OO design in Python, Nutanix- specific concepts. Tools like JIRA, Jenkins, Gerrit for code reviews.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: It was during the pandemic, so we were all worked from home. The company just expects you to complete the assigned work in time. Entire team is very helpful. Everyone helps you in order to complete your assigned tasks. Moreover, you have a mentor who is a message away.

Academic courses relevant to the project: OOPS, OS and Computer networks.

Name: HASAN NAQVI (2016B5A70452P)

Student write-up

Short summary of work done during PS-II: Backend development related to deployment of Prism Central (PC) virtual machines.

Tool used (Development tools - H/w, S/w): Python.

Objectives of the project: Prism Central (PC) is a multi-cluster manager responsible for managing multiple Nutanix clusters to provide a single, centralized management interface. The internship aimed to improve the PC deployment process, and to ensure the deployment workflow is stable.

Major learning outcomes: Better understanding of writing code in Python. Understanding the significance of unit tests, some Python frameworks to write them as well as about product development.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: It was a nice experience. The team members I interacted with were all very helpful. I always got a quick response to any doubt I had. Whenever I was stuck at any place, I felt I was always able to ask for help to resolve it. Work could be slightly hectic at times.

Academic courses relevant to the project: Object oriented programming.

Name: BHAVESH RANJIT CHAND (2016B5A70715P)

Student write-up

Short summary of work done during PS-II: Networking team at Nutanix works to build and maintain the network backbone of Hyper-Converged infrastructure. They use software defined networking to build Virtual Overlay networks for cloud and on-prem infrastructures. Another area of focus is adding features related to routing policies, security, etc. With the array of different network configurations and functionality layers added on top of conventional networks, it becomes important to monitor performance. The team has decided to focus on efficiency along with functionality. To that end, performance tests are run on different code releases. My contribution is to build a central database for archiving all different types of performance results for different tests and systems, an API for automated data ingest into the database and an observability solution where comparisons and analysis of this data is done in a Graphical User Interface.

Tool used (Development tools - H/w, S/w): Python, Flask, TimescaleDB, Grafana, Docker.

Objectives of the project: Build a database to store network performance metrics for all tests across the team, and build an interactive dashboard to compare and observe results.

Major learning outcomes: Nutanix is a place where there is great focus on designing and planning out before you start implementing code. Since everything ties into a single product here directly / indirectly, the standards for production-ready, well organized code are followed and object oriented design patterns are used extensively. It's a great place to learn how Cloud computing works and what different components go into it.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: One will get to experience startup culture very well here. The company is willing to provide you all tools you might need to be productive. One even gets ample time to learn any software tools to use and internal resources and tech talks are very common. Interns are expected to come up with ideas on how to solve the problems at hand and be ready to brainstorm them with the team. Experience in Python and conceptual understanding of OS, Networks, Databases is a must.

Academic courses relevant to the project: Operating systems, Database systems, Computer networks, Cloud computing.

Name: DAIVAT BHATT (2016B5A70952H)

Student write-up

Short summary of work done during PS-II: Worked on building a unit test framework for the database layer. Ran benchmarks to compare the layer with industry standards and look for possible bugs and bottlenecks. Worked on deploying the benchmarking system automatically in a production environment. Created automated unit tests for any bugs discovered and new features released.

Tool used (Development tools - H/w, S/w): Python, Docker, Kubernetes, C/C++, Sysbench.

Objectives of the project: To automate, unit test and benchmark database layer in Nutanix architecture.

Major learning outcomes: Tools and technologies used for database benchmarking, Database Internals, Docker, Kubernetes.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Company is good. Working environment is team dependent. People are very supportive. Company expects sound technical knowledge.

Academic courses relevant to the project: Database management systems, Operating systems, Computer architecture.

Name: AADARSH MOHTA (2017A3PS0823P)

Student write-up

Short summary of work done during PS-II: Initially I was working on JIRA tickets relating to LCM release upgrades of MSP controller. Afterwards, I started working on a project for backup and recovery of MSP clusters in case of PC going corrupt. This project is composed of two parts - first taking up backup of the necessary entities and storing them somewhere and later restoring the backed up entities on a new PC after some necessary scrubbing.

Tool used (Development tools - H/w, S/w): Docker, Kubernetes, Golang.

Objectives of the project: Backup and recovery of MSP cluster in case of PC failure.

Major learning outcomes: Writing production level code in a modular and maintainable manner. Getting hands on experience with docker and Kubernetes. Getting exposure to advanced Linux used while development. Getting exposure to implement system design ideas.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment of the company is very good. Everyone is extremely helpful and willing to help at all times. You can learn slowly and grow very rapidly. There is a steep learning curve and the association with the company is pretty rewarding. You can expect good exposure and

knowledge of practices prevalent in the software industry by working here. And as it is fast growing, there is always lot of scope to learn and grow.

Academic courses relevant to the project: DSA, OOP, Computer networks.

Name: SUBHAM KUMAR DASH (2017A7PS0004P)

Student write-up

Short summary of work done during PS-II: Nutanix is a cloud computing company that is one of the market leader in Hyper-Converged Infrastructure software. It provides an enterprise cloud platform that combines storage, network, and virtualization for clients. During my PS 2, I was assigned as part of the billing team under SaaS engineering. The primary work of the team is to enable subscription onboarding and billing the customers for the usage of the SaaS products that Nutanix offers. I worked as a full stack developer for the team and the major tech stack used were Nodejs, Reactjs on top of the Sailsjs MVC architecture. My works were well balanced between frontend and backend. The major development tasks include:

1. Completely restructuring an existing Admin application and bringing it to Sailsjs MVC format. This required me to go into much depth in JavaScript for setting webpack for React assets bundling, Babel for transpiling the ES6 version of Nodejs, integrating sails hooks for dynamic building, configuring pm2 for running the server forever, and logging with timestamps.
2. Dockerizing both the frontend and backend sails applications in order to run them inside independent containers and connect using a bridge network using docker-compose.
3. Building a new API from scratch for address compliance check services used for billing and some other teams in Nutanix.
4. Creating a new test environment for the admin application which involved setting all infrastructure like VM, domain name registration, port mapping with help of the IT team.
5. Making a few UI pages and enhancing the frontend experience like searching and introducing debouncing.

Tool used (Development tools - H/w, S/w): VS code, Git, Postman, TablePlus, Heroku, Jenkins, Jira.

Objectives of the project: Bullding and improving on top of the existing billing products.

Major learning outcomes: The learning curve is very steep here. Learnt about industry standards of writing code with an emphasis on naming variables in a meaningful way, maintaining proper linting format, designing APIs, etc. Gained significant experience in full-stack development with JavaScript. Getting familiar with the CI / CD pipeline and the agile structure of working with proper integration of development and QA teams. Maintaining code in different environments like development, test, stage, and production.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: It was definitely a unique experience for us to have the complete duration of PS virtual. But it was managed so efficiently and with proper planning from Nutanix that I didn't feel any shortcomings. The working environment in the billing team is very good. I was fortunate enough to get such a team, where my manager, mentor, and other team members were extremely helpful and supportive. Their help and suggestions made the internship full of learning. Nutanix treats its interns as a full-time employee only (I had access to deployment on production for all products of billing and made few releases during PS). Every experienced employee and the senior director is very humble and you can easily approach anyone. You can expect quality work in every team.

Academic courses relevant to the project: OS, DBMS, Computer networks.

Name: ANIRUDH ANILKUMAR GOYAL (2017A7PS0031P)

Student write-up

Short summary of work done during PS-II: Automating running of workflows is a necessity in an organization like Nutanix. The organization had a service which could connect and run workflows on tenants. The project aims to extend this functionality, to build a generalized

service which can function over all possible devices, like free nodes and routers. To do so, use of different orchestration services like Canaveral is made, and a working model is built for the DC Ops team. Different functionalities are added to the service, to integrate it to Insights, enable a dynamic prompt functioanlity, enable multiple deployments, and build a monitoring script.

Tool used (Development tools - H/w, S/w): Python, Ansible, AWX, Node exporter, Prometheus, Shell language.

Objectives of the project: Building of the global-config-push service, to help in automation.

Major learning outcomes: The internship helped me understand the functioning of an organization, beyond the theoretical knowledge of concepts. The code reviews were extremely helpful for me to write production level code. I understood the need for collaboration within different teams of an organization, to solve each others pain points.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The team was extremely helpful in getting me onboarded. Doubts were encouraged and cleared. The working hours were flexible and not too stressful. The company also provided a lot of perks to help ease of transition into remote work.

Academic courses relevant to the project: Computer networks, Data structure and algotithms, Operating systems.

Name: SAURAV VIRMANI (2017A7PS0090P)

Student write-up

Short summary of work done during PS-II: Migrated some major sub-components of their task management service from Python to Go. Added various optimizations to some of the sub-

components of the service. Resolved various bugs related to the service while doing this migration.

Tool used (Development tools - H/w, S/w): Go, Gerrit, Git.

Objectives of the project: Migration of an internal Nutanix service from Python to Go.

Major learning outcomes: 1. Writing code for consistent, fault-tolerant, and distributed systems 2. Go 3. Some good architectures used by Nutanix for their services.

Details of papers / patents: The internship work was primarily aimed at development rather than research. But there were various discussions about working on some key ideas that could have lead to some paper / patent.

Brief Description of working environment, expectations from the company: Work environment is based on what team you get. My team was very supportive, cooperative and cool. We had some very good tech talks and transfer of learning sessions too.

Academic courses relevant to the project: Nothing in specific.

Name: ROHIT JAIN (2017A7PS0122P)

Student write-up

Short summary of work done during PS-II: One of the main advantages of having a distributed file system is that the client is only required to know about the data without worrying about where the data is exactly located. This service of fast I/O operations is facilitated by the stargate nodes in Nutanix. I worked on three inter-related projects during my PS-2 on data migration to faster storage tier, error injection to simulate failures in the network cluster and detection of degraded nodes in a distributed network system. I worked on the whole cycle of designing, writing code and testing for all the projects and learnt a great deal about the Nutanix services.

Tool used (Development tools - H/w, S/w): Linux / CentOS 7, C++, Git, Gerrit, Jira, Makefiles.

Objectives of the project: To avoid cascading failures due to fail-slow nodes in the cluster, I worked on extended testing framework for detection, scoring and isolation of degraded nodes.

Major learning outcomes: Hyper converged technology, Advanced C++ concepts, Asynchronous programming model and event driven systems, overall software development cycle.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: While the PS-2 was virtual and we had less chance for interactions, I found the company's culture to be pretty inclusive. Interns are treated as FTEs and everyone in the company including senior executives are always reachable. People here are very supportive and co-operative and make sure that we learnt right. Overall, I found the work culture to be pretty and dynamic and supportive with good learning curves and an inclusive culture for learning together.

Academic courses relevant to the project: Operating systems, Computer architecture (virtual memory), Networking basics.

Name: SHUBHAM JAIN (2017AAPS0283G)

Student write-up

Short summary of work done during PS-II: My team was responsible for maintaining their support portal website, so all my work was web development work. Most of my works included front end development like bug fixes or UI changes or developing new feature / page for the website. Some of backend tasks were also allotted to me like creating a new api and calling it from front-end and database changes.

Tool used (Development tools - H/w, S/w): HTML, CSS, JavaScript, jQuery, ReactJS, SailsJS, MongoDB.

Objectives of the project: Maintain and update the support website of Nutanix.

Major learning outcomes: Learnt about web development (Full Stack) and the tech stack used by the team.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Overall, the work was very good. I was treated as a full time employee and not as an intern. I was given the same kind of work as any other FTE would have been given. And all the tasks were real life problems and not some side project. All our work go to their production website at the end of 2 weeks cycle. My team-mates and manager are humble. They always helped me with any help I wanted however small that might be. My manager gave me smaller and easy tasks in the initial few months so that I could learn properly and build a strong base and later gave me bigger projects.

Academic courses relevant to the project: OOP, DBMS.

PS-II Station: NutriPal Healthcare Pvt. Ltd., – Non-Tech, Ghaziabad

Faculty

Name: Sandeep Kayastha

Student

Name: PRANJAL GAIKWAD (2017A4PS0647G)

Student write-up

Short summary of work done during PS-II: A business analyst is a person who analyzes an organization or business domain and documents its business, processes, or systems, assessing the business model or its integration with technology. Business analyst helps in guiding businesses in improving processes, products, services, and software through data analysis. I joined Nutripal as a business analyst intern under my mentor Rohit Upreti, (co-founder) has been coaching me on each and every small thing, and I am given enough time and resources to gain the knowledge required for my project. I worked on business analytics across experience, performance marketing & CRM charters as a part of the business team. I am using data analytics for analyzing different metrics involved to improve CRM and to provide best experience for the customer's and our coaches, also I worked on the micro-influencer marketing and SEO for Nutripal, so as to generate more leads. Later, I worked on semi automation of Nutripal chat support using Dialogflow and query labelling. In a nutshell, this internship has been an excellent and rewarding experience. I can conclude that there have been a lot I've learnt from my work at Nutripal. Needless to say, the technical aspects of the work I've done are not flawless and could be improved. As someone with no prior experience with Django whatsoever I believe my time spent in research, discovering and actually applying it to do a project was well worth it and contributed to finding an acceptable solution to build a fully functional automated chat support. Working in Nutripal, the two main things that I've learnt the importance of are time-management skills and self-motivation.

Tool used (Development tools - H/w, S/w): Django database, Dialogflow, Excel, SQL.

Objectives of the project: Improvement of customer experience.

Major Learning Outcomes: Advanced excel skills, dialogflow and intent labeling (machine learning), basic Python and Django skills, advanced SQL, got to know some marketing definitions, lead generation and growth cycle, influencer marketing, basic SEO skills, structured problem solving and metric defining.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Being a startup, there is a lot of work for everyone, working culture is good. Since, it is a early startup expecting a good PPO is not possible, due to the pandemic there was very little options to choose.

Academic courses relevant to the project: No

Name: ANUJITH BEERAKAYALA (2017A3PS1202H)

Student write-up

Short summary of work done during PS-II: Frontend development for a coach dashboard and other customer facing tools.

Tool used (Development tools - H/w, S/w): Reactjs, Redux.
Objectives of the project: Learning UI/UX principles and frontend development techniques.

Major learning outcomes: How to do frontend development using ReactJS.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Mentors are extremely helpful. I didnt know anything about frontend development and they gave me time to learn the basics. Very approachable and cleared any doubts I had at anytime in the day.

Academic courses relevant to the project: C programming, OOP.

PS-II Station: Nvidia Graphics - Hardware, Bangalore

Faculty

Name: Brajabandhu Mishra

Student

Name: MAYANK KUMAR (2016B1AA0624G)

Brief write-up on PS-II station: The hardware division of NVIDIA Graphics, Bengaluru deals with architecture, design, development and verification work related to GPUs and SoCs of NVIDIA. The work requires expertise in digital design, VLSI design, architecture modelling of chips, synthesis, low power design, circuit design, place and route of complex VLSI chips. A large chunk of the work at each stage of the chip involve verification and validation. Since, the complexity is very large, entire design and verification process require a lot of automation. Hence, such a work demands expertise in various scripting languages like Unix shell scripting, Perl and Python. Programming languages like verilog, system verilog, system C and C++ are necessary for design and verification of such complex circuits. Knowledge of computer architecture is essential for working in NVIDIA chips. Of course, it is known that the interns may not have expertise in all of the mentioned topics. But it is expected that the interns should be fairly good in digital design, computer architecture, microprocessors, verilog, Unix shell scripting, C++ etc. Knowledge on Python, Perl, system verilog, system C, low power VLSI design will definitely reduce the ramp-up time. Moreover enthusiasm to learn, faster ramp-up, proactiveness, a positive attitude are must have qualities required for the industry.

Student write-up

Short summary of work done during PS-II: This project involved development on such a software tool, an internal command-line interface developed by Nvidia and used in board bring-up to test low-level software on reference boards. It is specifically used for Tegra SoCs in

various phases of its chip development cycle and it allows for extremely low-level analysis by reading processor internal state and outputting it a readable form.

Tool used (Development tools - H/w, S/w): SystemVerilog, C++, Bash, Perl.

Objectives of the project: Complete the assigned tasks to get software to work.

Major learning outcomes: Internal working of Nvidia chip design, verification and validation.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Give very reasonable goals which is easily achievable.

Academic courses relevant to the project: Computer architecture, Embedded systems.

Name: SHENDE VIJAYENDRA DNYANESHWAR (2016B3A30458P)

Student write-up

Short summary of work done during PS-II: The work involved creating a custom automation tool for graphics card power consumption and performance trend estimation. The design should use the onboard sensors to calculate power consumption. The designing involved using various in-house tools and codebases, and creation of the sequencing and automation logic.

Tool used (Development tools - H/w, S/w): In-house tools were used, and Python was used as a coding language.

Objectives of the project: To create some custom automation tools, and to do feature enrichments of the current codebase as and when required.

Major learning outcomes: Implementation basics of electronics and semiconductors, power measurements of a device and coding skills.

Details of papers / patents: NIL

Brief description of working environment, expectations from the company: The working environment is very good, the teams are generally very supportive and everyone listens to your opinion.

Academic courses relevant to the project: None

Name: UTKARSH KEDIA (2016B5A80713P)

Student write-up

Short summary of work done during PS-II: Periodically, a new VBIOS is released for all the relevant GPUs. Before they are released into the market, they are tested in numerous states and the results are checked for any anomaly. It is a manual process that requires significant human involvement. Automating this process can save lots of human resources which can be utilized for more complex tasks. The automation tool is implemented in a client server model because it allows the tool to run parallel tests in different clients (test systems) simultaneously. Finally, an automation tool which takes input through a web application and flashes the GPU to perform an initialization test is functional. The tool was extended to work along with another tool to run tests in windows. It was developed in a client server environment incorporating different memory tests and power measuring capabilities. The complete tool was capable of working on top of a scheduler reducing human involvement significantly.

Tool used (Development tools - H/w, S/w): Python, Django framework, Restful_API.

Objectives of the project: Deploying an automation tool in a client server model which have the following capabilities, automate the VBIOS regression check, automate the running of different memory tests with different release VBIOS, adding power measurement capabilities.

Major learning outcomes: Learnt about scripting, web App development and automation.

Details of papers / patents: N.A.

Brief description of working environment, expectations from the company: The company had a very friendly working environment. There were weekly meets to assess the progress of the project. Plan for the project was laid out on a weekly basis. The expectations were feasible and were conveyed very clearly.

Academic courses relevant to the project: N.A.

Name: SAKSHI AGARWAL (2017A3PS0217P)

Student write-up

Short summary of work done during PS-II: I was part of full-chip verification team and main objective was to provide support in floorsweep verification at fullchip GPU. For that I wrote a script for generic connectivity checker that checks if a signal has same value at two ends of an RTL block. I also enhanced the already present floorsweep connectivity checker script which involved updating the floorsweep verification infrastructure. Apart from these, I also helped in debugging few of the bugs at fullchip.

Tool used (Development tools - H/w, S/w): Verilog, Perl, Python, Unix.

Objectives of the project: As part of full-chip verification team, main objective was to provide support in floorsweep verification at fullchip GPU.

Major learning outcomes: Apart from learning scripting languages like Perl, I understood verification methods better and got a top-level understanding of GPU. I also improved upon soft skills like better communication, time management and planning.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: NVIDIA provides wonderful work environment. Everyone is more than willing to help at any time. They expect you to own your project, be responsible, while helping at any stage required. Constant communication with mentor and manager also ensures that your bandwidth is efficiently utilized and that your work challenges you.

Academic courses relevant to the project: DIgital design, Microprocessors and interfacing.

Name: MAINAK MANDAL (2017A3PS0259P)

Student write-up

Short summary of work done during PS-II: I worked in and was part of the USB hardware team at NVIDIA, which was working on three SoCs simultaneously. The larger domain of my work was in hardware verification. I worked on a UVM testbench for USB verification, and more specifically, I worked on the clocks and resets used by the USB controller. Shortly summarizing, my main work involved adding features used by the clocks, such as clock randomization, to the USB controller verification testbench. The work involved successfully simulating them in the testbench using SystemVerilog and UVM, practically a library of classes that act as a verification methodology. My resets' tasks involved sequencing the resets and simulating their sequence in the testbench as it happens in real life during various scenarios, such as boot-up and during data transfers. One of the other tasks, I had worked with SV Lint, a tool used to enforce coding guidelines and rules to nearly thousands of files that are part of the testbench. My task was to identify and add important-to-have new rules to the testbench and run the tool using a different method as compared to the one previously used, which ended up improving the efficiency of the tool, and thus the code quality of the testbench.

Tool used (Development tools - H/w, S/w): SystemVerilog, UVM, Verissimo SV testbench Linter, Verdi, GitLab, Perforce.

Objectives of the project: To work with the UVM testbench for USB verification, with main focus areas being clocks and resets.

Major learning outcomes: I improved my knowledge and understanding of how hardware verification works, including the need and importance of it. I never had experience of the various tools that I used during the tenure of my PS, so learnt to use all of them was a major learning outcome. In general, I also learnt about the work of other teams, and the latest developments which the company was working on, including the latest GPUs, advancements in AI and supercomputing, and AI on the edge, through their weekly series of lectures, as well as during the initial training sessions.

Details of papers / patents: No papers or patents were published.

Brief description of working environment, expectations from the company: Despite being a fully work-from-home internship this year, the company ensured that I faced no issues due to it. The work environment is one-of-a-kind, where everyone is approachable, be it your own manager, mentor, teammate, or even someone from another team. One is always encouraged to learn more about the tasks that one is completing, rather than just finishing them in a robotic manner without understanding why it is being done. Interns are not treated differently, they usually directly work on whatever the rest of the team is working on, and their work and contributions are also similarly evaluated. If you are really invested in the project, the work will be full of learnings and challenging enough to keep you on your toes all the time.

Academic courses relevant to the project: Digital design, Analog & Digital VLSI design, Object oriented programming, Computer architecture.

Name: KARTIK WARDHAN (2017A3PS0301P)

Student write-up

Short summary of work done during PS-II: The project was aimed at setting up the CDC / RDC verification tool on the NVIDIA CPU project. This involved porting files from older projects, debugging flow errors and documenting the methodology implemented.

Tool used (Development tools - H/w, S/w): Verilog, Perl, Shell scripting, UNIX.

Objectives of the project: To set up the CDC / RDC verification tool for NVIDIA CPU project.

Major learning outcomes: CDC / RDC verification flow, Shell scripting, Perl programming.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Everyone from my team was really helpful and asking questions was encouraged. The interns are given enough time to ramp up on new concepts related to the project. The internship was WFH and we were provided with laptop, headphones and reimbursement for high speed internet.

Academic courses relevant to the project: Computer architecture, Digital design, ADVD.

Name: ABHISHEK TYAGI (2017A3PS0323P)

Student write-up

Short summary of work done during PS-II: As a part of the GPU performance verification team, I was involved in firstly familiarizing myself with GPU architecture. Then, I learnt about the tools

(Nvidia Internal) my team used to run tests / simulations on GPU Chips. I was assigned the work to develop CUDA level benchmarks for testing the performance of various hardware components of Volta and Ampere (architectures) GPU. I designed several libraries centered towards testing each and every aspect and I also created numerous supporting libraries to make the whole project very user friendly. The project involved generating reports and then tweaking our libraries so that we hit the expected performance. I also expanded the whole

processes to include libraries which auto-generate GPU specifications, which the team used to hardcode till then and thus saving manual effort of changing the specifications each time on a new GPU.

Tool used (Development tools - H/w, S/w): CUDA, C++, NsightCompute, NsightSystems, Perforce, Nvidia internal software.

Objectives of the project: To develop CUDA level benchmarks to test performance of various aspects of the GPU.

Major learning outcomes: Learnt GPU architecture, Graphics and compute pipeline, Programming practices in C, C++ and CUDA were improved. I understood how to test all the important aspects of the GPU and also got a good understanding of all the different platforms that Nvidia uses to run tests on different chips. Most of all, I learnt about the importance of teamwork.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Nvidia has a very professional yet a very friendly working environment. My team was extremely helpful and was always there to help me. The energy of your teammates depends on your efforts. With their constant support I was able to finish the main project by mid-November itself and then went on to work on other things. There's always an opportunity to learn, be it in the weekly company wide teaching sessions or the internal team discussions. My manager was extremely understanding and helpful. His feedback helped me understand key points where I needed to improve my project. I learnt a lot in such a short time and I also got to test out my own ability to work, even if the whole internship was online. I couldn't experience the office environment but I still gained a lot. In a nut shell, it's a great place to work.

Academic courses relevant to the project: Computer architecture, Digital design, Microprocessors and interfacing, Computer programming, OOP (optional).

Name: HARSH PANWAR (2017A3PS0490H)

Student write-up

Short summary of work done during PS-II: NLP verification for power gating.

Tool used (Development tools - H/w, S/w): NLP, UPF, Verdi.

Objectives of the project: Help the power gating feature to reduce leakage power.

Major learning outcomes: Got a good understanding of low power features.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment is pretty good. The process was smooth.

Academic courses relevant to the project: Digital design, Computer architecture.

Name: ACHYUTH E M (2017AAPS0235G)

Student write-up

Short summary of work done during PS-II: The work was majorly related to verification of different modules in a GPU memory subsystem. Gate level simulations had to be performed and scripts for that had to be written and run daily as a cron, after ensuring that all the tests pass. Randoms infrastructure for the team had to be updated and a verification infrastructure had to be ported from one module to the other.

Tool used (Development tools - H/w, S/w): NVIDIA propriety tools, Verdi, Perl, C++, Verilog, Perforce.

Objectives of the project: The objective of the project was to implement and clean up gate level simulations for a chip being developed, to update the randoms infrastructure and port a verification architecture from one module to the other.

Major learning outcomes: Writing tests for verifying different features implemented in a module in languages such as Perl, C++ and debugging errors after running the tests in Verdi were the major learning outcomes of the project

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment is very good at NVIDIA and you get to learn a lot in the project you are assigned. All projects given are live and hence, you are expected to deliver the outcomes within a specified time. All the employees are very friendly and approachable and help you out as much as possible. Since, this was a WFH internship, timings weren't that strict and team members are extremely cooperative.

Academic courses relevant to the project: Computer architecture, Digital design, ADVD.

PS-II Station: Nvidia Graphics -Software, Bangalore

Faculty

Name: Brajabandhu Mishra

Student

Name: CHITTINENI SUSMITHA (2016B3A30460P)

Brief write-up on PS-II station: The software division of NVIDIA graphics, Bengaluru deals with architecture, design, development and verification work related to the software solutions for automotive based on NVIDIA chips. The work requires expertise in C & C++ programming, Operating system, Linux internals, Compiler design, Build systems, Computer graphics, Multimedia, Machine learning and Deep learning. Since, the complexity is very large, entire design and verification process require a lot of automation. Hence, such a work demands expertise in various scripting languages like Unix shell scripting, Python etc. Knowledge of computer architecture is also essential. Knowledge of good coding practices, adherence to associated standards and software engineering processes are necessary for building large and complex software like the ones this team develops. Moreover, enthusiasm to learn, faster ramp-up, proactiveness, a positive attitude are must have qualities required for the industry.

Student write-up

Short summary of work done during PS-II: I worked on developing a data mining tool for extracting stats from the GPU performance reports. Re-organized the data schema in the reports to reduce the storage footprint and enhance the performance of the data mining tool.

Tool used (Development tools - H/w, S/w): C++, Linux, Perforce.

Objectives of the project: 1. Develop an end-to-end data mining tool 2. Optimize the Json format GPU performance reports to reduce the storage footprint.

Major learning outcomes: C++, Object oriented design, Linux.
Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The working environment is great and provides good learning oppurtunity. The people are very friendly and helpful. Interns will also be treated as full time employees and will be expected to collaborate with other team members and take help when required.

Academic courses relevant to the project: Object oriented programming, Operating systems, Data structures and algorithms.

Name: SHARAN RANJIT S (2017A8PS0506G)

Student write-up

Short summary of work done during PS-II: Title: To assemble shader from HLSL in trace assembler. To solve the problem, a compiler was integrated to trace assembler flow and invoked dynamically during runtime to compile HLSL and obtain the assembly-level instructions. New assembly level instructions were used to generate trace from trace assembler.

Tool used (Development tools - H/w, S/w): C++, OOP, Perl, Shell.

Objectives of the project: To assemble shader from high-level shading language in trace assembler.

Major learning outcomes: Key concepts of C++ and OOP, Tools used to analyze traces, user callbacks.

Details of papers / patents: No such papers / patents.

Brief description of working environment, expectations from the company: Treated as an equivalent employee, very helpful team and great to work with, work can get stressful sometimes but manageable, lot of opportunity to learn many life skills from the company.
Expectations: Dedicated, getting work done on time, interest towards work and subject, proactive and good communication skills.

Academic courses relevant to the project: C Programming, OOP, Memory management.

PS-II Station: Oracle India Pvt Ltd., Bangalore

Faculty

Name: Akanksha Bharadwaj

Student

Name: CHIRAG KRISHNASWAMY A (2016B4A70752G)

Student write-up

Short summary of work done during PS-II: As part of the Customer Experience (CX) application team, I was tasked with improving application security. The application was hosted on the Oracle Cloud Infrastructure (OCI), that natively came with certain encryption and key management services. I was asked to leverage these services by writing a client module (written in Java using OCI SDK) and integrate it into the CX application. I was also responsible for writing 'Unit Test' and 'Integration Test' modules. The 'Integration Test' module was essentially a Containerised (using Docker) Spring-boot application that acted as a placeholder for the actual CX application. The integration also involved writing automation scripts to provide certain resources in the OCI an Infrastructure-as-Code tool called Terraform. There were some limitations in the existing Terraform provider for OCI. This required me to augment the official OCI provider (written in Go) with the features I needed. Some additional work involved - exploring the Quarkus framework as an alternative to the Spring framework and comparing the two in terms of memory footprint, boot times etc.
Tool used (Development tools - H/w, S/w): Java, SQL, Spring, Quarkus, Maven, Docker, Kubernetes, Go, Terraform, Linux, Git, IntelliJ, SQL developer.

Objectives of the project: Improve cloud application security.

Major learning outcomes: Cloud application development and software development, Object oriented design patterns, Micro-service architecture and RESTful API design.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Well structured guidance is given to the interns. We were enrolled in a week long boot-camp at the start of the internship that helped refresh the basics of Java and SQL, followed by some new tools like Context & Dependency Injection (CDI) frameworks like Spring. All other required tools are project specific and ample time is given to go through its documentation before using it. Throughout the internship, every Friday, we had an 'Intern Assembly' where we were addressed by senior members, from different teams, sharing their experience about working at oracle along with a technical presentation about their teams. Overall, Oracle is an employee friendly company with space for new ideas in every team.

Academic courses relevant to the project: Object oriented programming, Database management system, Computer networks, Operating system, Data structure and algorithms, Cryptography.

Name: DRISHTI MAMTANI (2016B5A70574H)

Student write-up

Short summary of work done during PS-II: I worked with the data science team, CX unity at Oracle, Bangalore. The team was formed in 2019. The work is very good but can be a bit hectic. Each team member is loaded with multiple things and there is a lot to learn. The work involved data engineering and data science. The first project covered APU test automation using Karate framework. This was an independent project and I was able to complete it within a month. This project gave me an in-depth understanding of the data science pipeline used. Next, I worked on the Next Best Offer (NBO) models. As a part of NBO, I did discovery and research on product recommenders and ultimately built four recommender models. These models were integrated into the framework and subsequently went into production after few modifications. I then started working on propensity models that is predicting whether a customer will take a certain action or not. Lastly, I worked on smoke suite tests with the vision of an end to end testing framework for the data science platform. The team is highly experienced and each team member was extremely supportive and helpful. The manager was very friendly and she showed confidence in me for many crucial projects and tasks.

Tool used (Development tools - H/w, S/w): Karate framework, Data science models (SVD, Random forest, LightGBM, Hybrid recommender).

Objectives of the project: API test automation: Automating the data science API calls, verifying the functionality for each call, and generating a report for the same. Next Best Offer: Given the customer data, web events, and product information, build a recommender framework.

Major Learning Outcomes: I developed an understanding of test automation and how important it is for all teams and all companies. Manual testing can be really cumbersome and hence each team focuses on automating it. I also learnt customizing different data science models according to different customer needs. There were many different beautiful data science concepts that I learnt while researching and developing models. One more important thing is that Oracle is not a database company any more. It is shifting rapidly towards the cloud, AI, customer intelligence etc.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work culture depends on the team. There are a large number of teams and the work would completely depend on the team. But everyone is really supportive and even if you need help from a person outside the team, then that person would be more than willing to help you. There are regular intern assemblies to get interns acquainted with different business verticals. As far as my team is concerned, my manager was really very friendly. She always took out time to give me one on one feedback and appreciate my work. She always considered me as a team member rather than an intern. I was assigned a mentor who helped me with the setup, gave me a product overview, and ensured I am comfortable with the projects allocated. I had interactions with the entire team (most of them were data scientists) and each of them was supportive and helpful.

Academic courses relevant to the project: Data science courses to develop a fundamental understanding of data science.

PS-II Station: Oracle India Pvt. Ltd., Hyderabad

Faculty

Name: T Venkateswara Rao

Student

Name: HARSH BHOOT (2016B3A70507P)

Student write-up

Short summary of work done during PS-II: Software development.

Tool used (Development tools - H/w, S/w): Oracle JET, Oracle VBCS, SQL developer, Jira, JDeveloper.

Objectives of the project: Application lifecycle management. is a critical part of software development, especially commercial projects. Fin-Tech tools were developed to aid the Fin-Tech team and in general to improve the software from an ALM perspective.

Major learning outcomes: Learnt a lot of new in house technologies leveraged within Oracle. Some are open source and can be leveraged by anyone.
Details of papers / patents: NA

Brief description of working environment, expectations from the company: The Fin-Tech team is very friendly and helpful. Despite being remote, zoom calls extended well into the night if an issue was encountered on my end. I got all the help required and in the end that was instrumental in achieving what they wanted.

Academic courses relevant to the project: DBMS, DSA, OOP.

Name: SANJEET MALHOTRA (2016B4A70601P)

Student write-up

Short summary of work done during PS-II: I along with my project partner developed an algorithm for detecting implementation exceptions in business entities and warn customers ahead of time regarding the implementations which can lead to potential system crash. Next, I worked on data extraction tool for enabling customers to extract data from SaaS applications for analysis. I developed view objects which will act as a layer on top of tables and will provide customers the flexibility to configure which all columns need to be extracted. These view objects can also be used by internal analytics team to provide customers with reports and data insights based on their data. Both the projects involved learning multiple tools being used by Oracle, for first project I mainly used SQL and APEX (a low code development platform built by Oracle). For second project, I used SQL along with Python for writing scripts for automating initial part of the second project (one can use any language as there was no restriction from their side). Most importantly, in the beginning, we did a technical training in which we were taught how to build a web application from start till the end.

Tool used (Development tools - H/w, S/w): JDeveloper (IDE by Oracle), APEX (low code development platform), SQL developer (IDE for working with SQL by Oracle).

Objectives of the project: The first project was aimed at developing an algorithm to detect implementaion exceptions on customer side. The second project was aimed at developing view objects so that customers as well as internal analytics team can extract data from analysis.

Major learning outcomes: Oracle SQL, Linux shell commands and the way to work on a project being worked upon by multiple developers simultaneously (resolving merge conflicts and pushing your code to central repo). I also got chance to improve my power point skills as here we got chance to present to Vice-President and Director multiple times. Though, being work from home but I still got feel of working in a big corporate company.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment was good and very professional. If we have some doubts we can approach anyone in our team and they will respond whenever they are free. At mid-point, we had a mid evaluation where the self-evaluation form that we submitted to HR few days back was discussed. There other people expect that we will also be as professional as them and will be mindful about the hierarchy. They expect us to be familiar with SQL (this is must as they take this for granted for PS-II student). They also expect the PS-II student to be good at linux shell commands and if we know any programming language then it will be better. They expect us to be familiar with basic version control terminologies and basic git commands. Though, when faced with any difficulty they will readily help.

Academic courses relevant to the project: Database systems, Object oriented programming, Probability and statistics.

Name: YASH SANJEEV BARANWAL (2017A7PS0138G)

Student write-up

Short summary of work done during PS-II: I had two projects. My first project was to build a web app to provide a summary of all the features in the Oracle ERP suite grouped by family and product. I also had to update it with monthly data regarding the number of customers using each feature. For my second project, I had to make a scanner that scans log files to extract exceptions occurring in the automation environments. I had to build REST services to identify top issues and log bugs for the same (I didnt have to fix the bug myself).

Tool used (Development tools - H/w, S/w): Python, Java, Springboot, Flask, Elasticsearch, JavaScript.

Objectives of the project: To help my team (FinTech SRE) efficiently identify issues in the environments.

Major learning outcomes: REST API development, Control flow of applications, Spring Boot apps.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Deadlines are easy to meet and managers are really helpful.

Academic courses relevant to the project: DSA, OOP, DBMS.

Name: SHREYASH CHAUDHARI (2017A7PS0941G)

Student write-up

Short summary of work done during PS-II: Worked on the applications and integrations team of Oracle Eloqua, a B2B automated marketing software. Contributed to the development of applications that customers can use within their automated marketing campaigns, especially those that allow them to integrate the data and take actions on third-party services like salesforce, Facebook, etc.

Tool used (Development tools - H/w, S/w): Languages: Java, Spring Boot, Javascript (React).
Objectives of the project: Work on Eloqua release 21A, primarily on the changes to the salesforce app.

Major learning outcomes: Learnt in depth about automated marketing software and the mechanics of its different components, including how they integrate with one another to produce cohesive marketing campaigns. Added additional functionality to apps and learnt their overall architecture within Eloqua. Worked on enterprise-level codebases with considerable complexity and learnt to navigate and debug where required. Also, learnt to use the tools needed for work

on large applications in large teams like detailed VCS, build / deployment, log maintenance and search, agile story management. Worked directly as a part of a scrum team following proper agile
development methodologies. Handled some customer issues with immediate impact, as well as having my code being pushed into production with every release.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Team was very communicative and willing to entertain questions of any kind, as well as assist when | required help moving forward. Being in an agile team with set sprint durations, deadlines were clear but not too hectic as an intern, with plenty of flexibility and collaboration where required.

Academic courses relevant to the project: Object oriented programming, Data structures and algorithms, Database systems.

PS-II Station: Oyla Inc., California

Faculty

Name: Rejesh N A

Student

Name: V V N PRIYANKA (2017AAPS0343H)

Student write-up

Short summary of work done during PS-II: I worked on different domains. Initially, during the first month, I was given a task of overlaying a video on google map at a specified location.

Google maps inherently didn't provide the feature. During the next 2 months, I was given work related to Robot Operating System (ROS) and ROS data visualizer, Webviz. I had to make a ROS bag file out of raw point cloud data and visualize it in Webviz. Later, I was asked to do live streaming of video from server computer's camera to client computer using ROS and Webviz. At the end, I was given a ML task. I needed to convert a encoder-decoder architecture based semantic segmenter to an object detector by changing the decoder of the original. I did some image annotations too. Most of the tasks were exploratory and required a lot of research because not much help was available on the net.

Tool used (Development tools - H/w, S/w): Python, JavaScript, Google maps, Leaflet, Open street map, Bokeh, ESRI, Pytorch, Caffe, Labelimg.

Objectives of the project: Contributing to the product development of the company.

Major Learning Outcomes: I learnt ROS in depth, RGB-D images and PointClouds, Came to know various libraries in Java script, learnt React.js and node.js, ML encoder-decoder concepts client-server architecture in networking.

Details of papers / patents: None.

Brief description of working environment, expectations from the company: My mentors were pretty understanding. Knew the work was very much research based and didn't put tight deadlines. Work and deadlines were flexible and even though the work was tough for an undergraduate, I didn't feel the stress. It was purely work from home. I can say I had a really good experience here. I also learnt a lot.

Academic courses relevant to the project: OOPS, ML, OS.

PS-II Station: Pepper Content Pvt. Ltd., Mumbai

Faculty

Name: Ankur Pachauri

Student

Name: BONAGIRI SAI PUNEETH (2017A7PS0013H)

Student write-up

Short summary of work done during PS-II: When we visit popular websites with their exciting user interfaces, there are also a lot of things that go on in the backend. This project describes web application development from the backend perspective. This project is about server-side development. The language used for this is JavaScript and using NODE JS as an open source server environment. It describes creating REST APIs and its endpoints. There is also use of database management to obtain and store user data. We send the user set of questions and evaluate based on answers provided by the user to those questions. Our second project is testing the backend portal using Jest. The project area is web development.

Tool used (Development tools - H/w, S/w): Node.js, Javascript, Jest.

Objectives of the project: Creating APIs and testing.

Major learning outcomes: Learnt JS,Testing.

Details of papers / patents: None

Brief description of working environment, expectations from the company: We are thankful for their aspiring guidance, invaluably constructive criticism and friendly advice during the project work. We are sincerely grateful to them for sharing their truthful and illuminating views on several issues related to the project and imparting valuable knowledge in the domain of software development. There were daily meets and chill sessions on fridays and the work culture was really helpful.

Academic courses relevant to the project: DSA, Software engineering, OOPS.

PS-II Station: Perfios Software Solutions Pvt. Ltd., Bangalore

Faculty

Name: Ashish Narang

Student

Name: MADHAV SASIKUMAR (2016B5A70479G)

Student write-up

Short summary of work done during PS-II: The work was in the field of image processing. Our work basically involved image manipulation techniques, especially feature detection in images to get the area of the document with textual content. And artificially adding noise to image to train neural networks, also some techniques involving denoising images as well.

Tool used (Development tools - H/w, S/w): Python, Google collab.

Objectives of the project: Methods to denoise and manipulate image.

Major learning outcomes: Image processing, Neural networks.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Work form home, we use online computers to do some of the work, it was a bit clunky, afterwards personal laptops were used.

Academic courses relevant to the project: None that I took, but there is an image processing course as far as I know.

Name: SAYAPPARAJU KARTHIK SATYA VISHAL VARMA (2017A7PS0088G)

Student write-up

Short summary of work done during PS-II: The project comes under the subsection of data extraction automation, where we digitize documents, and extract data from it. The current project is oriented towards, table identification, structure extraction and data extraction. We first prepare the training data, by segregating them to bordered and unbordered, and marking their rows and columns. We use this to train a Convolutional Neural Network (CNN) which will later be used to identify and categorise tables, this data is post processed to identify the table structure, bounding box around the data, and finally, we use OCR to identify and store / process the information as necessary.

Tool used (Development tools - H/w, S/w): Google colab.

Objectives of the project: Table detection, Structure recognition.

Major learning outcomes: Introduction to image processing, Sophisticated deep learning techniques.

Details of papers / patents: None

Brief description of working environment, expectations from the company: We are having meetings everyday with our mentors in the company. They are hosting some informative sessions to train us. Overall, since our ps is work from home, the experience has been great. They were friendly with us and were ready to clear our doubts anytime.

Academic courses relevant to the project: Machine learning, Foundations of data science.

PS-II Station: Petasense - Services & App Development, Bangalore

Faculty

Name: Raja Vadhana P

Student

Name: UTKARSH VERMA (2016B1A70893P)

Student write-up

Short summary of work done during PS-II: In any application that is developed, there are bound to be flaws and irregularities that may not be realized at the time of creation and may cause a lot of damage and inconvenience. For this reason, testing these applications is very important so that these bugs are identified and removed. At Petasense Tech., there was a task of writing test cases for the frontend which is one of their applications which is an important part of their web application. This task was accomplished by writing test cases using Cucumber / Gherkin syntax in Javascript. These tests not only help in removing bugs but also make sure that the existing functionality is not disturbed when a new feature is introduced in the code. Along with the testing task, I have been assigned the project regarding device emulation. This would be used by development teams to better develop and test their features on near-real virtual devices.

Tool used (Development tools - H/w, S/w): Python, Javascript, PostgreSQL, SQLite.

Objectives of the project: To create a device emulation layer that will empower the development team to better develop and test their solutions with near-real device experience.

Major learning outcomes: Root causing bugs, writing production-ready code, communication within a team.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: This internship has certainly increased my team work capabilities as well as respecting the ideas and innovations of the teammates. Everyone encouraged me to try something new everyday and in the process add new knowledge and skills to my arsenal. Participating daily in team meetings, discussing the project helped me to attain the faith of never giving up attitude and keep working towards the goal.

Academic courses relevant to the project: DSA, OOP, Database systems.

Name: RAJAT GUPTA (2016B3A70394G)

Student write-up

Short summary of work done during PS-II: Made improvements in the firmware update framework of the Petasense smart sensors. Added features in the tech stack which allowed the admin for better monitoring of the firmware deployments.

Tool used (Development tools - H/w, S/w): Flask, Celery, Mbed OS.

Objectives of the project: Improvements in the firmware update framework for petasense next generation devices.

Major learning outcomes: Understood the working of cloud based application and how communication happens between IoT devices and cloud.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Given the less working strength, the amount of interaction with other developers and manager was high, which provided with plentiful of insights and advice from experienced developers in the industry. Also, priority was given in doing things the right way rather than just delivering them. Everyone at the company was approachable and someone was always available to help in case any blockers were faced in the course of work.

Academic courses relevant to the project: Embedded system, Network programming, OS.

PS-II Station: Petasense Technologies Pvt. Ltd., Hyderabad

Faculty

Name: Raja Vadhana P

Student

Name: DOSAPATI SRI HARSHITH (2017AAPS0434H)

Student write-up

Short summary of work done during PS-II: Designed and developed front-end and back-end to collect third party sensor data. Coded for the APIs and wrote functional tests. Implemented a task to periodically collect relevant data and upload it to the GCP buckets created using the APIs. Wrote a python client to fetch data from the buckets. Developed front-end to ensure the integration.

Tool used (Development tools - H/w, S/w): Flask, React, Redux, Celery, SQLAlchemy.

Objectives of the project: To ensure end to end integration of data, prevent data loss, stop exposing company APIs to third party servers.

Major learning outcomes: Creating APIs, using SQL Alchemy for database interaction, front End using React and Redux.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment is very good. Though it's work from home, there are daily meetings to make sure everyone is on track. The mentors and everyone in the team are very supportive. We can approach any of them when facing any issue. They put extra efforts to make sure the interns are delivering what's expected of them and also learning simultaneously while working.

Academic courses relevant to the project: Computer programming, Data structures and algorithms, Object oriented programming.

PS-II Station: PharmEasy, Bangalore

Faculty

Name: Ankur Pachauri

Student

Name: SUDHANSHU (2016B4AA0324G)

Student write-up

Short summary of work done during PS-II: Shifted an application on Redis to Apache kafka both being used as message queues. Added several functionalities to a Ruby on rails application like filtering and integrated the app with funnel service.

Tool used (Development tools - H/w, S/w): Flask, Apache kafka, Kafka python, Ruby on rails, Query.

Objectives of the project: Shift the app from Redis to kafka so that the data is more secure and make the rails application more user friendly

Major learning outcomes: Learnt about message queuing, Python development, got familiar with Rails framework and Javascript also worked with large databases.

Details of papers / patents: No papers

Brief description of working environment, expectations from the company: Good working environment friendly team members working on latest tect good learning opportunity.

Academic courses relevant to the project: OOP, DBMS, DSA.

Name: DHRUV MODI (2017A3PS0319P)

Student write-up

Short summary of work done during PS-II: Developed wrappers for concurrency and caching. Desgined and developed APIs to aid the search and advertising components at Pharmeasy website, android app and the Ios app.

Tool used (Development tools - H/w, S/w): Goland IDE, Bitbucket, Postman, New Relic, Elastic APM.

Objectives of the project: Desgin and development of Rest APIs in golang.

Major learning outcomes: Backend development in goland, Rest API design and development.

Details of papers / patents: none

Brief description of working environment, expectations from the company: Flat hierarchy in company fun to work, supportive mentors and colleagues.

Academic courses relevant to the project: OOP, OS, DSA.

Name: RAHUL PANJWANI (2017A3PS0591H)

Student write-up

Short summary of work done during PS-II: Development of data profiler in the data platform team of PharmEasy to check inconsistency in data during big data transformations.

Tool used (Development tools - H/w, S/w): Dropwizard, Java, MySQL.

Objectives of the project: Development of data profiler.

Major learning outcomes: Backend development.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Very good culture, very helpful mentors.

Academic courses relevant to the project: Data structures and algorithms, Object oriented programming, Operating systems, Database management systems etc.

Name: TANYA KHERA (2017AAPS0299G)

Student write-up

Short summary of work done during PS-II: Various projects in front-end web development including API integration, made using React, CSS, Reduxsauce for state integration, also employed various JavaScript functions in places.

Tool used (Development tools - H/w, S/w): React, CSS, Redux, Reduxsauce, JavaScript, Chrome for rendering.

Objectives of the project: Developing the front-end for various features for the Retailio web platform.

Major learning outcomes: React, CSS, Redux, extensive experience with front-end development on a web platform.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: All my seniors were very approachable, helpful, and friendly. I got to do substantial work as part of my internship.

Academic courses relevant to the project: Object oriented programming, Communication networks.

PS-II Station: Pilani AtmaNirbhar Resource Center (PARC), Pilani

Faculty

Name: Mohammad Saleem J Bagewadi

Student

Name: UNJAN SAMTANI (2017A1PS0402G)

Student write-up

Short summary of work done during PS-II:

Tool used (Development tools - H/w, S/w): LinkedIn helper tool, Microsoft Excel, Microsoft PowerPoint, Zoho creator, SEO tools.

Objectives of the project: Stakeholder mangement, SEO, Database building, Software selection.

Major learning outcomes: Learnt to document findings, research work & SEO techniques.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Working environment is good, very helpful mentors.

Academic courses relevant to the project: CP, OOP, DSA.

PS-II Station: Pixcy - Computer Vision, Bangalore

Faculty

Name: Rejesh N A

Student

Name: ILLA DURGA VARA SIVA TEJA (2017A3PS0570H)

Student write-up

Short summary of work done during PS-II: As a part of my intern at Picxy.com, my major work entailed to categorization of images, for which my I used machine learning in tensor flow framework. In addition to this, improved the current search engine, which could now remove stop words and try to find the context of the query and retrieve images.

Tool used (Development tools - H/w, S/w): ElasticSearch, Kibana, Python, Jupyter notebook (Python and Pandas).

Objectives of the project: The main objective was to provide more automation to the team, thus leading to the elimination of redundant tasks and reducing manual time in identifying borders of images, extracting main phrases from image titles and improving search engine.

Major learning outcomes: Deploying projects into production, writing efficient and working code.

Details of papers / patents: No papers or patents were pursued in the course of this internship.

Brief description of working environment, expectations from the company: The company provide flexible working hours, working directly with experienced people help to get knowledge / insights from their experiences.The companies environment is such that the interaction between various teams and the functioning of the teams being inter-dependent helped greatly in strengthening my knowledge on how different teams operates.

Academic courses relevant to the project: Digital image processing, Information retrival, Computer programming, OOPS.

PS-II Station: Pixcy - Marketing Designing, Bangalore

Faculty

Name: Rejesh N A

Student

Name: M ABHIJIT (2017ABPS0343P)

Student write-up

Short summary of work done during PS-II: Created content for blogs and social media catering to needs of both contributors and clients, provided customer support utilizing the freshdesk software, learnt market research and social media marketing as a part of the internship.

Tool used (Development tools - H/w, S/w): Nil

Objectives of the project: Write content for blogs and provide customer suppot.

Major learning outcomes: Marketing content writing and customer support.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Its a growing company in a niche business and has been endowed with top professionals in the field. The

work environment is sincere and casual. There are lot of responsibilities available and the tech domain has good projects like app building and search engine.

Academic courses relevant to the project: Digital marketing.

PS-II Station: Pixcy, Bangalore

Faculty

Name: Rejesh N A

Student

Name: SANCHAY JAIN (2016B5A80712P)

Student write-up

Short summary of work done during PS-II: Developed and deployed the Picxy App on play store.

Tool used (Development tools - H/w, S/w): React native, Android studio, VS code, Nodejs.

Objectives of the project: To develop the contributors mobile App for Picxy using react native.

Major learning outcomes: React native, mobile App development, using open source libraries.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Work from home, company gave a design and we had to follow that. The team was pretty friendly with weekly updates.

Academic courses relevant to the project: Computer programming, OOP.

PS-II Station: Pixxel (Syzygy Space Technologies Pvt. Ltd.,), Bangalore

Faculty

Name: Lucy J. Gudino

Student

Name: JASPREET KAUR PAWA (2016B1A30902P)

Student write-up

Short summary of work done during PS-II: Development of software tools for energy balance analysis and thermal power control in Simulink, circuit design and conversion to PCB layout.

Tool used (Development tools - H/w, S/w): Simulink, Matlab, Cadence capture CIS, PSpice, LTSpice.

Objectives of the project: 1. Electrical power subsytem and interface circuitry design 2. Develop software tools for energy balance analysis and thermal power control in Simulink 3. Circuit design and conversion to PCB layout for current sensing and thermal sensor interfaces.

Major learning outcomes: Exposure and full-time work on Cadence software via license purchased by the company, studying literature, whitepapers, datasheets, component selection,

cross-subsystem team interactions, understanding system requirements and incorporate that into hardware design.

Details of papers / patents: No research work done here.

Brief description of working environment, expectations from the company: My time at Pixxel was completely remote. I was assigned a mentor, and had direct interactions with at least once a day over Zoom. Aside from that, you are encouraged to participate in company-wide discussions and reviews. You are treated equivalent to a full-time engineer and are given responsibilities that affect the microsatellite hardware design. The company has a flat hierarchy, all content and documents is accessible to all interns, teammates are approachable and clarify doubts, and you are encouraged to contribute to other subsystem work as well, according to your interest.

Academic courses relevant to the project: Power electronics, Analog electronics, Analog & digital VLSI design.

Name: SHANTANU NIGAM (2017A8PS0399P)

Student write-up

Short summary of work done during PS-II: I was assigned the task of implementing an image compression algorithm on FPGA (digital electronics project domain). This algorithm will go into satellite to compress hyperspectral images. I worked towards writing HDL codes, product survey and software implementation in Matlab to tune variable parameters. I was finally able to conclude the PS duration with a working Compressor core. Synthesis, placement and routing, bitstream generation to program the FPGA etc was not done in the stipulated time duration. Just behavioral simulation was finished.

Tool used (Development tools - H/w, S/w): Matlab, ModelSim, Vivado.

Objectives of the project: To develop an image compression core which is compliant with the CCSDS 123 B2 standard and deploy it on FPGA.

Major learning outcomes: Learnt about Hyperspectral imaging, the need for it and the market for SmallSats, resource optimization in FPGAs and product selection. Learnt about image compression algorithms, entropy encoding schemes, many Telemetry and Telecommand standards in space satellites. Software usage included ModelSim and Vivado, along with Verilog and SystemVerilog languages were learnt.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Working environment is very healthy and supportive. Company follows a flat hierarchy; we can very easily talk to anyone at any level of seniority. Meets were scheduled as and when required. Work assigned was independent to certain extent allowing you to work at your comfort zone and time. Mentor had very good and commanding knowledge in the field. Creative freedom was given. Was given chance to represent company at various levels, like when in talk with other companies, talking to vendors etc. All in all, great work environment.

Academic courses relevant to the project: Digital design, Computer architecture, ADVD.

PS-II Station: Plastic Water Labs, Hyderabad

Faculty

Name: Shree Prasad Maruthi

Student

Name: GURNOOR SINGH (2016B2A40813P)

Student write-up

Short summary of work done during PS-II: Designed and developed an educational augmented reality mobile application based on laboratory experiments for design & manufacturing students keeping in mind the learning outcomes and user experience. Worked with unity, AR foundation and scripting with C# to create the application.

Tool used (Development tools - H/w, S/w): Unity, AR foundation, C#.

Objectives of the project: Developing an AR mobile application based on laboratory experiments.

Major learning outcomes: Unity development, C# scripting, UI design and App development.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The company will expect you to be independent and take responsibility for the project, the learning experience is good if you're interested in the AR field and want a hands-on experience with unity development.

Academic courses relevant to the project: Computer programming.

Name: NAVNEET RAGHUNATH (2017A3PS1902G)

Student write-up

Short summary of work done during PS-II: The PS2 involved creating an augmented reality based application for college laboratory experiments. AR being an immersive technology enables students to perform real time experiments at the comfort of their homes without a compromise on quality of learning. We worked as a team of 3 to develop two such experiments to explain electromagnetism and electrical circuits.

Tool used (Development tools - H/w, S/w): Unity 3D, C#.

Objectives of the project: The main objectives of the project was to develop AR based laboratory experiments for students.

Major learning outcomes: Leant unity 3D as well as use of AR for education and teaching.

Details of papers / patents: No papers / patents published.

Brief description of working environment, expectations from the company: The working environment involved a lot of independent work. Being a work from home internship, it also led to limited interaction with employees of the company.

Academic courses relevant to the project: No relevant courses

PS-II Station: PM School (Absorb Technologies Pvt. Ltd.,) Non-Tech, Mumbai

Faculty

Name: Manoj Subhash Kakade

Student

Name: LIKITHA MADALA (2017A5PS1099P)

Student write-up

Short summary of work done during PS-II: As an acquisition intern, my daily responsibilities included calling and reaching out to interested people who have filled the application form. After

a series of 3-4 calls, interested students pay the fee and convert for the program. Also, I employed different digital marketing techniques to increase the community outreach of PM school. The techniques include Email marketing, Info graphic marketing etc.

Tool used (Development tools - H/w, S/w): MS Excel, MS PowerPoint, Hubspot (CRM software).

Objectives of the project: To fill the training cohorts of PM school by calling and reaching out to interested candidates.

Major learning outcomes: I improved my presentation and oratory skills and I also learnt to present data professionally through advanced Microsoft Excel and Microsoft PowerPoint.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The founders of PM school are BITS alumni and are willing to help out in-case there is any difficulty. They will mentor and guide throughout the project.

Academic courses relevant to the project: N/A

PS-II Station: Process 9 - Neural Machine Translation, Gurgaon

Faculty

Name: Pradheep Kumar K

Student

Name: SIDDHARTH TRIPATHI (2017ABPS0348P)

Student write-up

Short summary of work done during PS-II: I was responsible for development and optimization of web crawler to scrape all the translatable text from the website and produce clean data for accurate machine translations.

Tool used (Development tools - H/w, S/w): C#, Selenium webdriver, OOP.

Objectives of the project: To develop a efficient and accurate web crawler.

Major learning outcomes: I learnt about different programming concepts like OOP, and DSA. I also learnt how to write, optimise and finetune an algorithm.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The company expected us to work efficiently and meet our deadlines. They were very supportive and guided us whenever we needed help from them. The higher officials of the company were also very supportive and gave feedback on our performance.

Academic courses relevant to the project: Academic courses relevant to the project were DSA and OOP.

PS-II Station: Pushstart Media Network Pvt. Ltd., Mumbai

Faculty

Name: Manoj Subhash Kakade

Student

Name: SHAH AAYUSH JAYESH (2017A4PS0536G)

Student write-up

Short summary of work done during PS-II: Community Manager - Managed the community of 20K+ entreprenuers, startup founders and business owners.

Tool used (Development tools - H/w, S/w): None

Objectives of the project: Manage the community, control end to end operations, drive goal of 200% account growth of social media channels.

Major learning outcomes: Networking - How to maintain professional relationships, community management.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Remote, "WFH" model. Various functions like community management, social media marketing, content creation, networking.

Academic courses relevant to the project: None

PS-II Station: Qubole, Bangalore

Faculty

Name: Uma Maheswari N

Student

Name: AKUL GUPTA (2016B3A70298G)

Student write-up

Short summary of work done during PS-II: I interned in the admin team. This team mostly takes care of the administrative responsibilities like account creation, account updating, assigning roles, policies and editions for accounts etc. My work involved backend development of qubole interface. My work was majorly on the improvements of feature rollout tool and internal APIs related to it.

Tool used (Development tools - H/w, S/w): Ruby on Rails, HTML, CSS, Ember.js, Python3, Postman, Git, Jira, Sequel Pro.

Objectives of the project: API development, code refactoring.

Major learning outcomes: Understood how the real industry works and learnt how to write an industry level code.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The work environment here is very friendly. People are very helpful. As an intern, I think people had the right approach towards my expectations. But even though as an intern, your opinions are taken seriously and thought over before taking a step in doing something.

Academic courses relevant to the project: DSA, OOP, DBMS.

Name: SARTHAK GOEL (2016B3A70334G)

Student write-up

Short summary of work done during PS-II: Web development using Ruby on Rails, worked on several tasks and projects.

Tool used (Development tools - H/w, S/w): Ruby on Rails.

Objectives of the project: API development, Frontend development, Backend tasks involving storage management.

Major learning outcomes: Development knowledge, Ruby on Rails, API development knowledge.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Amazing work culture, great peers, great guidance.

Academic courses relevant to the project: DSA, DBMS, OOP.

Name: UPPARA HARSHASRI (2017A7PS0204H)

Student write-up

Short summary of work done during PS-II: The work done by me was related to testing the stability of the clusters. Whenever there are some changes done to the repositories, it has to go through the testing phase in the final part of development process and it is essential for the cluster system to function properly.

Tool used (Development tools - H/w, S/w): Git, Jenkins, AWS services, Pytest, Postman.

Objectives of the project: To develop efficient testing framework that can test working of a cluster in short time.

Major learning outcomes: Learnt a great deal about cluster management, and various phases involved in the production and testing of a framework of clusters.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Qubole mainly deals with the big data analytics. It has self-service platform built on aws, azure and gcp. There are several teams and each team coordinates with other teams to finally create a working product. The company expects the team to come up with new ideas to integrate the work between teams better.

Academic courses relevant to the project: DBMS (sql queries), Python programming.

PS-II Station: Quintessential Design, Hyderabad

Faculty

Name: Saikishor Jangiti

Student

Name: VARGHESE MANNAMPALLI (2016B4A70176G)

Student write-up

Short summary of work done during PS-II: Quintessential design is a small start up that designs and manufactures smart helmets for motorcycle riders and for sports such as equestrian and climbing. These helmets have features such as crash detection and intercommunication between riders. To support critical features such as crash detection, highly accurate classification algorithms are required to detect crashed and other vehicle failures using sensors mounted on the helmet. My task at the company was to write a classification algorithm that detects various types of movement in All-Terrain Vehicles (ATVs) in order for competitive riders to analyse their movement and also so that a vehicle crash can be detected and an SOS signal can be sent out. The company also has projects for software development of their accompanying Apps.

Tool used (Development tools - H/w, S/w): I used the Python programming and the keras library. The final model was an LSTM model.

Objectives of the project: Designing an algorithm to classify the movement of an All-Terrain vehicle.

Major learning outcomes: I learnt how to create an LSTM model using time series data. I also learnt how to label unlabeled data using physics models from the inertial measurement unit data of the vehicle.

Details of papers / patents: There were no papers published. The product might be patented before manufacture but it is too early to tell.

Brief description of working environment, expectations from the company: Since, it is a small company my colleagues were jovial. I had a very early meeting with the founders of the startup. They sook to integrate me into other tasks by asking me questions about the design, asking me to test the app created etc. However, since I was working remotely there were issues with communication and data transfer that made it difficult to work at a good pace.

Academic courses relevant to the project: Machine learning, Neural networks.

PS-II Station: ReferralYogi Technologies Pvt. Ltd., Chennai

Faculty

Name: Akshaya G

Student

Name: JUNUTHULA SATYA SRI VIRINCHI (2017A4PS0652G)

Student write-up

Short summary of work done during PS-II: Building an interface where one can build chatbots in whatsapp for their respective small businesses. The website is built using Ruby on Rails. Along with it, chatbots were built using Google dialogflow and some of them were integrated in websites and some were integrated with google assistant.

Tool used (Development tools - H/w, S/w): Ruby on Rails, Google dialogflow, Action on google console, HTML, CSS, Javascript.

Objectives of the project: To build an interface for whatsapp chatbot builder.

Major learning outcomes: Building websites, creating various chatbots, putting the chatbots created into the production.

Details of papers / patents: No patents

Brief description of working environment, expectations from the company: Very friendly environment and stress free. Only few members are in the company. So can be close with everyone and everyone is willing to help at any time.

Academic courses relevant to the project: Web development.

PS-II Station: Reflexis Systems India Pvt. Ltd., Pune

Faculty

Name: Vijayalakshmi Anand

Student

Name: SHIKHAR SAHU (2016B1A80632G)

Student write-up

Short summary of work done during PS-II: I was assigned the RWS mobility team which is the App development team. Worked on developing client side face recognition and anti spoofing features for Android applications. Some short research projects were also given.

Tool used (Development tools - H/w, S/w): Python, Java, Android studio.

Objectives of the project: Implementing new face recognition features for mobile Apps.

Major learning outcomes: Learnt to work on a big project with many team members remotely and also new technologies and how they are used in the industry.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Working environment was really relaxed. It also helped that the full course of the internship was work from home. The team and mentors were very helpful and there was no pressure as such.

Academic courses relevant to the project: Object oriented programming, Digital image processing.

Name: JAYESH NARAYAN (2016B1A80928P)

Student write-up

Short summary of work done during PS-II: Frontend web development using React, Redux and related Javascript libraries such as Material-UI, Formik, Yup, Axios, etc. I had to develop new functionalities for an already existing application for managing retailing operations, stores and the like.

Tool used (Development tools - H/w, S/w): Javascript 6, React framework, Redux, VS Code, other popular JS libraries.

Objectives of the project: Developing a web application.

Major learning outcomes: Frontend web development, Team collaboration.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: PS-2 was WFH for the entire duration. We were expected to work 40 hours a week, however it was the results that they focused on, not the time we spent working on it. The team culture was good and they encouraged learning things well before starting out with actual work. The company just expected good work ethics and that we learn something out of the whole experience.

Academic courses relevant to the project: Computer programming, Computer networks.

Name: PRANAV JHAWER (2016B2A30663H)

Student write-up

Short summary of work done during PS-II: The work was based on using the IBM Cognos software to generate reports and using Javascript to add functionalities to those report. The task required writing SQL queries to fetch data from the company's database. The implementation of buttons to the report was done using React and Javascript.

Tool used (Development tools - H/w, S/w): IBM Cognos, MongoDB, HTML, Javascript, React.

Objectives of the project: 1) Improving the UI of the Cognos interface 2) Working with Cognos and fetching data from database.

Major learning outcomes: 1. Making a responsive drill down report.
2. Translation were pushed to a new Cognos report to be sent to pre-production.
3. Included a back button to the drilldown report.
4. Changing the buttons UI and conversion of parts code from JavaScript to React.

Details of papers / patents: NIL

Brief description of working environment, expectations from the company: The working environment was good, the team was helpful. Daily meetings helped fill the gap of working onsite. Cutting edge technologies were introduced giving ample learning opportunities. Appreciation by manager and team head kept the team motivated.

Academic courses relevant to the project: DBMS, Software engineering.

Name: RACHIT RASTOGI (2016B3A80358G)

Student write-up

Short summary of work done during PS-II: I worked on machine learning projects which included automating the process of feature selection in an ML model. I also worked on Bayesian optimization as an alternative to gridsearchcv for hyperparameter tuning. In backend development, I created a feature of exception logging in the database. For this purpose, I exposed Git APIs and tested the same. Lastly, I also built DNN models and tested the role of different optimisers on the performance of the model.

Tool used (Development tools - H/w, S/w): Python, Machine learning, Java, Spring, Tensorflow.

Objectives of the project: To automate the process of feature selection; To reduce run time of hyperparameter tuning with Bayesian optimization; To incorporate exception logging in the database.

Major learning outcomes: Fluency in machine learning and backend development.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The manager and the mentors are all very supportive and allow us to take our time to learn. They have decent projects and one can get a good idea of how software development takes place.

Academic courses relevant to the project: No

PS-II Station: Reild Residential Properties Pvt. Ltd., Hyderabad

Faculty

Name: Ramakrishna Dantu

Student

Name: SASHANK GUNDA (2016B1A80957H)

Student write-up

Short summary of work done during PS-II: Learnt Angular and was able to create and manage a portal for the company's customer, where customers were able to add, sell and edit properties and hierarchical user layout and views.

Tool used (Development tools - H/w, S/w): S/W - Visual studio code, Angular, Node JS, Git, Mocha, Jasmine, Chrome and Postman.

Objectives of the project: Creating enterprise web App portal.

Major learning outcomes: Teamwork, Web development, Time and resource management.

Details of papers / patents: Not Applicable

Brief description of working environment, expectations from the company: It is a small team of people in a startup named assetmonk. The work environment was really friendly and it was a good experience for a beginner.

Academic courses relevant to the project: DSA, OOPS, DBMS.

Name: AVIGYAN DASGUPTA (2017AAPS0328G)

Student write-up

Short summary of work done during PS-II: Web portals were designed to fulfil different functionalities - a switch to digital mode of operation. Worked as a backend developer using NodeJs and MongoDB. Used Amazon s3 cloud (AWS) for file uploads. Used Mocha and Chai

for unit testing. Worked with Git shared modules and branches in the repositories. Used JIRA tool for task updates and issue resolving. Developed real time chat system, notification generation across portals, with Email and SMS integration, along with scheduling feature.

Tool used (Development tools - H/w, S/w): S/w - Javascript, NodeJS, ExpressJS, RestAPI, Mocha, Chai, MongoDB, Git Bash, Jira, AWS.

Objectives of the project: To develop webapp portals for assetmonk.

Major learning outcomes: Learnt new technologies, experience in working as a team, web development, testing, gained experience in time, resource and work management.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Assetmonk, the branch under Incor group, where we worked is a small startup within the larger company, which functions in a non-hierarchical structure. Extremely helpful colleagues and seniors. Moderate work pressure, reasonable deadlines, everyone approachable for guidance at every point. Freedom to explore and innovate.

Academic courses relevant to the project: OOPS and DBMS.

Name: SUMANTH N (2017AAPS0445H)

Student write-up

Short summary of work done during PS-II: I got the opportunity to work closely with the company's COO along with the asset management team on building an 'ERP' platform that can facilitate all the stakeholders of real estate investment project. Initially, my work involved gaining the industry expertise in the real estate space. Later on, I had to interact with the legal team, finance team, and the sales team and list out all the issues faced by the members during the project pipe-line. In addition, I developed a framework that could solve each and every existing

problem at one place for every division. This framework would also help the organization in enhancing the efficiency since multiple teams could access the portal and be able to collaborate with each other on a single interface. In addition, the platform would also promote transparency among the divisions which is of paramount importance to the organization.
Tool used (Development tools - H/w, S/w): MS Excel, VBA, Python.

Objectives of the project: Build a project and resource management portal for the company.

Major learning outcomes: Understood the importance of transparency among different teams during the project management.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Each and every employee was very co-operative in solving my queries even though I don't belong to their department. Although, the pandemic situation challenged the organization to manage the PS-2 program remotely, they remarkably handled the situation and made themselves available to reach out for any kind of issues. The senior management of the company treated each and every student as a colleague and constantly requested the students for feedback to make the working environment even better. The company even gave the option to work on-site for the students. Hence, the overall working experience with the company is both productive and enjoyable.

Academic courses relevant to the project: Business analysis and valuation, FRAM, SAPM.

PS-II Station: Resolvity Inc., Texas

Faculty

Name: Rekha A

Brief write-up on PS-II station: Resolvity works in the filed of speech recognition, AI etc. Students are involved in projects like developing IVR applications on AWS lambda, QA testing, App surveying, speech recognition etc.

Student

Name: ADITYA SAXENA (2017A7PS0166P)

Student write-up

Short summary of work done during PS-II: 1. Developed a state-based configurable IVR application using Voicegain's RTC callback API that interprets custom bot sequence flow definitions. The web application is built using AWS technologies and performs all regular call functions and simulates presence of a human on the callee side. The application reuses the same code for running all types of voice-bots with the specifications in a state-machine diagram description.
2. Re-designed the existing socket based open-source uniMRCP plug-in for communication with the voicegain recognizer by enabling gRPC stub based streaming of messages between the client application and the voicegain recognizer server.

Tool used (Development tools - H/w, S/w): AWS Lambda, AWS S3, AWS API Gateway, gRPC.

Objectives of the project: 1. To develop sample RTC applications 2. To enable gRPC based communication.

Major learning outcomes: AWS Technologies and gRPC based communication.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Encouraging and supportive environment. Sufficient time was given to get familiar with the technologies being used by the company. Overall, a great experience.

Academic courses relevant to the project: DSA and Computer networks.

Name: ALAVALA MOUNIKA (2017A8PS0685H)

Student write-up

Short summary of work done during PS-II: Resolvity (Voicegain) provides speech to text services. My projects are quality assurance testing of the features available on their web portal and Android application built. Bugs found were reported on bug tracker portal of Voicegain. Five android applications were built using various speech to text services provided by voicegain. A voicebot android application for flight booking is built using voicegain STT API and RASA NLU Bot server.

Tool used (Development tools - H/w, S/w): Android studio, PostMan, Docker Tool Box.

Objectives of the project: Identify all the bugs in voicegain portal and provide flaw less services to end user. Build an efficient android application using voicegain speech to text services.

Major learning outcomes: Building android applications by integrating with AWS Lambda function which is further linked to voicegain STT API and RASA NLU Bot server and quality assurance testing.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Best company for beginners and are interested in learning. All the employees are always there to help. Daily sync up meets makes sure there is a smooth learning. Your ideas are always valued.

Academic courses relevant to the project: Object oriented programming.

PS-II Station: Rite Infotech Pvt. Ltd., Faridabad

Faculty

Name: Chennupati Rakesh Prasanna

Student

Name: SURAJ KUMAR (2017A8PS0519P)

Student write-up

Short summary of work done during PS-II: We had work focusing primarily on business development and tools which would ease the access of business and ease the load of the clients. We mostly worked on the making use of remote technology from scratch and make a platform to bring all the company clients and the contributors together on the same platform. We had been assigned task which focused on both the frontend as well as the backend of the softwares. I was made to build a robust backend for the project so as to sell it to the clients. I also had to work on tunneling and portions of react frontend.

Tool used (Development tools - H/w, S/w): Django / Python, C#, Golang for backend development, React Js for the frontend.

Objectives of the project: Designing software to bring clients and contributors of a company together.

Major learning outcomes: Hands on experience on designign a software for the company and the technology stack required to make that happen.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The work environment was pretty relaxed since we were given an online and remote intern. We had to update the things we had done during the day on stand up channels. The mentors were very supportive and helpful. We were given an opportunity to think about projects by ourselves and choose appropriate tools for development. This helped us become self reliant.

Academic courses relevant to the project: None of the courses which I had been taught.

Name: UNDAMATLA NAGA KALI KRISHNA (2017AAPS0312H)

Student write-up

Short summary of work done during PS-II: Image labeler web application using React JS for frontend UI, Django rest framework for APIs and MySQL for database. Application also has a authentication page (login/register).

Tool used (Development tools - H/w, S/w): S/w

Objectives of the project: Develope a web page

Major learning outcomes: React JS and Django

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Friendly and interactive working environment.

Academic courses relevant to the project: OOPS

PS-II Station: Rivigo Tech, Gurgaon

Faculty

Name: Ritu Arora

Student

Name: SHUBHAM SHANKER (2016B3A30446P)

Student write-up

Short summary of work done during PS-II: Api's were developed for integration of phonepe systems by providing a dynamic Qr creation Api along with status check Api using various tools.

Tool used (Development tools - H/w, S/w): Spring, Spring Boot, Gradle, MySQL, Postman, Jenkins, Mongo, Api integration, Cron Scheduler, HTML, CSS, Javascript, React, Angular, Bitbucket.

Objectives of the project: One major task involving payment integration and other Ad-hoc tasks majorly on backend were done and a dashboard using Angular was also made.

Major learning outcomes: Introduction to various technologies such as Spring, Gradle, Postman, Jeniks was provided. Also gained hands on experience in Java and working with multi-tier applications using Spring, Spring Boot in an Agile environment.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: It was a good learning environment, training was provided for both frontend and backend. Ad-hocs tasks were also given and expected to be completed on time.

Academic courses relevant to the project: OOP, OS, DSA.

Name: ANUJ HYDRABADI (2017A8PS0420P)

Student write-up

Short summary of work done during PS-II: The work was mainly related to backend software development in Java. My first major task was to create a simple Git API and a post API for a table - all the way from understanding the task to development, testing, code review, QA and release. This was part of a larger task that multiple team members were working on. After this, more advanced tasks were given that built on what I learnt in the first task, with my responsibility being to take the task from the understanding of requirements from business team to release into production.

Tool used (Development tools - H/w, S/w): Java, SQL (MySQL and PostgreSQL), Spring Boot, JDBI, Hibernate, Postman.

Objectives of the project: To measure pickup adherence corresponding to each pickup.

Major learning outcomes: Programming in Java, creating APIs, communication with databases, and taking a task from business requirements understanding to code and finally to release.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Frontend and Android app dev based tasks also available in case you are interested. Need to be able to code in Java, and other stuff you can learn as you encounter it. Other developers are available for

help always. Company expects you to take ownership of the product and deliver it in the timeline you yourself set. The work you do as an intern is the same as what a full-time developer does, hence the work is hectic along with lot of opportunity for growth.

Academic courses relevant to the project: DBMS, Object oriented programming.

PS-II Station: Rupifi Non-Tech, Bangalore

Faculty

Name: Sandeep Kayastha

Student

Name: JANUPALA GNANESHWAR REDDY (2016B4A40512H)

Student write-up

Short summary of work done during PS-II: The project is to design and code a single page website which could be used to explain the aggregator platforms what are the perks on tying up with rupifi to the aggregator as well as the business platform using Adobe xd for design, HTML,CSS and Javascript for the frontend development.The main motive is to keep it simple user friendly and compatible to all devices and there is short project which involves in creating a legality template for various application forms and to capture e-signatures and towards the second half of the semester main focus was onto modify the existing user interface so that is would be easy to access for the target interface and design custom dashboard flows for various clients based upon the requirements.

Tool used (Development tools - H/w, S/w): React, Adobe Xd, Figma.

Objectives of the project: Modifying user interface, Web devlopment.

Major learning outcomes: Learnt React js, Figma.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Work environment is intense as the company is just few months old, but the employees are quite friendly and are very helpful when ever we get struck.

Academic courses relevant to the project: None

Name: SAI DHEERAJ GOPALA (2016B5A20565H)

Student write-up

Short summary of work done during PS-II: Rupifi is an LSP, catering to the needs of Small and Medium Enterprises (SMEs) throughout India, following a unique system of lending in partnership with leading aggregators in India. The project involves handling the daily operations for different aggregators, in tie-up with Rupifi. My project work which is in operations area involves approaching new customers from lists given by the aggregators for onboarding, monitoring their status on dashboard, updating and helping the customers, completing the legalities, preparing details of disbursal for transactions by seniors, completing the required formalities after disbursal. In daily operations verifying the documents and getting the required documents is an important part. The preparation of the customer's profile for underwriting by seniors and the documentation is part of my project. Also, the project domain includes analyzing the existing data with metrics such as turnaround time, approved / completed ratio so as to get a better picture of the scenario of the tie-up with the aggregator, and suggesting improvements and changes in the current organizational process flow so as to optimize and increase effectiveness.

Tool used (Development tools - H/w, S/w): Google sheets, Leegality, Fullstory.

Objectives of the project: Managing credit disbursals at Rupifi.

Major learning outcomes: FinTech, Management, Operations.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Work environment is optimum and the employees are quite friendly and are very helpful whenever we get struck.

Academic courses relevant to the project: NA

Name: UTKARSH RAJ (2017A1PS0895G)

Student write-up

Short summary of work done during PS-II: Rupifi is an LSP, catering to the needs of Small and Medium Enterprises (SMEs) throughout India, following a unique system of lending in partnership with leading aggregators in India. The project involves handling the daily operations for different aggregators, in tie-up with Rupifi. My project work which is in operations area involves approaching new customers from lists given by the aggregators for onboarding, monitoring their status on dashboard, updating and helping the customers, completing the legalities, preparing details of disbursal for transactions by seniors, completing the required formalities after disbursal. In daily operations verifying the documents and getting the required documents is an important part. The preparation of the customer's profile for underwriting by seniors and the documentation is part of my project. Also, the project domain includes analyzing the existing data with metrics such as turnaround time, approved / completed ratio so as to get a better picture of the scenario of the tie-up with the aggregator, and suggesting improvements and changes in the current organizational process flow so as to optimize and increase effectiveness.

Tool used (Development tools - H/w, S/w): Excel, Fullstory, Leegality, Powerpoint, Google sheets.

Objectives of the project: Handle the daily operations and do data analysis for some clients.

Major learning outcomes: Learnt about the work flow, FinTech, more about finance and technology, product / business management, business development and sales.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The working environment in the company was really challenging and professional, yet comfortable and even casual to an extent. The superiors were really friendly, they requested us to call them by their names, and we communicated on a daily basis. We were subject to constant feedback, in order for us to develop and be more productive in the company's direction. The company expects an intern to reach the same level as the superiors, and we almost did the same work as them. There was this sense of freedom where we could tackle problems in our own way, and the comfort of reaching out to other employees and the head / founder, with a doubt or a suggestion, any time, to which they willingly responded. The company also expects the intern to work from Start Of Day (SOD) to End Of Day (EOD) such that all the work listed for the day at SOD should be done by EOD and a discussion on that will follow. A bit of analytical and financial knowledge is expected.

Academic courses relevant to the project: Principal of economics.

Name: K SIDDHARTH (2017A4PS0666H)

Student write-up

Short summary of work done during PS-II: The project involves handling the daily operations for Flipkart, in tie-up with Rupifi, which consists of updating the leads, understanding their requirements and concerns, clarifying customers doubts, requesting required documents,

preparing the customer's profile for underwriting by seniors, processing the schedule for the loans, frequent interactions with the technical team for certain steps of the flow, frequent interactions with the team at Flipkart regarding new leads, status, updates and numbers, inviting and capturing the e-signature of customers on agreements and required documents, preparing details of disbursal for transactions by seniors, completing the required formalities after disbursal, etc., while analyzing the existing data with metrics such as turnaround time, approved / completed ratio so as to get a better picture of the scenario of the tie-up with the aggregator, and suggesting improvements and changes in the current organizational process flow so as to optimize and increase effectiveness. The work also involves assisting or taking the lead for certain sub-processes in the main process flow for other aggregators such as Jumbotail, Hyperpure, Swiggy and Dunzo, which need complete understanding of the process flow and requirements.

Tool used (Development tools - H/w, S/w): Excel, Notepad, Fullstory.

Objectives of the project: Managing daily operations of Flipkart / daily data analysis / filling up for other aggregators.

Major learning outcomes: Fullstory, CIBIL reporting, soft skills, effective use of Excel.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The working environment in the company was really challenging and professional, yet comfortable and even casual to an extent. The superiors were really friendly, they requested us to call them by their names, and we communicated on a daily basis. We were subject to constant feedback, in order for us to develop and be more productive in the company's direction. The company expects an intern to reach the same level as the superiors, and we almost did the same work as them. There was this sense of freedom where we could tackle problems in our own way, and the comfort of reaching out to other employees and the head/founder, with a doubt or a suggestion, any time, to which they willingly responded. The company also expects the intern to work from Start Of Day (SOD) to End Of Day (EOD) such that all the work listed for the day at SOD should be done by EOD and a discussion on that will follow.

Academic courses relevant to the project: POE, DRM, FOFA, EPS.

PS-II Station: Rupifi Tech, Bangalore

Faculty

Name: Chetana Anoop Gavankar G

Student

Name: AYUSH SARDA (2017A3PS0226G)

Student write-up

Short summary of work done during PS-II: I was responsible for the backend development for the underwriting and the collections process.

Tool used (Development tools - H/w, S/w): JAVA, Spring Boot, PostgreSQL, IntelliJ Idea, Postman, BitBucket, Swagger UI.

Objectives of the project: Various APIs, related to the underwriting and the collections part, had to be implemented on the backend side to facilitate the approval and repayment process of the loan.

Major learning outcomes: There was lot of knowledge gained in terms of OOP, web development, various stages involved in building a startup ranging from identifying the problem till getting it solved and various terms that are linked with the loans and their flow.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The colleagues were great, cooperative and very helpful. My mentor guided me over each and every point of building the APIs, helped me in the various obstacles that came along and taught me many concepts related to web development and OOP. Since, it was WFH, I was not able to enjoy working at the location, but the timing was very flexible during my internship.

Academic courses relevant to the project: Object oriented programming.

Name: RAMACHANDREN SHANKAR (2017A7PS1171P)

Student write-up

Short summary of work done during PS-II: Rupifi is a fintech startup trying to create an easy efficient online method of credit line origination and drawdown disbursement to low-income MSMEs in India. I worked primarily on the backend systems, creating a number of services and features.

Tool used (Development tools - H/w, S/w): Backend language and framework - Java Spring Boot.

Objectives of the project: Creating backend services in Java Spring Boot.

Major learning outcomes: Learnt intricacies of backend development and a lot of the framework from the ground up and how to build and integrate microservices architecture.

Details of papers / patents: None

Brief description of working environment, expectations from the company: As it was work from home, all communications were done via slack and email. Daily standup meetings happen to go over all the work that was done in the previous day. Most things are pretty transparent to the interns. You're expected to complete the work you're given as quickly as you can, and all the tech team employees are very helpful in trying to figure things out.

Academic courses relevant to the project: OOP

PS-II Station: Saffrongrid Ltd., - Artificial Intelligence Department, Hyderabad

Faculty

Name: Ramakrishna Dantu

Student

Name: SIDDHANT KHANDELWAL (2017A7PS0127P)

Student write-up

Short summary of work done during PS-II: Developed an intelligent traffic management system (Web portal + Mobile app) for the Hyderbad / Cyberabad police commissionerate leveraging knowledge in web development and machine learning.

Tool used (Development tools - H/w, S/w): ReactJS, Reqct native, Python, Docker, Tensorflow, Keras, AWS.

Objectives of the project: Developing ITMS web portal and backend model.

Major learning outcomes: Web development, Machine learning.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Extremely engaging people, AGILE work environment, supportive CEO.

Academic courses relevant to the project: DSA, NNFL, ML.

PS-II Station: Samsung Semiconductor India R&D Center-Hardware, Bangalore

Faculty

Name: Anita Ramachandran

Student

Name: ANKIT KUMAR PATRA (2016B4A30605P)

Student write-up

Short summary of work done during PS-II: First of all, we were tasked to learn about the basics of the BCH codes and understand the theory of the same, this helped us for further research when we started to device algorithms for the encoder and decoder parts of the architecture. After creating the architecture documentation, our next task was to design the same on verilog and C++ (for verification purpose).

Tool used (Development tools - H/w, S/w): Basic tools used were Verilog HDL in Vivado design suite and C++ programming language for verification.

Objectives of the project: Objective of this project was to design and implement the BCH architecture according to the given parameters by the organization.

Major learning outcomes: I basically learnt about how information was transferred in the DRAM module (for which we were designing the architecture) and how to code the design keeping in mind the given parameters.

Details of papers / patents: Not Applicable

Brief description of working environment, expectations from the company: This project is a small part of the bigger live project where the organization is trying to find solutions to transfer information in fast and safe ways in their created DRAM modules. As the focus is mainly on BCH codes, as we go further into the project we need to device faster ways for information having more errors (more than 3) which require more complex algorithms to decode and also more extensive research for same. This project is surely a small step forward with respect to same.

Academic courses relevant to the project: Communication systems, Analog electronics, ADVD.

Name: KUMAR DIVIJ (2016B4A30606P)

Student write-up

Short summary of work done during PS-II: The project is undertaken to utilize SystemVerilog to create verification modules which can be integrated with already existing testbench to increase its efficacy by adding new features to its design.This project successfully builds and integrates two such modules into an industry standard testbench.

Tool used (Development tools - H/w, S/w): Xcelium, SimVision, Python.

Objectives of the project: 1. Building of verification modules 2. Tracing the outputs to the inputs of the DUT to understand its working in order to build a testbench.

Major learning outcomes: 1. SystemVerilog 2. Verilog 3. Python 4. Testbench creation.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The complete internship was completed in the offline mode (work from home). The company dealt with the interns in a quite satisfactory manner given the unprecedented and difficult situation.

Academic courses relevant to the project: Digital design, Computer architecture, Power electronics, Analog integrated circuit design.

Name: KUMAR DIVIJ (2016B4A30606P)

Student write-up

Short summary of work done during PS-II: The project is undertaken to utilize SystemVerilog to create verification modules which can be integrated with already existing testbench to increase its efficacy by adding new features to its design.This project successfully builds and integrates two such modules into an industry standard testbench.

Tool used (Development tools - H/w, S/w): Cadence Xcelium, Simvision.

Objectives of the project: 1. Build two modules for a systemverilog testbench, glitch chekcer and power sequence checker 2. Build testcases for verifying various aspects of the one timep programmable memory.

Major learning outcomes: SystemVerilog, Python.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The WFH was carried out in a successful manner by the SSIR management team. Mentor allotted to me was exceedingly helpful, taking time to explain things and congratulating on successful execution.

Academic courses relevant to the project: Digital design, Computer architecture.

Name: VISHAL SINGH DEOLEYA (2016B4A30625P)

Student write-up

Short summary of work done during PS-II: Created a cross-platform desktop application to ease the process of hardware testing. I used QtDesigner to create the UI of the application and PyQT, which is a wrapper around the Qt framework to create back-end for the application.

Tool used (Development tools - H/w, S/w): Python, QtDesigner, System verilog.

Objectives of the project: Creating a desktop application for assertion generation.

Major learning outcomes: Familiarity with creating computer application.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment is fast paced and senior leadership really supportive. Initially we had trouble getting started because of all the complexities involved with online on boarding but as we got familiar with the company portal and all the tools involved, work became really interesting. I was able to provide the tool to the testing team and will probably launch it in production by the end of PS.

Academic courses relevant to the project: Object oriented programming, Digital design.

Name: ARPIT SAHU (2016B5A30451G)

Student write-up

Short summary of work done during PS-II: Learnt about physical design flow, logical synthesis and static timing analysis, carried out physical design of SSD controller chips.

Tool used (Development tools - H/w, S/w): Cadence Innovus, Synopsys PrimeTime.

Objectives of the project: Carrying out physical design of SSD controller chips.
Major learning outcomes: Learnt about physical designfFlow, logical synthesis and static timing analysis. Used Cadence Innovus and Synopsys PrimeTime tools. Learnt TCL (Tool Command Language) scripting to write and debug codes and scripts.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Team was supportive and friendly. Regular meetings were held. Getting different types of access can get troublesome sometimes, and may take long time. Learning potential is immense.

Academic courses relevant to the project: None

Name: K PRANATH REDDY (2016B5A30572H)

Student write-up

Short summary of work done during PS-II: I was allotted to the NPU software team of system LSI division. My project deals with image and tensor transformation operations like translation, rotation, scaling, and sheer affine image transformations and space to depth, depth to space, space to batch, and batch to space tensor transformations. These transformation operations are mostly used in data pre-processing and data augmentation, which are essential tasks in the pipeline of Machine learning and Deep learning problems. I worked on optimizing the implementation of these transformation operations in the NPU firmware. The latter part of my project focused on studying and decoding the firmware binaries for building a test bench, which will be used for running various firmware unit tests.

Tool used (Development tools - H/w, S/w): TensorFlow, Command shell, C/C++, Python.

Objectives of the project: Optimizing image and tensor transformation operations and developing a test bench for NPU firmware unit tests.

Major learning outcomes: Study of image and tensor transformation operations, NPU firmware development.

Details of papers / patents: None

Brief description of working environment, expectations from the company: SSIR has a good working environment and technical culture. The mentors and team members are friendly and are willing to help in case we have any doubts or queries.

Academic courses relevant to the project: Operating systems, Computer architecture.

Name: ALAUKIK JOSHI (2016B5A30611H)

Student write-up

Short summary of work done during PS-II: My work consisted of implementation of a subsystem of a SOC Design. The implementation includes generation of RTL, performing sanity checks on it, debugging the errors and UPF generation.

Tool used (Development tools - H/w, S/w): Synopsys verdi, Spyglass DFT, Spyglass Lint.

Objectives of the project: To implement a subsystem (voice triggering system) of a SOC design.

Major learning outcomes: 1) RTL generation 2) Sanity checks on RTL 3) Power saving techniques in SOC design 4) UPF generation for the sub-system.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The environment at Samsung is well suited for learning and work. I was a part of the SOC RTL team. The work mostly consists of SOC design and its implementation. The team members are very supportive and will encourage you to learn at every stage throughout the PS.

Academic courses relevant to the project: Digital design, Computer architecture, VLSI design.

Name: VAIDYA ADITYA AJIT (2016B5A30744G)

Student write-up

Short summary of work done during PS-II: Learnt the basics of CMOS image sensor, understanding the analog and digital parts of the chip, programming the noise model on the chip, creating a circuit for cancelling and cancelling the noise.

Tool used (Development tools - H/w, S/w): Simvision, Verilog, Cadence.

Objectives of the project: Learnt the basics of CMOS image sensor, understanding the analog and digital parts of the chip, programming the noise model on the chip, creating a circuit for cancelling and cancelling the noise.

Major learning outcomes: Hands on learning of Verilog / Simvision.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The work enviorment is good and people are good.

Academic courses relevant to the project: Analog digital VLSI design.

Name: ABHINAV AGRAWAL (2016B5A30900H)

Student write-up

Short summary of work done during PS-II: At the start of the internship, the preliminary focus was on understanding the AMBA bus architecture. Then, as time progressed, I had to explore the SFR decoder and understand how the read / write requests that are passed on from the firmware to the respective sub-modules are decoded. This involved a lot of basic Verilog understanding because the SFR decoder RTL is coded in Verilog. At the end of the semester, I was assigned to explore the different types of Verilog / SystemVerilog parser as a part of our coding guidelines checker task. This was essential for the systematic and consistent coding for all the RTL's in the project.

Tool used (Development tools - H/w, S/w): Cadence SimVision, C++/PERL scripts.

Objectives of the project: The objective of the first task was to generate an RTL for the SFR decoder on the basis of a specific memory map. The second objective was to develop a coding guidelines checker based on the coding guideline requirements of the project.

Major learning outcomes: AMBA and AXI architecture, Refactoring, RTL Linting, Verilog concepts.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Mentor / manager / team members are very considerate and approachable at SSIR. PS was entirely WFH and this was a major challenge for us because SSIR is very protective of their data and this is the first time they provided remote access to it's employees and interns. Due to this, a lot of time was spent getting all the necessary accesses and permissions to various SSIR resources.

Academic courses relevant to the project: Computer architecture, Digital design.

Name: ANUP R BHAT (2016B5A80476H)

Student write-up

Short summary of work done during PS-II: The work included the RTL design and verification of digital image sensors using Verilog and Cadence Virtuoso.

Tool used (Development tools - H/w, S/w): Verilog, Cadence Virtuoso.

Objectives of the project: The aim was to create an RTL of a digital circuit which is present inside the image sensor.

Major learning outcomes: Learnt new tools (Cadence Virtuoso) used in VLSI architecture and design as well as more about the image sensors.

Details of papers / patents: No paper or patent

Brief description of working environment, expectations from the company: The people working were all well versed in their respective fields and were approachable. Any doubts we had could be communicated with them and they would help us to clear it as much as possible. There was pressure from the mentors or managers regarding the work deadline and they let us take our time in understanding and doing the project effectively.

Academic courses relevant to the project: FPGA labs, ADVD.

PS-II Station: Samsung Semiconductor India Research -Software, Bangalore

Faculty

Name: Anita Ramachandran

Student

Name: HARSHVARDHAN AGRAWAL (2016B4A30479P)

Student write-up

Short summary of work done during PS-II: (Dual PS) Part of memory solutions team. Major time in the first semester was spent on studying the NVMe 1.4 specs. Currently working on building a NVMe simulator which can be used for development purposes.

Tool used (Development tools - H/w, S/w): C, C++, QEMU.

Objectives of the project: Buliding a complete functional NVMe simulation software.

Major learning outcomes: Increased grasp on C, C++ and concepts of operating systems.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Being work from home, there were undoubtedly hindrances in the learning as most of the documentation could be accessed only from the company's system. However, mentors, who seemed very busy in other projects, were supportive enough for me to get the required knowledge.

Academic courses relevant to the project: OOP, OS.

Name: NAMAN K GUPTA (2016B4A30491G)

Student write-up

Short summary of work done during PS-II: Code coverage tools are utilities that measure the efficacy of our testing suite. Such tools make use of certain metrics to present the details of the code coverage. Code coverage forms an integral part of the feedback process in the development of any software. My work aimed to improvise one such code coverage tool that is indegenous to Samsung Semiconductor India Research, Bangalore, henceforth referred to as SSIR.

Tool used (Development tools - H/w, S/w): Languages: C, C++, Python
Simulation Tool: T32
Logging Tool: Shannon DM

Objectives of the project: Addition of features to an in-house tool for code coverage.

Major learning outcomes: Industrial code development methodology.

Details of papers / patents: The approach behind the said tool is extremely novel and hasn't been used in any other tool till date. This said, the approach and the tool has been patented because of which any functional detail could not be included in the report.

Brief description of working environment, expectations from the company: The exact work culture cannot be described as the entire duration of the internship was in a remote manner. The employees out there were very friendly and supportive in all fashion. Least to say, deadlines were decently decided mutually. Expectations to begin with, were to gain industry exposure on as to how organizations approach development of a software and SSIR has surpassed all expectations.

Academic courses relevant to the project: Computer programming, Data structures and algorithms.

Name: Sameer Agarwal (2016B5A30216P)

Student write-up

Short summary of work done during PS-II: Worked on developing an automation script in python for assisting in the verification of devices that are using Wi-Fi direct and WPA2 security protocols based on IEEE 802.11 standards. Came to know the basic functioning of Wi-Fi and IEEE 802.11 standards. Implemented OOP concepts in Python and deployed the script on the Flink framework.

Tool used (Development tools - H/w, S/w): Python, Pyshark, Wireshark, Tshark.
Objectives of the project: To automate the much time consuming process of verifying the new devices packet capture.

Major learning outcomes: Got familiar with Wi-Fi technology and first hand practise on writing a flexible code on which new features can be added with ease.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The working environment was very chill and my mentor and manager were very supportive.

Academic courses relevant to the project: Wireless communication, Object oriented programming.

Name: PATANKAR AKHILESH SUDHIR (2016B5A30553H)

Student write-up

Short summary of work done during PS-II: My work was related to improve the efficiency of inferencing of varied machine learning models using tools like intel openvino, to monitor

performance of different devices which were used for inferencing. I also used softwares like intel Vtune profiler to run analysis on different source codes from the organization to improve the efficiency.

Tool used (Development tools - H/w, S/w): Intel OpenVino, Intel parallel studio.

Objectives of the project: To improve efficiency of machine learning models.

Major learning outcomes: Got an understanding of inferencing, optimization of machine learning models.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment makes it very easy for interns to settle in. The work-from-home culture has been implemented very well and the mentors alloted to you have also been very helpful.

Academic courses relevant to the project: Operating systems, NNFL, ML.

Name: AKARSH CHATURVEDI (2016B5A80582P)

Student write-up

Short summary of work done during PS-II: The project consists of development of parts of new generation Android graphic rendering pipeline in compliance with the latest cutting-edge display devices capable of up to 120Hz refresh rate, and up to 8 dpp (display pre-processing) channels. This project focuses on one of the core components of the Android graphic rendering pipeline, hardware composer. Hardware composer exists inside the HAL (Hardware Abstraction Layer) of the Android software stack. Its primary function is to compose the final composited display and send it to the display device. Even though, most of the compositing is done by GPU, it is the hardware composer's job make the final call ensuring the most efficient way to composite buffers with the available hardware using the least processing power. The project

constitutes of upgrading the existing Exynos hardware composer HAL for newer display devices which introduce latest display processors.

Tool used (Development tools - H/w, S/w): Vim, C++.

Objectives of the project: Create a newer version of hardware composer HAL for exynos.

Major learning outcomes: Android stack framework, Android kernel ioctl, Graphic rendering in android.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Having not visited the office, there's only a limited description of the organisation that I can provide. However, the graphic rendering team that I worked with was extremely supportive and patient.

Academic courses relevant to the project: Operating systems.

PS-II Station: Samyojya, Bangalore

Faculty

Name: Ashish Narang

Student

Name: AADITYA KUMAR (2017A3PS0332P)

Student write-up

Short summary of work done during PS-II: Building proof of concept models for an AI-driven driver alertness detector. Demoing the models during discussions with IT professionals.

Tool used (Development tools - H/w, S/w): Python, AWS, Tensorflow, Google Colab.

Objectives of the project: Contribute to the R&D involved during product development.

Major Learning Outcomes: Insights into product development cycle, applications of deep learning in real world scenarios.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Samyojya is a 2017 startup by a BITS alumni and presently the workforce consists only of him and a few of his friends acting as advisors.

Academic courses relevant to the project: Machine learning, Foundations of data science.

PS-II Station: SAP Labs, Bangalore

Faculty

Name: Seetha Parameswaran

Student

Name: BOXWALLA BURHAN SHABBIR (2017A7PS0097P)

Student write-up

Short summary of work done during PS-II: First task related to DevOps, writing a script to automate a job in the jenkins pipeline.
Second task, backend development, design, realise and develop a software problem.

Tool used (Development tools - H/w, S/w): Jenkins, Nodejs, PostgreSQL, Redis, AWS, Git.

Objectives of the project: Get hands on experience of development and maintenance of cloud native Apps in an agile environment.

Major learning outcomes: Agile methodology, Cloud native technologies, DevOps culture.

Details of papers / patents: None
Brief description of working environment, expectations from the company: Supportive team. You need to be active and keep asking questions and showing your curiosity. Do not expect hand-holding on your tasks. The work environment is very relaxed and so will also be given enough time to ramp up on the topics. All in all a very nice company for getting a good experience.

Academic courses relevant to the project: OOP, DSA, DBMS.

Name: PATEL RAHUL MANISHKUMAR (2017A7PS1306H)

Student write-up

Short summary of work done during PS-II: I was assigned SAP cloud platform backing services, I learnt cloud computing and various terminologies / technology used in this field like cloud foundry, AWS, SAP cloud platform. Also, worked with new DBMS like MongoDB, Postgres, Redis, SAP HANA and some SAP specific tools and softwares as well.

Tool used (Development tools - H/w, S/w): Cloud foundry, Docker, Concourse, AWS, Microsoft Azure, SAP HANA, Postgres, Redis, MongoDB, Bash scripting.

Objectives of the project: First task was to reduce the cost which company has to incur for every hour, I came up with a solution on reducing cost, others were related to helping it's customer to migrate to SAP specific tools.

Major learning outcomes: Various cloud computing technologies, also soft skills which are required in the industry.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment is pretty chill, they give enough time to learn at the beginning at our own pace.

Academic courses relevant to the project: OOP.

Name: JAIN JAI SANDEEP (2017A7PS1585H)

Student write-up

Short summary of work done during PS-II: 1. Removing security vulnerabilities by upgrading dependencies.
2. Refactoring the codebase by following object oriented programming principles.
3. Add new feature to the application.

Tool used (Development tools - H/w, S/w): Java, Spring, Maven, Cloud foundry, Git, Postman, Eclipse, Bash script.

Objectives of the project: Enhancing the application by removing vulnerabilities, upgrading dependencies and refactoring the code.

Major learning outcomes: 1. End to end development and integration of new features 2. Teamwork 3. Collaborating using Git 4. Agile methodology 5. Spring framework and Maven dependencies.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The members of the technical as well as non-technical team are very helpful. The work life balance is very good. Also, the working hours are quite flexible. Interns are treated as regular employees. Expectations are low in the starting months but increase gradually.

Academic courses relevant to the project: OOP, DBMS.

PS-II Station: Saras Analytics – Non-Tech, Hyderabad

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: SAMIKSHA GUPTA (2016B2A40876P)

Student write-up

Short summary of work done during PS-II: Worked on the API development using Flask framework and did a project on web-scraping.

Tool used (Development tools - H/w, S/w): For the first project, I used Pycharm professional and visualized using Swagger UI. Web-scraping project done using beautifulsoup library in Python and used conda environment for the same.

Objectives of the project: Project aimed at the understanding of the API development and web-scraping.

Major learning outcomes: HTTP requests, Api development, Web-scraping.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Working environment was chilled out and WFH internship.

Academic courses relevant to the project: OOP.

Name: SAHIL PORWAL (2016B2A80612G)

Student write-up

Short summary of work done during PS-II: Role-Business data analyst. Work is to understand the end- to-end online website business of client and help them to improve their conversions. The role requires monitoring, reporting and analyzing the data and try to come up with some insights which is impactful. Huge ownership and responsibility is given and I got chance to work directly under CEO of the firm, so the expectation from the quality work was high. In the initial month intensive training for 1 month was given for SQL, Excel, Powerbi, Google analytics. PPO chances are high but the compensation is a bit low. From a learning point of view, it has been a great learning experience.

Tool used (Development tools - H/w, S/w): SQL, Excel, Powerbi, Google analytics.

Objectives of the project: To understand the end- to-end business of client and help them to improve their website conversions.

Major learning outcomes: Tools - SQL, Excel, Powerbi, Google analytics, Python. Understood how e-commerce businesses works and how to draw meaningful insights from the data and further take business decisions.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Working environment is good and culture wise its decent depends on your team though. The company is growing in a very fast pace so the amount of learning is great for some one looking to explore in the field of analytics or product management.

Academic courses relevant to the project: None

Name: AAKASH SRIVASTAVA (2016B2A80648H)

Student write-up

Short summary of work done during PS-II: Part of an accounts team where the work involved performing high level analyses for a client to improve their e-commerce conversion rate. Also, make dashboards and conduct weekly business reviews.

Tool used (Development tools - H/w, S/w): SQL, Excel, Google analytics, PowerBI, Powerpoint.

Objectives of the project: To help improve the ecommerce conversion rate of the client and suggest best practicesfor the same.

Major learning outcomes: Learnt a lot about the metrics and data points that are observed in conversion rate optimization.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Working was nice. Completely WFH, so not much interaction with everyone in the company, but depends on the team you are allotted.

Academic courses relevant to the project: POE

PS-II Station: Scovelo Consulting, Chennai

Faculty

Name: Sandeep Kayastha

Student

Name: KEVIN ARNAV ROSHAN (2017A4PS0303P)

Student write-up

Short summary of work done during PS-II: I ran deep analysis of websites, social media marketing campaigns, content, and marketing strategies in order to come up with valuable insights for Scovelo Consulting's clients and the company's growth on a daily basis. I also conducted several search engine optimization initiatives in order to increase the organic ranking of the website and its pages. Supplemented by the knowledge gained from various sales and marketing classes held by the company owner Mr. Balaji Chakravarthi, I got a chance to indulge in marketing training courses along with interns from business schools like IIM-Indore, Goa Institute of Management, and Loyola Institute of Business Administration. Working at Scovelo Consulting was my first exposure to the field of marketing, more specifically digital marketing. The average work schedule consisted of the first half of the day being spent on research, followed by a presentation containing our findings to the owner, which was followed by setting up timelines and frameworks for the next day. On Sundays, we would have a two-hour call with all interns from business schools and us working on a common assignment together over the week presenting our findings.

Tool used (Development tools - H/w, S/w): ScreamingFrog, BuzzSumo, SEMRush, Ubersuggest, Ahrefs.

Objectives of the project: Search engine optimization of websites, social media management, development of marketing strategies to enter the digital marketing ecosystem of new markets.

Major learning outcomes: SEO, social media management for digital marketing in the IT sphere, market strategy development for new market entry.

Details of papers / patents: N/a

Brief description of working environment, expectations from the company: Scovelo Consulting is a digital marketing and sales training consulting firm based in Chennai. Headed by Mr. Balaji Chakravarthi, Scovelo aims to be one of the top digital marketing and sales training firms in India. Scovelo's main unique selling point is the immense experience in the domain of IT sales that Mr. Balaji brings to the table when dealing with their clients. Owing to the pandemic, the internship was turned into a completely remote internship. Communication regarding work were all directly with the company owner, Mr. Balaji Chakravarthi. The nature of the work was mainly analysis of different companies' websites, social media sites, and their content in order to pick apart all the elements that have been employed by them in order to market themselves successfully and, based on them, provide insights for Scovelo to follow suite with respect their clients and their own website and social media handles. For a new entrant, while the work provided by Scovelo Consulting may seem very new for the first few weeks, it becomes repetitive after that. Lack of any good, reading material in order to supplement the hands-on knowledge gained is another setback, although it is highly compensated by the information provided on everyday calls with the owner. To make the most of the station, and to deal with its dynamic nature, one needs to be highly motivated in order to understand the domain in which the company functions, and to be able to start developing one's own ideas to create results.

Academic courses relevant to the project: N/a

PS-II Station: Sensei Technologies Pvt. Ltd., Bangalore

Faculty

Name: Lucy J. Gudino

Student

Name: MUPPA MANISH (2017A7PS0128H)

Student write-up

Short summary of work done during PS-II: I was involved in the front-end development related job.

Tool used (Development tools - H/w, S/w): HTML, CSS, Angular.
Objectives of the project: To create a leaning management system.

Major learning outcomes: Web development with angular, Spring.

Details of papers / patents: There were no papers / patents written by me.

Brief description of working environment, expectations from the company: I have worked as a front-end developer in my PS station. Working environment is very good. Our Mentor is very friendly.

Academic courses relevant to the project: Software engineering.

PS-II Station: SequelOne Solutions Pvt. Ltd., Gurgaon

Faculty

Name: Jyotsana Grover

Student

Name: SHAURYA BANERJEE (2017A3PS0176G)

Student write-up

Short summary of work done during PS-II: The aim of the project is to learn, become familiar with programming in PHP and other associated web development programming languages like HTML and MySQL. We also need to learn to use software such as XAMPP and Codeigniter which helped us in programming using PHP. We learnt basic concepts of CRUD, form validation etc. and involve these learnings in assisting the employees at the organization in building learning management system. We learnt web development, focusing mainly on PHP programming language, along with basic knowledge of HTML, MySQL, JavaScript, CSS that are required to build a website.

Tool used (Development tools - H/w, S/w): Programming in PHP and HTML, XAMPP, Codeigniter, Postman applications.

Objectives of the project: Assisting the employees at the organization in building learning management system.

Major learning outcomes: Basic knowledge of web development programming, mainly PHP language and also some knowledge of HTML, JS, jQuery, CSS.

Details of papers / patents: No papers or patents were involved.

Brief description of working environment, expectations from the company: Task for us was to assist the employees in building LMS. Since, we were beginners we were mostly given simple tasks and were asked to observe the employees in their activity of developing and upgrading the LMS page and learnt from it.

Academic courses relevant to the project: None, as this was a web development project and my branch is EEE.

Name: RONDLA SURYA PRATHAP REDDY (2017AAPS0447H)

Student write-up

Short summary of work done during PS-II: Worked on CodeIgniter PHP framework for doing some tasks on the backend development of the PMS and LMS module.

Tool used (Development tools - H/w, S/w): CodeIgniter PHP framework, XAMPP.

Objectives of the project: Backend development of website.
Major learning outcomes: PHP, MYSQL, CodeIgniter, REST API.

Details of papers / patents: No patents / papers published.

Brief description of working environment, expectations from the company: They gave ample training for working on the required technology and programming language but working environment is not that much great.

Academic courses relevant to the project: No

PS-II Station: ShortHills Tech Pvt. Ltd.,(Non-Tech), Gurgaon

Faculty

Name: Sandeep Kayastha

Student

Name: PRATIK SRIVASTAVA (2017A1PS0901P)

Student write-up

Short summary of work done during PS-II: Successfully deployed and customized dynamics 365 CRM according to what the organization desired, deployed Azure AD and build security competencies in the organization, registered and configured devices with Microsoft Intune.

Tool used (Development tools - H/w, S/w): Microsoft Power Apps, Microsoft Dynamics 365, Microsoft Azure, Microsoft Azure AD, Microsoft Sharepoint, Microsoft Intune, Microsoft Endpoint Protection.

Objectives of the project: Deploying and customizing dynamics 365, and organization security with Azure AD.

Major learning outcomes: Microsoft solutions and how they work with each other. About Microsoft Dynamics 365 and how it is used to provide a complete solution for sales teams. Azure AD and organizational security as well as how security exploits in an organization while working to apply security features in Azure AD.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: WFH was pretty chill, timings are strict and you should expect a call at any point of time from them. Even if its 11 pm, as they actually work 24*7. The people are friendly and the manager will let you work as you like if you keep him happy / finish all the work he wants before time. I didnt have any PPO expectations as it's a startup and it's not looking to hire as of now.

Academic courses relevant to the project: BAV, CP.

Name: SHIVANI (2017A1PS1543H)

Student write-up

Short summary of work done during PS-II: Business development is about evolving every day with a new set of challenges. Constant learning must go on. To keep your business ahead in the market competition constant research and monitoring of your services is a must. New ideas can take up the business to the next level but it doesn't happen the easy way. Not just research but planning, execution, new developments at the fast pace changing market is necessary and it becomes all the more challenging for startups. Startups need to keep their work as innovative as possible because it's not their brand name that would take them ahead but sheer hard work and strategic moves. Even as an intern, the startups might give a lot of real-world problems to be tackled. This would definitely have great learning opportunities but it would also require you to produce outputs purely based on your skills and talent.
Tool used (Development tools - H/w, S/w): WordPress Website builder, Adobe Illustrator, Microsoft Teams, PowerPoint.

Objectives of the project: To work for a new business vertical project.

Major learning outcomes: Learnt to develop websites, create content, digital marketing, content research, product research.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: This semester PS-II was organized online. The work from home environment had its challenges and its positive points. The company ensured that we get introduced to the organization through daily virtual meetings and some leisure activity once in two months. The mentor and other employees were there to help with doubts. Most of the work involved researching online, but there would be times of confusion, and we were allowed to ring up the employees without hesitation. We were asked to update about our work on a day-to-day basis in the daily morning meetings. Overall, it was a whole new experience in the corporate world owing to the times of virtual work.

Academic courses relevant to the project: Business analysis and valuation (BAV).

Name: MAHIMA KHANDHAR (2017A2PS1436H)

Student write-up

Short summary of work done during PS-II: Business development is about evolving everyday with new set of challenges. A defined protocol must be carried out in order to ensure the productivity of a startup. To keep your business ahead in the market competition, keeping with the latest trends and services along with constant research and monitoring of your services is a very necessary step. Not just research but planning strategies, implementation, and new developments to keep up with the fast pacing market is necessary and that is the reason why it becomes all the more challenging for startups. Startups need to keep developing innovative work as much as possible because their sheer hard work coupled with perseverance and strategic moves is what will mark their presence in the market. The work in a startup of an intern or an existing employee requires more or less the same amount of hard work and motivation. Deadlines are very strict and require everyone to be as punctual as possible because it is still in its budding stage hence, no mistake should be made. Even as an intern, the startups might give a lot of real-world problems to be tackled. So it's a great way to learn about the functioning of corporate world along with the market.

Tool used (Development tools - H/w, S/w): Ahref, SEMrush, Page speed insights.

Objectives of the project: To optimize the speed of the existing websites, to make all the websites SEO friendly and to set up a new webstie.

Major learning outcomes: Search engine optimization.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: All the colleagues are friendly and will teach you if you get stuck. As it is a non-tech PS station, the work was given as expected.

Academic courses relevant to the project: None

PS-II Station: ShortHills Tech Pvt. Ltd., Gurgaon

Faculty

Name: Ritu Arora

Student

Name: ABDUL REHMAN (2017A2PS1022P)

Student write-up

Short summary of work done during PS-II: Worked as a full stack developer.

Tool used (Development tools - H/w, S/w): WordPress, Django, MYSQL, Python, PHP, JS and S3.

Objectives of the project: Developed and modify the existing user experience on their product site. Data migration and SQLquery need to be performed. Linking blog feature to their existing site with WordPress through API's.

Major learning outcomes: Wordpress blog migration, HTML, CSS, Javasxript, Python, PHP, SQL, Django Templating and S3.

Details of papers / patents: To and fro data migration from their site to wordpress using REST API's. Adding custom feature to wordpress editor internal functionality to make ease for the

content team to publish their blog. Developed new template and modified existing Django template.

Brief description of working environment, expectations from the company: Seniors are helpful to clear your doubt. Sometimes, it become hectic as well because It's a startup and still in the developing state.

Academic courses relevant to the project: Database management system, Object oriented programming.

Name: ABDUL REHMAN (2017A2PS1022P)

Student write-up

Short summary of work done during PS-II: BestViewsReviews (BVR) scrap reviews from Amazon then data pass through ML pipeline, where sentiment analysis is done. Based on that ratings are calculated and shown on their website. Earlier I worked on wordpress where I was supposed to migrate the existing user to wordpress, they were on different platform earlier. Data migration need to be done to and fro. The blog need to be published on their website (BVR) by making custom changes to wordpress editor. I worked as a full stack developer later on developing different templates on django. Prior knowledge of web development will help a lot.

Tool used (Development tools - H/w, S/w): Django, AWS, S3, WordPress, Zeplin, Python and PHP.

Objectives of the project: To work as a full stack developer and work on one of their internal product BVR. We were supposed to make database queries and present data onto their website.

Major learning outcomes: Django, WordPress, PHP, HTML, CSS, Javascript, Python, API development, Front-end development.

Details of Papers / patents: N/A

Brief description of working environment, expectations from the company: The employees were very helpful. They consider your opinions as well.

Academic courses relevant to the project: DBMS, DSA.

Name: GUPTA PRANEK RAJKUMAR (2017A7PS0047H)

Student write-up

Short summary of work done during PS-II: Shorthills Tech hired five BITS interns during the programme PS-II Semester 1 2020-21. The project mentioned in the PSD portal was related to data science, but the company deployed all five of us on one of its internal projects "Bestviewsreviews". I worked as a full-stack developer. Being a start-up, a lot of new features were added on a daily basis. The web application was developed in a Django framework. Apart from adding new pages to the site and making necessary changes to the database, I worked on developing APIs.

Tool used (Development tools - H/w, S/w): Django, Python, HTML / CSS, MySQL, GIT, VS-code, Postman, AWS.

Objectives of the project: Add new features / pages to the web application. Create a pipeline content editors.

Major learning outcomes: Full stack development.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Working environment is friendly but pressuring. Every one worked from home due to lockdown. The mentor (fortunately a bitsian) helped us in every aspect. The company expects a lot from us.

Tasks are assigned on a daily basis. Meeting is scheduled at 11 AM where we have to give our daily updates.

Academic courses relevant to the project: Database management system.

Name: SHASHVAT SHUKLA (2017A7PS0064G)

Student write-up

Short summary of work done during PS-II: I was required for the role of full stack developer. Knowledge of HTML, CSS, JavaScript, Django was required to fulfill my tasks. Knowing SQL was also an integral part of my role in the organization. Since, Django is a python web framework, therefore python was the language used for coding of back-end related work of webpages. Hence, the project work improved my understanding on python.There were weekly tasks allotted to me. Participation in meetings was on a daily basis. Progress on my task related to project was discussed everyday. Webpages, banners, UI fixes were the main tasks given to me.

Tool used (Development tools - H/w, S/w): S/w

Objectives of the project: Improve the condition of the main website of the organization by adding and modifying webpages.

Major learning outcomes: Web development, Soft skills, Presentation skills.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The working environment was satisfactory. Since, the senior executives were work demanding, therefore there was a lot of workload. There were daily meetings arranged to discuss the progress of everyone on their portion related to project. One got to know a lot about the way start-ups work.

Academic courses relevant to the project: Data structures and algorithms, Database management systems.

Name: SURAVARAPU V SUBRAHMANYA KRISHNA SASTRY (2017A7PS0237P)

Student write-up

Short summary of work done during PS-II: I worked as a backend developer and wrote various Api's and scripts for companies website www.bestviewsreviews.com. My work is mostly concentrated on enhancing the page speeds and delivering data to and fro to their internal content writing platform and database management.

Tool used (Development tools - H/w, S/w): Python (Django), MySQL, S3, other basic Linux utilities.
Objectives of the project: It is an US based product aimed to provide a reviewing platform for products available in amazon (US).

Major learning outcomes: Django framework, Opencv, Amazon S3.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Working environment is friendlier but pressurising. Our mentor helped us in every aspect. Company expects a lot from us. They expect us to code for 8-9 hours and deliver adhering to a strict deadline. You are expected to learn everything by your own and work starts as soon as you've joined the company.

Academic courses relevant to the project: DBMS (MySQL).

PS-II Station: Sirius MotorSports, Chennai

Faculty

Name: Raghuraman S

Student

Name: NAYINI VENKAT AASHRAY (2017A4PS0187P)

Student write-up

Short summary of work done during PS-II: As a part of training in Sirius motorsports:

1. Successfully learnt and applied Simulink in control systems.
2. Gone through the basics of analytics in R/Rstudio.
3. Finished basics of control systems and able to build some parts.
4. Learnt using Tunerstudio software.
5. Learnt Simscape multibody.
6. Successfully finished level 1 of Stewart's platform project.
7. Learnt Simcenter Amesim software and were able to model the basic stages of systems engineering.
8. 1st stage systems engineering of skateboard architecture is finished.

Tool used (Development tools - H/w, S/w): Simulink, basics of analytics in R/Rstudio, Tunerstudio, Simscape multibody, Simcenter Amesim.

Objectives of the project: 1st stage systems engineering of skateboard architecture and Level 1 of Stewart's platform project.

Major learning outcomes: 1. Successfully learnt and applied Simulink in control systems.
2. Gone through the basics of analytics in R/Rstudio.
3. Finished basics of control systems and able to build some parts.

4. Learnt using Tunerstudio software, Simscape multibody, Simcenter Amesim software and were able to model the basic stages of systems engineering.

Details of papers / patents: 1. https://hmr.araiindia.com/Control/AIS/PUB_5~6~2011~5~34~15~PM~AIS-001(Part1)(Rev.1)F.pdf
2. https://hmr.araiindia.com/Control/AIS/PUB_10~17~2011~12~05~20~PM~AIS-002_Part1_Rev1_F.pdf
3. https://hmr.araiindia.com/Control/AIS/7302018102243AMAIS_018.pdf

Brief description of working environment, expectations from the company: Sirius Motorsports started off as an engine calibration specialist catering to race cars in 2010. From there on they have grown to be one of the country's first exclusive engine calibration company. They offer calibration / tuning and training services for OEMs, OEM tier1 suppliers and colleges. It's India's only automotive training institute to offer state of the art engine calibration & tuning course with Ricardo wave and Matlab / Simulink. As a part of the internship, we have an opportunity in improving and learning skills in development of control systems, model-based simulations, systems engineering. The company's core team has been working on them right from the establishment. Hence, it's has been a good guidance for interns.

Academic courses relevant to the project: Mechanical vibrations, Control systems, IC engines, Computer aided design.

Name: GUTURU UDAYA SAI SRI VENKATA SIVA KOUSHIK (2017A4PS0741H)

Student write-up

Short summary of work done during PS-II: I just learnt that it is necessary to have exposure in more than one domain when I want to become an automobile engineer. So, started learning the control systems and built some control systems that are being used in present automobiles namely Hill Hold Assist, suspension and Adaptive Cruise Control (ACC). One more good platform that we built here is Stewart's platform which is useful in simulating the vehicle. It

simulates 6 degrees of freedom motion to count for roll, pitch, yaw as well as basic translation motion and when we are starting from scratch in building a vehicle we need to follow certain rules and we have formulated the rules and regulations that a company has to follow and the basic projects that are available in that sector for the upcoming interns

Tool used (Development tools - H/w, S/w): Simulink, AMESim, Simscape.

Objectives of the project: Systems engineering of skateboard architecture, basic control system development in automobiles & development of Stewart's platform.

Major learning outcomes: Learnt how to build a control systems and able to use and simulate using AMESim.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: As we are the first to operate and work remotely, it take us time to adjust but working with such an amazing people helped me in building up confidence and also learnt control systems.

Academic courses relevant to the project: Spring mass damper system, Matlab.

PS-II Station: Snap Deal, Gurgaon

Faculty

Name: Rajesh Kumar Tiwary

Student

Name: DOMALE ROHAN VAIJNATH (2016B1AB0669P)

Student write-up

Short summary of work done during PS-II: I was product intern at Snapdeal in growth team working under a product manager. The job of our team was to assist Selltm team (sister company of Snapdeal) to help them standardize and grow. My work included looking after UI of mobile site of Selltm, improving it with help of the development team. I was also looking after mobile push notifications of Selltm App and Msite. Apart from that, I was using SQL to get the required data for analysis.

Tool used (Development tools - H/w, S/w): SQL, Excel and R programming (R was not much utilized during internship, but they gave training for it).

Objectives of the project: To increase the number of orders at Selltm.

Major learning outcomes: I got hands-on experience of the role product manager as well as product analyst. Learned SQL, excel and R programming. Most importantly business acumen. Complete knowledge of e-commerce was most important learning outcome for me.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The manager and team were always very supportive in the learning process.

Academic courses relevant to the project: None

PS-II Station: Sopan, Ahmedabad

Faculty

Name: Satya Sudhakar Yedlapalli

Student

Name: TAAHA T NIZAM (2017A8PS0582G)

Student write-up

Short summary of work done during PS-II: My role was of a product manager. I oversaw the development of an App to streamline our internal processes and automate the message relays for machine breakdown and maintanence. I created training modules for the same, explained and ran the pilot in 3 locations (Pune, Ahmedabad and MP) for the same.

Tool used (Development tools - H/w, S/w): Android studio, MS office.

Objectives of the project: Designing and implementing the App, creating service level agreements for the company, running the pilot in various locations, training the site managers and technicians.

Major learning outcomes: Understanding corporate heirarchy, App design and implementation.
Learnt to lead people and work in a team.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: It was an ownership driven project. I was placed at the helm of things and was the lead point of contact. I had to interact with all levels.
1. The directors, marketing and business unit heads for resource
gathering. 2.The App developers for updates and technical understanding.
3. Site managers for expplanations on the use of the App.
4. Technicians to understand and deal with their difficulties implementing the new system.

Academic courses relevant to the project: Technical report writing and OOP, DSA and any communications or networks course would have helped.

PS-II Station: Stowe Research India Pvt. Ltd., Faridabad

Faculty

Name: Rajesh Kumar Tiwary

Student

Name: SANYOG GHOSH (2016B1A10635G)

Student write-up

Short summary of work done during PS-II: In general, there is an FAQ page on every commercial website. This section helps people who visit the webpage and have doubts regarding certain aspects of the company. But, it's often the case that there are lot of questions present in the page and the user might have a torrid experience going through all the questions just for his query to get answered. Thus, an interactive solution is suggested. A chatbot will basically answer our queries, taking reference from the database containing all questions and their respective answers. My objective was to create this type of chatbot.

Tool used (Development tools - H/w, S/w): HTML, CSS, Javascript (for the front-end), MySql (database to store FAQ questions and answers), Chatterbot API (API used for regular small conversations), Flask (web framework required for the chatbot app to run effortlessly), Sentencepiece,

Objectives of the project: Create a rule based chatbot and the administration panel.

Major learning outcomes: Advanced SQL queries, Flask framework, Apache web server, Working on a custom server.

Details of papers / patents: https://github.com/google/sentencepiece
https://www.tensorflow.org/hub/tutorials/semantic_similarity_with_tf_hub_universal_encoder_lite
https://flask.palletsprojects.com/en/1.1.x/
These links really testify the work that has been put through.

Brief description of working environment, expectations from the company: The work was really balanced and I was given the time and space to complete the project effortlessly. There was a lot of room for creativity, which I utilized, while working on the project. The company was quite chill regarding the work deadlines and were always helpful whenever we needed them the most.

Academic courses relevant to the project: CS courses like ML were quite relevant to this project.

Name: HARSH SINGH (2017A8PS0980G)

Student write-up

Short summary of work done during PS-II: Designed a progressive web application consisting of a login page, a user home and an admin home. The login page would verify the credentials and would allow the access once it matches the database. After this, it would ask the user to filter out the input location like city / state / country and would output the exact location on the map.

Tool used (Development tools - H/w, S/w): HTML5, CSS3, JS, MySQL Netbeans.

Objectives of the project: The main objective was to create a progressive web application consisting of a login page, a user home and an admin home. The login page would verify the credentials and would allow the access once it matches the database.

Major learning outcomes: Learnt the basic uses of HTML, CSS and JavaScript to create web applications. Also, learnt to connect a user database for multi user login of the application.

Details of papers / patents: The application was not made for commercial use but was so called demo model of the former.

Brief description of working environment, expectations from the company: The company's founder being a BITSian was the major advantage. The project manager was also very supportive.

Academic courses relevant to the project: DBMS, OOP.

PS-II Station: Sun Mobility, Bangalore

Faculty

Name: Preethi N. G

Student

Name: SARVESH KUMAR (2017A3PS0443G)

Student write-up

Short summary of work done during PS-II: At Sun mobility worked in smart network department, responsible for the development and maintenance of service software CCU. Worked on two different projects including development of RCCB alert system, EOL battery testing and one sub-project i.e. API integration to sync live battery testing parameters on local testing machine.

Tool used (Development tools - H/w, S/w): Github, Kibana, Aikaan, Linux, C++, Curl.

Objectives of the project: Designed and developed a configurable battery testing software for the EOL. Automated the entire process of battery testing EOL. Modified the system to allow multiple batteries testing at the same time. Developed an API to retrieve and store live data for further analysis.

Major learning outcomes: Learnt design implementation of real world problems as well as new technologies used at tech industries.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Good working environment, helping mentors.

Academic courses relevant to the project: C++, OOP, Linux.

PS-II Station: Synchrony, Hyderabad

Faculty

Name: Saikishor Jangiti

Student

Name: SRAJAN DADHICH (2016B1AA0735G)

Student write-up

Short summary of work done during PS-II: Worked in Joint Security Operations Center (JSOC) and Security Development Operations (SecDevOps) Team.
1. Work at JSOC team: Alert triaging on Symantec Data Loss Prevention (DLP) tool. Python scripting for retrieving the historical data of employees from DLP using HTTP web requests, and web scraping.
2. Work at SecDevOps team: Worked on Cortex XSOAR (Security Orchestration, Automation, and Response) tool for DLP incident escalation. Worked on the integration commands in XSOAR to ingest all the data from Symantec DLP using Python. Developed a customized automated playbook in XSOAR for automating the incident triaging process of DLP.

Tool used (Development tools - H/w, S/w): Python, Symantec DLP, Cortex XSOAR.

Objectives of the project: Data loss Prevention, automation and API integration of DLP with XSOAR.

Major learning outcomes: Data protection policies of Synchrony, tools and methods used by the organization to prevent ex-filtration of the confidential data.

Details of papers / patents: Enhancement on the commands of the integration was done which was documented and available online on Palo Alto Networks 's XSOAR integration. The integration available was a beta version, so the updates were documented in the organization's JIRA stories.

Brief description of working environment, expectations from the company: Work timings are flexible, people are really helpful and reachable, lot of interactive sessions with the leadership team.

Academic courses relevant to the project: C programming, Communication networks.

Name: KUMAR SUYASH SANJEEV (2016B2A30888P)

Student write-up

Short summary of work done during PS-II: A random password generator web application was developed that generates random passwords using parameters such as mixed-case letters, numbers and special characters. The technology used for the development was Javascript, HTML and CSS. Internal Synchrony application has to be automated and the automation was done using Robotic Process Automation Technology through Automation Anywhere software. The automation saved a lot of human labour and increased the efficiency of whole process.

Tool used (Development tools - H/w, S/w): Javascript, CSS, RPA, Automation Anywhere, IBM- Content Manager OnDemand (CMOD).

Objectives of the project: Development of random password generator and automation of Internal Synchrony application using Robotic Process Automation.

Major learning outcomes: Learnt web development, Robotic Process Automation (RPA).

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Working environment was good. Everyone was helpful.

Academic courses relevant to the project: OOP, DSA.

Name: BHALERAO AMEYA SHRIPAD (2017A3PS0263P)

Student write-up

Short summary of work done during PS-II: Worked in the Robotic Process Automation (RPA) domain. It is a technique referring to the automation of frequently executed tasks using Bot specifically designed for the process. The project included developing Bots in Automation Anywhere to automate numerous tasks, some of which are cleaning up running processes and running autonomous updates. The bot assures that all the previously running processes are properly closed before the subsequent steps are executed. Along with this, it also ensures that

the system is up-to-date with the latest update. This prevents bot failures and ensures effective execution.

Tool used (Development tools - H/w, S/w): S/w - Automation Anywhere, Command prompt (Windows).

Objectives of the project: Develop autonomous bot for cleanup, health-check and update of the system.

Major learning outcomes: Bot development, Robotic Process Automation, improvement in development and production environments.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Work environment is flexible and chill. Everyone is helpful and friendly.

Academic courses relevant to the project: No

PS-II Station: Takshila Learning Pvt. Ltd., (Non-Tech), Delhi

Faculty

Name: Anjani Srikanth Koka

Student

Name: AAKASH DWIVEDI (2017A1PS1072H)

Student write-up

Short summary of work done during PS-II: During my PS2, I got the opportunity to work on product development, content creation and modification, UI design and UI/UX feedback, digital marketing, product management, business intelligence, sales and marketing automation. I worked hand-in-hand with the CEO, CTO, AVP and the marketing head of the organization.

Tool used (Development tools - H/w, S/w): WordPress, WooCommerce plugin (product development); Visual composer (UI design); MS Word, Google Docs, Grammarly (content creation and modification); SERPTrends, Keywortool.io (digital marketing); Apptivo.

Objectives of the project: The main objectives of my project was to help build the new website of Takshila learning (products and webpages), and to help in the automation of sales and marketing.

Major learning outcomes: This organization gave me a sneak peak into the world of corporate, and also helped me shape myself into a team player. I also learnt about few new tools and softwares that might come handy in future.

Details of papers / patents: Not Applicable

Brief description of working environment, expectations from the company: The working environment at Takshila learning is average. The work culture is more suited for an experienced individual, and not for a fresher. The senior officials had lot of expectations from me, given the nature of my project.

Academic courses relevant to the project: Technical report writing.

Name: KOTHAPALLI VIVEK VARMA (2017A2PS0904H)

Student write-up

Short summary of work done during PS-II: I got the opportunity to work with 3 different teams. Content, Digital marketing, Design teams. I have developed content which goes into

website. With marketing team, we have ranked search results to do analysis. With design team, done exhaustive UX research on company's website.

Tool used (Development tools - H/w, S/w): Grammerly, Serptrends, Smallseotools.

Objectives of the project: Make content and design ready for new website.

Major learning outcomes: Got to know about corporate culture and turned into a team player.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Work environment is ok. Expectations from the company are moderate.

Academic courses relevant to the project: Technical report writing.

PS-II Station: Tata Digital Health, Bangalore

Faculty

Name: H. Viswanathan

Student

Name: Madhumita Ramesh (2017A1PS0323G)

Student write-up

Short summary of work done during PS-II: Worked as a backend developer. Writing APIs using Spring Boot framework for different micro services across various platforms of Tata Health for consumers, doctors and support admin. Handling of databases and their retrieval at the backend.

Tool used (Development tools - H/w, S/w): Spring Boot- Eclipse, Postman.

Objectives of the project: Backend development.

Major learning outcomes: Optimization of APIs, Database management.

Details of papers / patents: No patents /papers

Brief description of working environment, expectations from the company: Very supportive and cooperative environment. A mentor was assigned for each, to guide and help you throughout.

Academic courses relevant to the project: OOP, DBMS.

Name: DHANANJAY SINGH SAWNER (2017A3PS0295P)

Student write-up

Short summary of work done during PS-II: Worked on various microservices of TATA Health platform. Worked on monetization of instaDoc feature of Tata Health, which was earlier free of cost. Earlier Tata Health was serviceable only in Bangalore, so worked on extending online consultation service from Bangalore to throughout India.

Tool used (Development tools - H/w, S/w): Spring boot, Hibernate, Git, Postman.

Objectives of the project: Maintaining the current features of TATA Health platform and also adding new functionalities into it.

Major learning outcomes: Learnt backend implementation using Spring boot.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: I was assigned role of backend developer. I worked with full time employees on live product (Tata Health). People are nice and helpful. I was treated equal to full time employees who joined along with me. So, overall I learnt a lot.

Academic courses relevant to the project: OOP

Name: HARSH RAJ (2017A7PS0942G)

Student write-up

Short summary of work done during PS-II: I worked as a front-end web development intern, with focus on EMR (Electronic Medical Records), the interface primarily used by healthcare professionals. Throughout the internship, I was part of a team that worked in an Agile development cycle following the Scrum methodology. I had the opportunity to develop and work on features of a consult helper that would assist doctors in consulting with their patients. Apart from this, I also worked on tasks pertaining to other projects and resolving bugs / issues as and when required. The technologies used involved PHP (with Laravel framework), HTML, CSS and JavaScript.

Tool used (Development tools - H/w, S/w): HTML, CSS, JavaScript, PHP (with Laravel framework), Git Cola, Bitbucket.

Objectives of the project: The primary focus of my work revolved around developing features for consult helper that assists doctors in their consultation with their patients. Apart from the EMR work, front-end development tasks pertaining to other projects were also completed.

Major learning outcomes: The internship work focused on front-end web development work. The most important learning point was understanding the way AJAX calls are used for API integration in Laravel PHP framework. Apart from this, I also improved my understanding of the way HTML, CSS and JavaScript work together and integrate to give a working webpage. Last but not the least, the internship really helped me improve my soft communication skills. Agile development cycle with Scrum methodology meant there were daily meetings of our team so we could know how the work was progressing. Active as well as passive participation skills were greatly enhanced. I got to know the entire process of making a product, from the conception to the execution.

Details of papers / patents: No papers or patents were developed in this internship.

Brief description of working environment, expectations from the company: As a front-end web developer, one will be part of a team, which in itself has people from the back-end, front-end, app developers, web developers and QA people. Agile development cycle with Scrum methodology is followed which means development cycles usually last for 2-3 weeks, within which each team member is expected to deliver on their commitments. Before each sprint cycle starts, teams meet to plan everything, list the story points and then fill in the commitment chart, which is then followed for the entire sprint. During my internship, the interns had regular catchup meets with the CTO and HR for addressing any issues. Apart from regular work, the HR team organized leisure activities from time to time. The overall working environment is very friendly, harbors a spirit of team-work due to the nature of work methodology, the authorities are easily accessible for any grievances and the atmosphere is conducive to great learning.

Academic courses relevant to the project: Data structures and algorithm, Object oriented programming, Database systems.

PS-II Station: Texas Instruments (I) Pvt. Ltd., -Analog, Bangalore

Faculty

Name: Satya Sudhakar Yedlapalli

Student

Name: R S BALAJEE (2017AAPS0212G)

Student write-up

Short summary of work done during PS-II: Designed logic product from scratch.

Tool used (Development tools - H/w, S/w): Cadence

Objectives of the project: Complete product design for given speciifcations.

Major learning outcomes: Analog circuit design, industry standard requirements, Cadence tool operation.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Very friendly and patient mentors / managers, expectation is to learn and be enthusiastic.

Academic courses relevant to the project: Electrical sciences, Electronic devices, Microelectronics.

PS-II Station: Texmaco Rail & Engineering Ltd., Kolkata

Faculty

Name: Arun Maity

Brief write-up on PS-II station: At Texmaco, I was given a project related to casting simulation of wagon manufacturing components using z-Cast Pro software. Students can use this software in the first degree level for the course manufacturing processes. Industry is looking for skills to utilize the simulation software and its analysis.

Student

Name: SOUVIK ROY (2017A4PS0460P)

Student write-up

Short summary of work done during PS-II: Dr Rajarshi Sarkar Texmaco Ltd., was allotted to me as my company mentor. My project is based on the simulation of wagon components using z-Cast Pro software in steel foundry at Belgharia plant of Texmaco Ltd. My project deals with simulation of the actual casting process of products produced by Texmaco through casting. I discuss the casting of two of their major components, traction link and yoke. The first part of the project involves performing trial simulations on different components shared by WILP, BITS Pilani. Followed by a simulation of a traction link model shared by Texmaco. After that, designing 3-D models of yoke casting set-up and performing simulation through Z-Cast Pro to get detailed analysis of the casting process. We match the simulation results with the results of a real process to find a cause of the defects that arise in the casting and to propose a solution to reduce the defects if possible.

Tool used (Development tools - H/w, S/w): Z-Cast Pro software, it is casting simulation software for new method Computer Aided Simulation (Z cast pro software). In this software, we can check the design by simulation.

Objectives of the project: To analyze and check for defects in wagon components by performing casting simulation using Z-Cast Pro software.

Major learning outcomes: I learnt about the importance of casting simulation in the field of manufacturing where customer satisfaction is our ultimate aim. Texmaco earlier invested a lot in shop-floor trials which led to increase in cost per production of wagon components. Now after simulation, we can simulate the wagon components to know the amount of defects in our castings. This will help in reducing the number of shop-floor trials thus reducing the costs on repairs.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: My internship at Texmaco was WFH where my job was to simulate the casting models to look for defects and propose a solution to reduce the defects. I was allotted Texmaco Ltd., where my project was to analyse the casting models shared by Texmaco using z-Cast Pro software, my internship started where I was shared some practice problems by WILP BITS Pilani that I did and gained sufficient knowledge regarding z-Cast Pro software which is comparatively a new software. Post that they shared with me the combined model of traction link on which I performed the solidification analysis to check for defects. I was then asked to design a 3-D model yoke casting set-up and simulate to check for defects, my mentor was supportive throughout my internship and provided me with all the details required to work on my project. Working with Texmaco helped me in understanding the working of the company and how small changes can help in bringing better goods for the company. We had regular meets through G-meet where we analysed and discussed the simulation results, the environment was friendly and supportive.

Academic courses relevant to the project: Production techniques I, Machine design and drawing.

PS-II Station: Thomson Reuters, Hyderabad

Faculty

Name: Gopala Krishna Koneru

Student

Name: MURLIKRISHNAN TRIPATHI (2016B4A70329H)

Student write-up

Short summary of work done during PS-II: Use of AI, ML and Robotic automation process to automate business processes.
Major Project – I: Disruption detection automation project
Developed and deployed automation Robot which automates the disruption detection from job posting websites like indeed and checks for the duplicates from the existing entries and uploads new one on salesforce website. This workflow used to be done manually.
Major Project – II: Forecasting revenue and expense of different business units for next year
Built a standardized end to end generalized pipeline for training, validation and testing of the SARIMA based models for different views of business units. Minor Project – I: Automating marketing requisitions submission
Made improvements to existing automation Robot which includes integrating new SSO method.
Minor Project – II: Automating internal winner file processing and consolidation
Based on business requirement, processing different worksheets of the winner file and consolidating them.
Support Project – I: Providing support for internal finance month ending automation project
To provide support to the internal client for one of the internal finance month ending automation project by making backup and duplicating project.

Tool used (Development tools - H/w, S/w): Python3, UIPath studio.

Objectives of the project: Use of AI, ML and Robotic automation process to automate business processes.

Major learning outcomes: Knowledge of some ML systems and RPA technologies.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Working Environment: WFH, laptop and headset given by company.
Expectations: Good ML / AI and automations projects.
Helpful teammates and manager, good chance of PPO if opening is there.

Academic courses relevant to the project: Machine learning, Computer programming.

Name: NEELABH SINHA (2016B5A80600P)

Student write-up

Short summary of work done during PS-II: My PS2 at Thomson Reuters was at technology team of TR finance, and my team had a mixture of engineers, MBA people, etc. who were working on things like development, ML, analytics, and automation. As far as my work is concerned, I did multiple projects, which majorly were in full-stack development and time-series forecasting using Machine learning. I also worked on quick automation-based projects as per the requirement of the team. In the first project, my responsibility was to ideate and implement a full-stack portal which was to be used for project tracking, storage of files and distribution to the clients under specified business constraints. I was given full freedom to plan the project and decide on the tech-stack. I implemented the complete backend using Spring Boot (Java) and frontend using Angular. Database chosen was MongoDB. In the other project, myself with my co-PS student were given the task to predict the future forecast of expenses for various business units using ML. We chose SARIMAX model for time-series forecasting and implemented the complete business requirement logic around that using Python. We had to dynamically adjust as per business constraints and requirements. At the end, another ML based project started but we were just helping hands in that due to time constraint. Apart from this, few automation projects of manipulating excel, decoding encoded invoices, etc. was given for which

I was given the task to build automated workflows to get required output. I majorly used Python and associated libraries.

Tool used (Development tools - H/w, S/w): Development - Spring Boot, Java, Apache Maven, Angular, HTML, CSS, Typescript, MongoDB.
Machine Learning - Python, Statsmodels, Pandas, Seaborn, Scikit.
Automation - Python, Selenium, Pandas, Pywinauto, Pywin32, UIPath.

Objectives of the project: 1. To ideate and implement a full-stack web portal to be used as project tracker, storage and distribution hub for internal workings in TR 2. To ideate and implement a time-series forecasting model to forecast monthly expenses in various business units.

Major learning outcomes: Time-series forecasting, full-stack development, end-to-end development project ideation and implementation, automation.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The environment at TR is great, and everyone is supportive. One is given complete freedom to what he / she wants to do to design solution approach for the given problem and implement it. I got a chance to interact and work with many cross-functional teams throughout my tenure, who worked at different places, like Bangalore, US, UK, under different domains, like accountancy, sales, technical, and people from upper management. The team is supportive of limitations and people are willing to help. So, the exposure is great. The expectations that I experienced was that I always had the option to specify my own deadlines, but it is expected of me to not exceed it. Working hours are friendly and there is always a flexibility to adjust it as per your need if one can meet their commitment. However, one is expected to be available for all discussions and meetings, whenever they are scheduled to be. But majority of the projects in the team are automation based and so if someone wants to do different things (like development, ML), they have to make efforts to get such a project in the bag and commit to deliver it. One is also expected to self-learn and apply. Apart from automation, as the team is getting new into ML and development, there will not be much technical help around. All in all, I would summarize by

saying that it is good option to have if someone is looking for just a good overall internship experience only.

Academic courses relevant to the project: Object oriented programming, Neural networks and Fuzzy logic, Machine learning, Database systems.

PS-II Station: Thorogood, Bangalore

Faculty

Name: Sandeep Kayastha

Student

Name: HIMANSHU GOYAL (2017A1PS0814P)

Student write-up

Short summary of work done during PS-II: First 40 days at Thorogood are the training days. They train you extensively on the four technologies related to data analytics. The training are quite exhaustive and very helpful. Then you are asked to attempt a case study based on the trainings. The case study makes use of these technologies and is quite challenging. At the end of training period, a review takes place- in which you present your case study solution. Subsequently, you are allotted to a real time project with a team. The work is quite similar to what you learn in the trainings and case study.
Tool used (Development tools - H/w, S/w): SQL server, Azure data bricks, Azure data factory, Power BI.

Objectives of the project: Data analysis and data visualization.

Major learning outcomes: Microsoft SQL server, Azure services, Power BI, Microsoft Excel.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Trainings are very helpful. Even though an intern, you wont be considered any different than a newly joined full time employee. People would be extremely helpful and reachable. You will be allotted a mentor (a mid-level consultant of the company) as well. He / she will act as a first point of communication in case of any difficulty or otherwise. There will be fun events all along the year- Orientation event, monthly events, diwali celebration etc. You can participate in them like any other employee. During our time, the PS was virtual. They will ensure smooth onboarding- they will send laptop, headphones, electricity bill payment etc. They wont overburden you with work (apart from the initial training days) and you will have ample time to gain more skills and even prepare for next semester placements.

Academic courses relevant to the project: No specific requirement

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Name: NISHCHAY GOYAL (2017A2PS0978P)

Student write-up

Short summary of work done during PS-II: The PS starts with approximately one month of training on all the tools and resources that is required for the internship. Post which, I was assigned live-project related to BI and data analytics. I have been treated more like an employee and there is a plenty of work to do.

Tool used (Development tools - H/w, S/w): SQL, Power BI, Azure databricks, Azure data factory.

Objectives of the project: To deliver an automated dashboard for supply chain executives having all important metrics.

Major learning outcomes: Communication skills, Data analytics tool, Project requirements.

Details of papers / patents: No

Brief description of working environment, expectations from the company: Everyone here is friendly and flexible enough to answer to your silly questions. Company culture is great, they treat you as an employee that is great and I've not expected that. Being online this sem, can't comment on their office environment.

Academic courses relevant to the project: NA

PS-II Station: Tamilnadu Science and Technology Center (TNSTC), Chennai

Faculty

Name: Pradheep Kumar K

Student

Name: RISHABH (2017A3PS0547H)

Student write-up

Short summary of work done during PS-II: During PS-II, I build a web based application. I was told to build an educative App that can help the users to get to know about parts of aircraft, their function, and the main objective was to build it the way that the user does not need any other person to do so (to minimize person to person contact). I build the web based App by using HTML bootstrap and bootstrap plugin called Jquery and used these to build the App. The

final product was an interactive App where user can click on any part of the plane and can access the audio, video and text information about the part and its function.

Tool used (Development tools - H/w, S/w): HTML, Bootstrap, JQuery.

Objectives of the project: Building an interactive education App that can work offline.

Major learning outcomes: Learnt about bootstrap, its plugins and how it can be used to build web based application.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment was good, PS instructor was very helping and supportive.

Academic courses relevant to the project: No, the academic courses that I did were not relevant to the project.

Name: UMANG GUPTA (2017A8PS0510G)

Student write-up

Short summary of work done during PS-II: Worked on creating a cross platform application using Flutter SDK to educate the younger demographic about cell phones.

Tool used (Development tools - H/w, S/w): Flutter SDK.

Objectives of the project: To create a cross platform App.

Major learning outcomes: To understand various processes involved in creating a cross platform App.

Details of papers / patents: No papers or patents were completed in this tenure.

Brief description of working environment, expectations from the company: The work was independently assigned on the basis of company's requirements and relevant knowledge of the specific domain. The company was interested in the final project and meetings were held on a monthly basis to discuss or review the progress made.

Academic courses relevant to the project: DSA, CP and OOP.

PS-II Station: Trell Experiences Pvt. Ltd., (Non-Tech-Operations), Bangalore

Faculty

Name: Sidharth Mishra

Student

Name: BUDARAJU ARAVIND (2016A1PS0501G)

Student write-up

Short summary of work done during PS-II: Monitored the sales of the e-commerce platform, monitored the performance of various facebook marketing campaigns. Created summary reports of products and campaigns performance.
Tool used (Development tools - H/w, S/w): Google dashboards, Google analytics, Google sheets, Shopify.

Objectives of the project: Suggest changes as necessary to the active campaigns.

Major learning outcomes: Learnt a lot about scaling-up operations of an e-commerce platform, got better at excel, google sheets as well as marketing strategies.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Very positive and free, as long as you finish the reports on-time for the few daily meetings. Very helpful and open.

Academic courses relevant to the project: None

Name: YASH BANSAL (2016A8PS0259G)

Student write-up

Short summary of work done during PS-II: Scrapping solution for all the competitor market places to give competitive pricing and offers.

Tool used (Development tools - H/w, S/w): Python

Objectives of the project: To gain customer, competitive advantage and reduce marketing expenses.

Major learning outcomes: Pricing and discounting strategies.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Working environment was good, could have designed better projects and process for PS-2.

Academic courses relevant to the project: None

Name: PRAGYAN SHUKLA (2016B1A40954H)

Student write-up

Short summary of work done during PS-II: Job was to develop a scoring system for company dashboard that helps in identifying good quality content on the short video platform Trell and to increase the rate of supply of good quality content on the App.

Tool used (Development tools - H/w, S/w): Excel, Typeform.

Objectives of the project: To increase the supply rate of good quality content on the Trell App, and develop a scoring system for moderation team to identity good quality content on the platfo4m, and work on other operations related task.

Major learning outcomes: Proper understanding of working of a short video platform, how e-commerce works and conducting proper user research.

Details of papers / patents: None

Brief description of working environment, expectations from the company: People are good, understanding can be helpful, but it somehow varies across teams, it is adviced to not just wait and accept every work alloted to you, if you have a better idea then you have to convince your supervisors to execute it and allow you to work upon it. Sometimes, the big picture of the project is not there.

Academic courses relevant to the project: No

Name: PRANAV LATHI (2016B3A10540P)

Student write-up

Short summary of work done during PS-II: I always wondered how an e-commerce works. I did majority of work in 3 teams: category, catalog and marketing. Basically, I learnt the whole process behind getting a brand to partner with the company, completing the legal formalities, listing the brand products on the shop, managing its inventory, sales, pricing and promotion techniques to improve the performance of that brand. I have maintained over 9 databases in the company which had all details regarding seller pipelines, seller financial details, logistic details, commission and discount details on a brand basis, sourcing pipelines etc. I learnt how to create seller accounts and use softwares like webkul and shopify for making frontend and backend changes to the shop respectively. I submit 2 daily reports in the morning, one analyzing the performance of brands from the days before and identifying why sales have changed and the other analyzing the performance of affiliate marketing.

Tool used (Development tools - H/w, S/w): Webkul, Shopify, Vinculum and MS Excel.

Objectives of the project: 1. Expand the business of the company 2. Check performance of live brands in the system and try to improve it 3. Maintain company databases 4. Generate daily reports to analyze issues with sales.

Major learning outcomes: Several soft skills developed like team work, interpersonal skills. Time management and problem solving skills enhanced. Excel skills improved to a business level. Major self confidence boost.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The work environment was very supportive and empowered the employees to learn new things and improvise on their projects.

Academic courses relevant to the project: N/A

Name: MAYUR PAMNANI (2017A3PS0284P)

Student write-up

Short summary of work done during PS-II: Worked closely with the finance, e-commerce team along with the community team at Trell to promote the Trell shop and drive sales from the shop.

Tool used (Development tools - H/w, S/w): Market analysis.

Objectives of the project: Marketing and business development.

Major learning outcomes: Learning market analysis and business development, managing and leading a big team.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Working environment is decent but the timings aren't followed much. Meets are scheduled at any time. Apart from that, the working culture is decent.

Academic courses relevant to the project: No

Name: UTKARSH GUPTA (2017A3PS0346P)

Student write-up

Short summary of work done during PS-II: Improving user retention by finding the content fit for over 100K daily new users across different tiered cities by working on the feed logic algorithm.
Working to increase the visibility of organic content by designing a framework to measure the performance of content creators across 8 languages. Solving the content demand-supply equation for 30 Mn+ users by analysing engagement metrics on user and influencer generated content.

Tool used (Development tools - H/w, S/w): MS Excel, SQL, Python.

Objectives of the project: To find the right content fit on the platform by understanding the supply and demand of content on the platform.

Major learning outcomes: Data analysis, identifying and solving problems.

Details of papers / patents: Not Applicable

Brief description of working environment, expectations from the company: It has been an enriching experience, learning about how content flows and is managed on the platform. Being a part of the growth phase Trell has been in, working along with various teams, solving numerous problems backed by data everyday. I have picked up SQL, Python and various Excel throughout my tenure at Trell and am thankful to the team for there guidance and support.

Academic courses relevant to the project: Using excel in the finance courses helped a lot.

Name: KOPPANATHI MANISH (2017A3PS0465H)

Student write-up

Short summary of work done during PS-II: Product analyst, worked with Google analytics and Google tag manager to make many product related changes, improving trell store conversion rate.

Tool used (Development tools - H/w, S/w): Google analytics, Google tag manager, Google data studio, Google spreadsheet.

Objectives of the project: Make improvements in the e-commerce store to increase conversion rate.

Major learning outcomes: Many technologies

Details of papers / patents: None

Brief description of working environment, expectations from the company: Very flat management, and nice mentorship.

Academic courses relevant to the project: None

Name: SPARSH PORWAL (2017A4PS0186P)

Student write-up

Short summary of work done during PS-II: In the product analyst role, I extracted data from various database servers of the company and performed analysis using tools like excel, python pandas, jupyter notebook, redash dashboards, google bigquery and google analytics. The analysis involved extracting data from servers using the language SQL and merging various datasets using pandas. Further, automated filling of those datasets onto google sheets using google sheets API integrated with python language. There were various types of analytics I performed which included campaign analytics, product funnel analytics, diagnostic analytics, descriptive analytics, prescriptive analysis and predictive analysis.

Tool used (Development tools - H/w, S/w): Dbeaver, Anaconda, Jupyter notebook, Pycharm, MS excel, Gitbash, Google bigquery, Firebase console, Google analytics, Python pandas, Python selenium library.

Objectives of the project: Organic growth and acquistion of users on the platform.

Major learning outcomes: Data analytics, Python pandas, Campaign marketing, Product management.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Great working environment, collaborative teams, helpful mentors and positive employee mindset.

Academic courses relevant to the project: C programming.

Name: GAURAV SHARMA (2017A5PS1092P)

Student write-up

Short summary of work done during PS-II: I was onboarded as an operation / community intern and my work revolved around the "supply side" of things, i.e. interacting and managing the creators making content on the Trell App.

Tool used (Development tools - H/w, S/w): The role was technically less demanding and Google sheets was the only things we used most often, other than the company dashboards.

Objectives of the project: To increase the people coming on to the Trell App as well as increasing the Trell shop traffic.

Major learning outcomes: Over the course, I acquired lot of skills such as, effective communication, teamwork, responsibility, creativity, problem-solving, leadership, extroversion, people skills, openness and adaptability.

Details of papers / patents: N.A.

Brief description of working environment, expectations from the company: The working environment at Trell is very open and friendly. We were always comfortable approaching our managers, and they would always try to go above and beyond to help us. Everyone at Trell tried their best to make our stay there positive and educative. There were deadlines but they always accompanied more than ample time to finish the work. As a growing startup, Trell is a brilliant place for anyone to learn on the fly with a huge emphasis on ownership of ones' own work.

Academic courses relevant to the project: None

Name: SAGAR SHARMA (2017A8PS0520G)

Student write-up

Short summary of work done during PS-II: Work done mostly revolved around e-commerce operation. In the initial phase, worked on the cataloging part of products which included assigning proper tags, product QC, creating product combos based on individual product performance, ratings and reviews. In the next phase, worked on product mapping in which assigned products to influencer on trell video App to promote the products. Also worked on order creation and product listing on trell shop.

Tool used (Development tools - H/w, S/w): Excel, Shopify, Webkul, Data mining, Cuelinks.

Objectives of the project: To list products with proper tags, price and to create campaigns for the products.

Major learning outcomes: Learnt how e-commerce works. Got to know how products are listed and how they are campaigned.

Details of papers / patents: No paper published

Brief description of working environment, expectations from the company: Working environment was good. Mentor was very helpful, got to learn a lot from him. Every month's 1st Saturday we had a townhall where any employee can interact with founders and newly joined team members.

Academic courses relevant to the project: No courses

Name: U ASWATHY (2017ABPS1051P)

Student write-up

Short summary of work done during PS-II: Data analytics for the e-commerce operations and marketing teams.

Tool used (Development tools - H/w, S/w): Redash, SQL, MS Excel, Python, Google analytics.

Objectives of the project: Track e-commerce supply chain KPIs, marketing campaign performance.

Major learning outcomes: SQL, MS Excel, Python, e-commerce platforms like Shopify, Clickpost.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Great working environment, very flexible, approachable managers who are willing to help students upskill.

Academic courses relevant to the project: Supply chain management, Lean manufacturing.

Name: AVANI GUPTA (2016A5PS0737H)

Student write-up

Short summary of work done during PS-II: The work in PS began with the newly established e-commerce vertical. We were tasked with carrying out market research and analysis on different factors, and provide valuable insights. The contribution ranged from ideation of campaign ideas to working on pay models for collaboration with influencers. There was a project assigned to build a flow for different chatbot use cases for users in various buckets. From

market research and competitor analysis, I moved on to the supply team, aiding them in carrying out BAU tasks on a logistical front on a daily basis. We saw the growth of e-commerce vertical to 1000%.

Tool used (Development tools - H/w, S/w): MS Excel, Shopify, Redash (SQL query dashboard).

Objectives of the project: To grow the e-commerce vertical.

Major learning outcomes: SQL, MS Excel, communication skills, cross team communication, order management, inventory management.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work environment is very friendly and the team members are always available if you need them. There is a lot of scope to learn and flexibility in terms of the work or team you want to join.

Academic courses relevant to the project: Principles of economics, Supply chain management.

PS-II Station: Trell Experiences Pvt. Ltd., Bangalore

Faculty

Name: Vimal S P

Student

Name: VARGHESE ROY (2017A3PS0366G)

Student write-up

Short summary of work done during PS-II: I worked in the development of content tagging and quality control dashboards for Trell. The searching algorithms of social media App works based on tags attached to the videos / content attached to it. Tags are keywords attached with the videos that describes the type of the videos and content in the video. As Trell is a short video App like tik-tok, it is important for the contents to have proper tags associated with. Trell has both paid and non-paid content creators. Sometimes, the content creators won't be able to add tags properly to their videos. Then, the organization has to do it. The organization also has to check whether the tags are attached correctly. Since, the volume of content uploaded everyday is huge, Trell gave this work to an external agency that tags these videos. The agency goes through every trail inside the batch, attach the tags to it and then submit it back in batches. A batch contains around 50 to 100 trails. Around 30% of the trails in every batch is reviewed by a moderator in Trell and see if the tags are given correctly according to the content of the trail. If the moderator feels the tags are attached correctly then the batch is accepted, else they are rejected and is returned back for retagging. The web interface that is used by the agency and taggers in Trell for tagging these trails is called content tagging dashboard. The quality checking of these tags by the moderators are done in another web interface. It is called quality control dashboard. I worked in the development of content tagging and quality control dashboards. I added many other features and fixed several bugs inside both content tagging dashboard and qc dashboard. I also worked in the entire restructuring of tagging structure in the database of Trell.

Tool used (Development tools - H/w, S/w): JavaScript, MySQL, VSCode, Git, Postman.

Objectives of the project: To create and develop a web interface for attaching proper tags to the trails (short videos) and checking their quality.

Major learning outcomes: Learnt JavaScript and MySQL from scratch as well as latest new technologies used in web development.

Details of papers / patents: NIL

Brief description of working environment, expectations from the company: There were nine of us from all three campuses who worked in the tech side for Trell. We had a three week training under the AVP and Head of Engineering of Trell on three major fields of software development, namely, backend development, frontend web development and data science. We did several small projects as apart of our training to gain hands-on experience on all three fields. The training was intense but we learnt a lot from it. After training, we were assigned to different teams. I was assigned to frontend web development team. I was assigned to a mentor whom I reported on a daily basis. I was given daily tasks by him to complete. Some of them were easy, some were hard. My mentor was always there to help me whenever I got stuck at something. He gave me simple tasks initially and gradually increased the difficulty of the tasks. He always gave me ample time and resources to complete my tasks as well. Overall, my experience at Trell was very good and I learnt a lot about software development as well as working culture in the IT industry durig my five month internship at Trell.

Academic courses relevant to the project: Computer programming, Object oriented programming.

Name: MEHUL MOHAN (2017A7PS0935G)

Student write-up

Short summary of work done during PS-II: Worked on the backend technology and features powering millions of feeds and profile of users of Trell.

Tool used (Development tools - H/w, S/w): PHP, Golang, Node.js, SQL, Docker, AWS, Kibana.

Objectives of the project: Worked on the backend technology and features powering millions of feeds and profiles of users of Trell.

Major learning outcomes: Learnt to work in teams, new technologies and how companies operate at scale.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Worked on the backend technology and features powering millions of feeds and profiles of users of Trell.

Academic courses relevant to the project: CP, OOP, DBMS.

Name: SHRIYA CHOUDHARY (2017AAPS0409H)

Student write-up

Short summary of work done during PS-II: Did work in a lot of different areas such as data storing, web scraping, making a dashboard for setting ad configuration that are displayed on the App, setting up grafana to monitor different metrics in EC2 instances.

Tool used (Development tools - H/w, S/w): Selenium, MySQL, Grafana, Magento.

Objectives of the project: To make the management of different features of the App better as it grows.

Major learning outcomes: Learnt the basics of data analytics, data engineering, backend.

Details of papers / patents: None

Brief description of working environment, expectations from the company: It is a fast growing startup with a lot of work going on in data science, frontend and backend. Consideration is given to your preferences when assigning a project.

Academic courses relevant to the project: CP and OOP.

PS-II Station: Trifacta Inc., Bangalore

Faculty

Name: Vimal S P

Student

Name: INDRANEEL GHOSH (2016B1A70938P)

Student write-up

Short summary of work done during PS-II: Worked on developing and optimizing big data backend architectures.

Tool used (Development tools - H/w, S/w): Databricks, AWS, Azure, Java, Node.JS.

Objectives of the project: Optimize databricks execution and integration with the Trifacta SaaS and EE products.

Major learning outcomes: Error handling, Hadoop, Spark, Cloud technologies.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Team members are cooperative and the firm has a really open culture.

Academic courses relevant to the project: OOP, DSA, DBMS, OS.

Name: ANIRUDH VIJAY (2016B3A70525P)

Student write-up

Short summary of work done during PS-II: I worked on converting the Trifacta's internal data flow language (cdf- common data flow language) into Python script so that they can target new segment of users who are coding friendly e.g. data scientist.

Tool used (Development tools - H/w, S/w): Python, Postman, Phabricator, Jenkins.

Objectives of the project: Create a feature in Trifacta wrangler software that can convert the data transformation steps (done through UI) into Python script.

Major learning outcomes: Learnt about the corporate culture and to create APIs. Gained many professional and technical skills.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Working environment was good. Being a startup, they provide you the actual work that will eventually be added to their product. The team members were supportive and helpful. I really enjoyed my work here.

Academic courses relevant to the project: Complier construction, Data mining, OOP.

PS-II Station: Tvami Technologies Pvt. Ltd., Bangalore

Faculty

Name: Sugata Ghosal

Student

Name: GLEN FERNANDES (2016B3A40380G)

Student write-up

Short summary of work done during PS-II: Tvami is a new startup which looks to provide a platform for local artisans and handicrafts workers. They have an e-commerce website to sell these products online. Like all startups, it is expected of you to be flexible and take up initiative to do any work. I was assigned as a product manager, helping the company in structuring and streamlining its processes. I also served as an intermediary to the company and merchendizers of products. Verifying the data given by artisans and building up the database based on the data given. For some time, I had data entry job and editing images in photoshop. Some projects in my time did not come through such as making a complete end-to-end website for the company.

Tool used (Development tools - H/w, S/w): Excel, Shopify backend, Photoshop.

Objectives of the project: To streamline the process of setting up the products on the website.

Major learning outcomes: Flexibility, Frontend-backend-database processes.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The exposure you receive is amazing. Its not your typical PS station, its less organized but very flexible and very much interesting. The team is open to any new ideas and there is no distinction between interns and full time employees. Work environment is very conducive to exploration and finding solutions. Its a great place to learn and cultivate important skills to be applied in industry. Tvami has strong core values of leadership, work-ethic, professionalism, inginuity and service.

Academic courses relevant to the project: Supply chain management, Production planinng and control.

Name: DEVIKA JANGID (2017B5TS1222P)

Student write-up

Short summary of work done during PS-II: To get an experience of social media marketing, I had made social media posts as instructed by my expert. Further, in the continuation of the work, I had also collected data for writing blogs and have prepared blogs for the website. Later, by collecting data and adding bits from my side, I had written a description for the products listed as advised by the expert. After preparing the format of the customer feedback form, I was asked to take the feedback from all the current customers and report the team if there's any problem faced by the customers. The next task was to work on newly created social media platforms. I had to handle the social media platform daily and create content for them. Along with, I was also working with website content. The content included blogs for websites, visuals for social media platforms, and description of products. Apart from content, I was also given a hands-on experience in marketing strategies incorporated in the firm. I was made aware of the marketing campaigns and promotions done for the products. I was asked to work on the promotions and advertisements of the products. After completing promotions, I worked with the team to design banners of the firm.
After a while, I worked for newly updated products and have written their write-up such as descriptions of products, craft blogs and introduction of artisans.

Tool used (Development tools - H/w, S/w): Photoshop Apps, Social media Apps, Editing Apps, Evernote, Trello, Buffer, Text editing tools.

Objectives of the project: The principal aim of my work is to bring out the best in me under the guidance of experts from the station. The project provided me with an opportunity to nurture my technical, professional, and cognitive and communication skills by working on assignments.

Major learning outcomes: I have improved on my various skills such as writing and communication skills. Apart from this, I have gained an experience of editing. The interactions and interviews with various people have honed my communication and interview skills, which would benefit me in the future. The continuous interactions have made me a bit more confident and outspoken. Through interaction with the various teams and individual members of the team, I have gained an experience of how a start-up works. They all taught me to maintain a team for better returns.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The WFH experience has been quite productive for me. The people of the firm are gentle and understanding.

Academic courses relevant to the project: NA

PS-II Station: TVS Motors, Hosur

Faculty

Name: Shashank Mohan Tiwari

Student

Name: KALIMI VENKATA YASHWANTH KUMAR REDDY (2017A3PS0221P)

Student write-up

Short summary of work done during PS-II: Using voice recognition, speech to text transcription and text to speech output, successfully built a speech processing android platform

for two-wheeler motor rider which is capable of chatbot and speech-enabled navigation with noise cancellation and bluetooth module. This project was built on android studio and chatbot was developed on IBM cloud.

Tool used (Development tools - H/w, S/w): Android studio, IBM cloud, NLP models.

Objectives of the project: Analyze voice input recorded over a bluetooth gadget connected to smartphone when smartphone screen is locked, study application development in native platform such as android or iOS (optional) with specific emphasis on bluetooth and HTTPS communication.

Major learning outcomes: Voice processing method, noise cancellation techniques, application development, understanding chatbots, analysis voice signatures.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: They support you well at the start and you need to maintain the discipline since the company being an MNC, always stick your deadline, targets, work and according they provide their support at your need.

Academic courses relevant to the project: Neural networks, OOP, Computer networks and android development.

Name: KODIGANTI SUSHANTH (2017A4PS0135P)

Student write-up

Short summary of work done during PS-II: My work at TVS Motor company involved modelling and simulation of monowheel vehicle dynamics. I started with a literature review of pre-existing monowheel vehicles and control systems. Then, I developed a mathematical model which described the longitudinal and lateral dynamics of monowheel vehicles. Relevant transfer functions were obtained from this model, using which a control system was created in Simulink.

To get better understanding of the vehicle dynamics, multibody dynamics model was created in ADAMS and simulations were performed to verify the robustness of the control system.

Tool used (Development tools - H/w, S/w): MATLAB, Simulink, ADAMS.

Objectives of the project: 1. Formulating a mathematical model of monowheel vehicle dynamics. 2. Implementing a closed loop control system and identifying the vehicle stability criteria 3. Simulating the model in ADAMS and validating the control system.

Major learning outcomes: Vehicle and tire dynamics, Control systems, Multibody simulation, Project management.

Details of papers / patents: None.

Brief description of working environment, expectations from the company: It was fully WFH internship, because of which we were allotted projects related to R&D. The working hours were flexible. The mentors were very friendly and helpful. Regular meetings were held with the mentors to ensure that I was reaching the deadlines.

Academic courses relevant to the project: Control systems, Kinematics and dynamics of machines.

Name: SAYEED AHMED (2017A4PS0331P)

Student write-up

Short summary of work done during PS-II: I worked on development of an automated adjustable suspension system. Currently in the Indian markets for highend bikes there is no semi active suspensions in the market whereas this is very common in foreign bikes. The project assigned to me was to automate the manual process of changing different suspension settings like compression damping, rebound damping etc., so that the rider can do it while riding. Apart from the study of different suspension systems on different bike manufacturers,

one of my key deliverable was development of a working prototype. The project utilized Arduino microcontroller with stepper motors to make the adjustments with inputs from the rider as ride modes. The project can be seen as a stepping stone for further development into semi active systems.

Tool used (Development tools - H/w, S/w): Used Arduino for coding, multimeter and tinker CAD simulation software.

Objectives of the project: Literature survey and technology study report alongside a demonstrative proto type of electronically adjustment mechanism.

Major learning outcomes: Completion of literature survey for semi active suspension system including the design / performance / cost / complexity benefits of different designs and make demonstrative proto type of electronically adjustment mechanism.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Since, my PS was all WFH, I did face a lot of challenges in communicating my ideas and having discussions with my mentor. The working environment is pretty relaxed at TVS as long as you can deliver the main objectives. We used to have weekly meetings with our mentor on the progress for each week. Another great thing they asked us to do was to make a Gantt chart to review our progress. Apart from this, the project given were quite interesting and I learnt a lot from my mentors during the progress of the project. I did expect to at least get a visit to TVS because for a field like mechanical it would be far more beneficial to work onsite.

Academic courses relevant to the project: Machine drawing and design, Robotics and mechanisms.

Name: DEV RAJ KHANDELWAL (2017A4PS0477P)

Student write-up

Short summary of work done during PS-II: Developed a Matlab / Simulink model of an electric two-wheeler for analysis of regenerative braking. Worked on novel braking strategies to recover maximum energy under different conditions.

Tool used (Development tools - H/w, S/w): Matlab / Simulink.

Objectives of the project: Devise novel regenerative braking strategies for electric two-wheeler.

Major learning outcomes: Working on a live project allowed me to gather in-depth knowledge on electric two-wheeler and regenerative braking strategies.

Details of papers / patents: Project is very technical and research oriented and could be turned into a paper.

Brief description of working environment, expectations from the company: Wonderful working environment. Very supportive and encouraging mentors and managers, extremely knowledgeable and helpful, guiding the project and steering it in the right direction. The company expects you to create useful model and results which can actually be implemented in their live-projects.

Academic courses relevant to the project: Knowing the basics of all the core subjects allows for easier understanding and is helpful in countering the technical problems faced.

Name: DHAWAL JAIN (2017A8PS0832H)

Student write-up

Short summary of work done during PS-II: There were 2 scopes of this project. 1. Design of a capable controller for the BL-DC motor 2. Run the EMC simulation for the very same and find ways to keep the interference at it's minimum.

Tool used (Development tools - H/w, S/w): Simulink, AutoCAD Eagle, Ansys electronics desktop.

Objectives of the project: Electronic analysis of the design and simulation of BLDC motor controllers.

Major learning outcomes: BLDC motor, it's control, controller types, inverter integration, feedback types, and specific softwares mentioned in the tools used section.

Details of papers / patents: https://www.renesas.com/kr/en/solutions/key-technology/motor-control/motor-algorithms/bldc.html#:~:text=BLDC%20motor%20control%20requires%20knowledge,mechanism%20to%20commutate%20the%20motor.&text=Sensorless%20BLDC%20control%20eliminates%20the,to%20est

Brief description of working environment, expectations from the company: Mentors were all very helpful and motivating, however the output expectations are reasonably high.

Academic courses relevant to the project: Industrial instrumentation and control, however only to a certain minimum extent.

PS-II Station: UBS - Group Compliance, Pune

Faculty

Name: Bandi Venkata Prasad

Student

Name: ASHISH SINGH (2017ABPS1572H)

Student write-up

Short summary of work done during PS-II: My project revolved around the operating effectiveness of different key procedural controls. The purpose was to understand the different categories of controls, how it functions, understand the test steps, and how ultimately it mitigates the operational risk which is the sole purpose of a control.

Tool used (Development tools - H/w, S/w): Mostly excel.

Objectives of the project: Perform operating effectiveness of key procedural controls in order to mitigate operating risk.

Major learning outcomes: Sources of operational risk an organization faces, controls testing, categories and testing stages, mitigation of operational risk by using standard test steps in a control.

Details of Papers / patents: None

Brief description of working environment, expectations from the company: The company environment is good. All other team members are really helpful. Since, it was work from home, the timings were also flexible.

Academic courses relevant to the project: Basic knowledge of POE (Principles of economics), Fofa (Fundamentals of finance and accounting).

PS-II Station: UBS - Group RISK, Mumbai

Faculty

Name: Bandi Venkata Prasad

Student

Name: AASHISH AGGARWAL (2016B3A10578P)

Student write-up

Short summary of work done during PS-II: Working on economic models developed by the company and taking it from the development phase to the deployment phase. Meeting certain criteria and performing statistical tests on the data that is used in the model to output the desired result with the help of modeling techniques like error correction model and Kalman filtering algorithm.

Tool used (Development tools - H/w, S/w): RStudio, LaTeX, MS Excel.

Objectives of the project: Performing statistical tests on the input data. Make changes in the development code to update certain features and improve the model development process. Documentation of the results and other processes for further reviews.

Major learning outcomes: RStudio, project documentation and communication skills.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working environment is good, and the people are really helpful and approachable. Company expects you to be hard working and able to meet the deadlines. It allows for time and space to learn new things and expect you to apply those skills efficiently.

Academic courses relevant to the project: Applied econometrics, Financial risk analytics and management.

PS-II Station: UBS Business Solutions (India) Pvt. Ltd., - Group Operations, Pune

Faculty

Name: Bandi Venkata Prasad

Student

Name: VIDIT MEHTA (2017A1PS0740G)

Student write-up

Short summary of work done during PS-II: Due to covid, we had 4 months WFH internship. I had been assigned group operations pune department. There, I had two projects as well as I was involved in their daily business activities. I created an internal sharepoint site for the department and worked on a framework for the department. I was assigned to control tower sub-department where I worked on daily activities like creating and publishing daily reports, presenting monthly reports of the department, managing KPIs and other supervisory work.

Tool used (Development tools - H/w, S/w): Sharepoint, MS-office, VBA, Outlook, Skype.

Objectives of the project: To create a website for the department which will act as inventory tool for them. To create a framework to reduce incidents occurring in the processes.

Major learning outcomes: Learnt how corporate culture works, how to get your work done in a corporate world. Improved my communication skills as well as technical skills. Got a chance to interact with various leaders in the industry and access to a vast variety of learning content.

Details of papers / patents: No paper published as such

Brief description of working environment, expectations from the company: I had WFH internship, so can't say anything about work location and office. In operations, don't expect work to be related to finance. As such, culture here is good. People are welcoming and will help whenever you need any help. There are ample opportunities to learn, you should be excited to learn.

Academic courses relevant to the project: FinMan, DRM & SAPM.

Name: AKHIL MAHAJAN (2017A4PS0820H)

Student write-up

Short summary of work done during PS-II: The projects included optimization of quality checks, documentation of these quality checks and creating Macros for automation. The optimization project covered understanding the configuration rules of the applications used by the team and proposing solutions to make the process faster, efficient and reduce manual effort. The documentation project covered everything needed to know about these quality checks as a SOP. This project will serve as a general document in the common folder that will be used in training of new candidates as well as for referral of the existing UBS resources.
The automation project(s) included designing Macros for automating certain things like SOD-EOD report generation, certain event handling procedures that will reduce the manual intervention required and make the process faster and more efficient.

Tool used (Development tools - H/w, S/w): VBA, SQL, MS Excel, MS Word.

Objectives of the project: Quality check optimization; 4Eye documentation as a general SOP document; automation of the processes using VBA Macros.

Major learning outcomes: Process optimization; data analysis; process automation using VBA; team operations; financial, operational and reputational risks and their Impact; time management; interpersonal skills; team workflow; configuration rules of the applications and interfaces used by the team; quality checks procedure; managerial and interaction skills.
Details of papers / patents: NA

Brief description of working environment, expectations from the company: The UBS working environment is excellent. Everyone is polite, respectful and professional. Everyone around from the line manager to employees in the team are willing to lend a helping hand for the projects if you show interest and desire to learn. You'd get a lot of opportunities, projects and work if you approach everything with a positive and an open mind. Ample opportunities connect within and outside your team and to improve interpersonal skills are also open. The company expects quality work and dedication from the employees and the Interns.

Academic courses relevant to the project: BAV, SAPM, DRM, FM, FRAM.

PS-II Station: UBS Business Solutions (India) Pvt. Ltd., - RAS Finance, Pune

Faculty

Name: Bandi Venkata Prasad

Student

Name: SHUBHAM SRIVASTAVA (2017A2PS1480H)

Student write-up

Short summary of work done during PS-II: I was assigned to develop reporting dashboard using MicroStrategy tool in accordance with financial reporting standards.

Tool used (Development tools - H/w, S/w): Microstrategy, Excel, Oracle SQL.

Objectives of the project: Development of financial report using MicroStrategy report.

Major learning outcomes: Knowledge of financial reporting standard and Microstrategy tool development.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Company expects you to be familiar with finance terms and basic Excel.

Academic courses relevant to the project: N/A

Name: BALPREET SINGH (2017A4PS1338H)

Student write-up

Short summary of work done during PS-II: During my initial days, I was asked to complete mandatory training related to UBS policies & management and I was introduced to various internal data sources of the firm and received training from various members of the team. My daily tasks revolve around sourcing & analyzing the data from their internal sources. Thereafter, use the obtained data to prepare various reports and publish them on their internal portals to be used by upper management & the stakeholders.

Tool used (Development tools - H/w, S/w): MS Excel, MS Access.

Objectives of the project: Daily work, preparing financial reports & publishing them.

Major learning outcomes: During the internship, I had the opportunity to work on a dedicated team, contributing to high priority initiatives and adding values to live projects, while learning about UBS's business and financial management. This internship has also helped me build leadership and communication skills as a result of my interaction with a global network of teams and individuals. It is incredible seeing the entire banking process live and knowing how much of an impact this will have for the clients and users.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The internship program of UBS has offered me opportunities to explore the firm, develop my skills and experience their culture. I got to experience all the networking events with underlying growth opportunities while learning financial management techniques. Team mates & leaders were really good & helped e a lot in my daily tasks & throughout my intern.

Academic courses relevant to the project: FoFA & FM.

PS-II Station: UBS Business Solutions (India) Pvt. Ltd., - Group Operations, Mumbai

Faculty

Name: Bandi Venkata Prasad

Student

Name: YOGIT AGARWAL (2017A2PS0984H)

Student write-up

Short summary of work done during PS-II: Was in the UBS supervisory team for group operations, had to perform various supervisory checks for which the team had numerous controls assigned. Was trained for a long period of time and continued working as well. The supervisory checks were done on instruments or securities being traded by UBS and stored on UBS database that were part of UBS investment banking sector.

Tool used (Development tools - H/w, S/w): Excel, Excel VBA, UBS workspace softwares and websites.

Objectives of the project: Automation of supervisory controls that were done on a weekly basis, two of such controls were automated by me, others were not feasible.

Major learning outcomes: Communication skills, detailed information about static data of all kinds of instruments- equities, fixed income, futures and options, learnt a lot of excel VBA coding and lot about corporate finance structure of a banking company.

Details of papers / patents: No details of patents

Brief description of working environment, expectations from the company: I had a team initially of just three people including myself (central supervisory team), The broader team of group operations had around 40 peoples. Both my mentors, the manager and my partner employee were extremely helpful in making me learn all the stuff as it was very necessary since they had no one else. They gave me time and always were happy to answer questions and doubts. The team meeting of 40 peoples was very interactive as well, everyone was very polite and because of that communication skills got a great boost.

Academic courses relevant to the project: Financial management, Derivatives risk and management, Securities analysis and portfolio management.

PS-II Station: UBS Group Finance – Hyd / Pune, Hyderabad

Faculty

Name: Bandi Venkata Prasad

Student

Name: ANSH NITIN GUPTA (2017A3PS0294P)

Student write-up

Short summary of work done during PS-II: I was working with the finance group as a product controller with equity derivatives - Americas, I was assigned two small automation projects, but I was majorly involved with the daily deliverables as part of the team, which involved preparing daily profit and loss statements; analyzing the MTM with respect to the market movements. I was also constantly in touch with thefFront office established in US. Daily P&L, balance sheet analysis and commentary was also done by me, in B/S I used to do the analysis of market movement with respect to our daily P&L.

Tool used (Development tools - H/w, S/w): MS Excel, SAP, OneView, VBA.

Objectives of the project: The objective of the project was to know about valuation techniques, controller functions and reporting.

Major learning outcomes: I've learnt a lot of things like how to communicate with senior high ranked employees, analyzing the daily profit and loss statements to identify and comment on the major drivers of the profit and loss statements on a granular transaction level basis, and being a team player.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Our company considered us as high skilled interns, they trained us just like any other employee, and treated us highly. They helped me a lot and taught me new things. It was pleasure to join this new team and learn a lot from it. My manager always gave me higher responsibilities and considered me as a senior resource.

Academic courses relevant to the project: Fundamentals of finance and accounting, Derivatives and risk management.

PS-II Station: Udaan, Bangalore

Faculty

Name: Annapoorna Gopal

Student

Name: NAMAN DEEP SRIVASTAVA (2016B4A70891P)

Student write-up

Short summary of work done during PS-II: The project assigned was based on CTR prediction and ranking of advertisements. Conducted literature survey for CTR prediction models and compared various machine learning models by implementation on Udaan Ads data. Conducted research on standard ranking methods including 'Learning to Rank' and contributed in the formulation of a new ranking function for Ads, using a conjunction of CTR and conversion models.

Tool used (Development tools - H/w, S/w): Python, PySpark, SQL, Tensorflow, Keras, Microsoft Azure, Databricks, Mixpanel.

Objectives of the project: In order to maximize revenue and user satisfaction, online advertising platforms must predict the expected user behaviour for each ads impression and maximize the expectation that users will click it - Research and analysis was to be conducted to develop.

Major learning outcomes: Understood the B2B framework and conducted research on state-of-the-art and the latest prediction and ranking techniques. Carried out model deployment in production and performed experiment analysis and significance testing at scale.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The working environment at Udaan is flexible and everyone in the team is helpful. Frequent learning sessions with the entire data science team are conducted, and the people are very approachable. Weekly sync ups with the team help in getting an overview of all the different kinds of projects going on in the respective domain and are also helpful for knowledge sharing. You get to own the product and add your insights to the same.

Academic courses relevant to the project: Information retrieval, Data mining.

Name: Abhishek Jain (2017A1PS0793P)

Student write-up

Short summary of work done during PS-II: My work revolved around competitive benchmarking and portfolio analysis of existing competitors of Udaan. Performing business analysis and creating dashboards for easy tracking of the inventory and sales.

Tool used (Development tools - H/w, S/w): SQL, Python, Excel.

Objectives of the project: To make call-outs for the changes in supply chain to ensure competitive pricing.

Major learning outcomes: Learnt about various factors contributing to profit-n-losses of the firm. Various parameters determining the pricing of a product.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: With a very energetic and helping team, Udaan is one of the most appealing place to work in. No hectic schedule and very cooperative seniors add stars to the work environment.

Academic courses relevant to the project: Basic knowledge (Fundafin, SCM).

Name: NISHANT PARIHAR (2017A2PS0056P)

Student write-up

Short summary of work done during PS-II: I worked with the electronics FP&A team at Udaan. My main project was to build an automated supply chain dashboard for the category that live tracks important metrics like the GMV funnel, RTO performance, SLA trends and major GM2 costs. This brought enhanced and better visibility around these metrics at a daily / weekly basis. Apart from this, I worked on costs reduction for supply chain and category - credit costs. Other pieces such as plans vs actual dashboard, purchase orders dashboard and buyer analytics were also a part of my PS2 project.

Tool used (Development tools - H/w, S/w): SQL, Advanced Excel (GSheets / data studio), Python (Pandas, NumPy libraries).

Objectives of the project: To assist the category with business operations dashboards, supply chain dashboard, buyer analytics, analytics around cost reductions.

Major learning outcomes: Working in a fast growing startup and delivering quick and efficient outputs.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Udaan has a healthy work environment. You may have to connect with various stakeholders from different teams. The management expects quick and optimized outputs and you may be the first person to work on any new idea. There is a huge opportunity to grow within the company and work with diverse business units.

Academic courses relevant to the project: Fundamentals of finance and accounting.

Name: NAMAN KANSAL (2017A4PS0508P)

Student write-up

Short summary of work done during PS-II: I have worked on many projects like,

1. Data migration: Migrating valuable data of whole 3 years in a tight deadline of a month.
2. Building dashboards: Visually appealing and daily publishing reports dashboard was built which is being used by more 50+ individuals from different teams.
3. Automating telesales project: It was a pilot project, when I joined. My task was to automate the data related queries and make them scalable.
4. User behavior analysis: Understand and model human behavior and suggest a preferred day of reaching out to buyer. So, I designed an algorithm that could predict maximum chance buyer placing an order.
5. Various daily / weekly / monthly reports published on email / slack account of team members.

Tool used (Development tools - H/w, S/w): SQL server sparx, Python, Advanced Excel skills.

Objectives of the project: Data migration to Azure based server, dashboard building, automating complete telesales project, user behavior analysis and daily / weekly / monthly report publication.

Major learning outcomes: Work on unorganized business data set and bring out useful outcomes that can be used by company to develop further policies to increase their profits.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Working environment is pretty hectic but a ample chance of learning. Buddies are assigned in starting to walk you through the current process and you will be given project work from day of joining. Companies expectations are high and you need to work day night and might get work at any hour of the day. So, if there's a geez of learning you get a lot out of this company.

Academic courses relevant to the project: Supply chain, DBMS.

Name: PRANEET KANNAN (2017A4PS0645H)

Student write-up

Short summary of work done during PS-II: Whenever, there is a shortage of supply for a new smartphone, it becomes very crucial for us to decide who gets this limited supply and how much of it do they receive. Thus, the problem statement was to create a buyer selection logic for the allocations of these low supply smartphones an work on the automation for it. Along with this, I was tasked with redesigning the whole of reporting for the category and automate it along the way.

Tool used (Development tools - H/w, S/w): Hive SQL, Python & MS-Excel.

Objectives of the project: Buyer selection logic and automation, automated supply chain dashboards and trendlines.

Major learning outcomes: Business development, problem solving, technical skills such as SQL, Python and other important interpersonal skills like leadership, teamwork etc.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: You are expected to take complete responsibility of the work you do. The working environment is fast-paced and very challenging making it an ideal PS station in terms of the amount of learning.

Academic courses relevant to the project: DBMS & POE.

PS-II Station: Udhyam Learning Foundatation, Bangalore

Faculty

Name: Rekha A

Brief write-up on PS-II station: Udhyam learning foundation attempts to create a revolution in human potential. They have various programs for the same like shiksha, Vyapar etc. studdents are working on automation of the data collection, processing and analysis at udhyam shiksha.

Student

Name: AMOL AGARWAL (2017A1PS0703P)

Student write-up

Short summary of work done during PS-II: The work included making a complete automated structure for Udhyam Shiksha using Zoho creator. The aim of the structure was to reduce the manual effort and time required for the process of data collection, analysis and representation.

Tool used (Development tools - H/w, S/w): Python, Microsoft Excel, Zoho creator, Data analysis.

Objectives of the project: To automate the process of data collection using Zoho creator.

Major learning outcomes: Concepts of data analytics and dashboard making.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The company is quite flexible in terms of the opportunities offered. The company is a bit hierarchical towards making decisions.

Academic courses relevant to the project: No courses required as such. Some previous knowledge about Python and HTML is a plus.

PS-II Station: UPGRAD, Mumbai

Faculty

Name: Swarna Chaudhary

Student

Name: Anway Patil (2016B5A10608P)

Student write-up

Short summary of work done during PS-II: As a content intern, you will majorly work on designing courses for learners. I was in the DS team. This mainly involved making PPT's, working on upgrad platform, designing assessments in Python on Jupyter notebooks, SQL etc

reviewing / re-structuring existing content, assisting to carry out user / learner research, design scripts for the SME's, respond to learner's queries etc. No prerequisites required as you are given time for self learning before you begin working on particular module. This is a purely a content-role and NOT an applied role. You can opt between data / tech / management verticals but the role is essentially the same.

Tool used (Development tools - H/w, S/w): MS Office, Jupyter Notebook, SQL, exposure to big data and cloud technologies like AWS, Hadoop, Hive.
Objectives of the project: Design ML / AI / Cloud / DS specialization courses for working professionals.

Major learning outcomes: Developed a good grasp over ML, DL and DS concepts. Exposure to big data and cloud technologies like AWS, Hadoop, Hive.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Friendly work-culture. Being WFH, I still had atleast one meeting daily with my team.Typical fast-paced start-up culture. Interns are given as much responsibilities as full time employees. Sometimes you might have to work additional hours / on weekends to meet the strict deadlines. This is purely a content-designing role so the self learning gives you a chance to develop your proficiency in the content you're working with. e.g. DS, DSA, ML/AI etc.

Academic courses relevant to the project: Machine learning, Foundations of data science.

Name: JITENDRA POTNURU (2017A1PS1030H)

Student write-up

Short summary of work done during PS-II: Created the content for the complete calculus course.

Tool used (Development tools - H/w, S/w): Latex, Google docs, PPT.

Objectives of the project: To create content for the courses.

Major learning outcomes: Learnt the basics of Python programming language and some basics of data structures and algorithms by completing the software boot camp provided by the organization.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Due to COVID-19 lockdown, the company has issued work from home policy. We have to report to the reporting manager allotted by upgrad team in beginning of the orientation sessions. We have to report the status of daily work assigned to you by the content strategist by the end of the day. All the meetings are conducted using the Google meet or Zoom. This company is purely a non-tech company where the job of the intern is to create the content for the courses.

Academic courses relevant to the project: Differential calculus.

Name: HITESH HARISH SHETTY (2017A7PS1541H)

Student write-up

Short summary of work done during PS-II: I interned at upgrad as a content strategist in the tech vertical. We were each assigned a module / chapter in one of UPGRAD's Post graduate tech programs. We were expected to develop the entire module with the help of an industry expert. This involved both coding and non-coding responsibilities like PPT creation, code testing, code documentation, preparing MCQ questions etc. In the course of the the internship, I worked on three modules, two based on data engineering tools- Apache Airflow and Apache NiFi and one on distributed systems.

Tool used (Development tools - H/w, S/w): Apache Airflow, Apache NiFi, AWS EC2 etc.

Objectives of the project: Preparing content for UPGRAD's Post graduate courses.

Major learning outcomes: Data engineering / cloud based concepts and tools.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The working environment is quite challenging as you work on a different module every two months. A decent part of the job involves non-coding related work which should be considered if you are considering a carrier in IT.

Academic courses relevant to the project: DSA, DBMS.

Name: KANTIPUDI JYOTHIRMAI (2017AAPS0290H)

Student write-up

Short summary of work done during PS-II: I worked as an intern in tech content team which makes technical courses to be uploaded to the UPGRAD platform.

Tool used (Development tools - H/w, S/w): MS Office, Jupyter Notebook, SQL.

Objectives of the project: To provide opportunities to advance your professional journey through rigorous online programs that offer personalised support, developed in collaboration with best in class faculty and industry professionals.

Major learning outcomes: I got hands-on knowledge on data structures which will help me in my interviews.

Details of papers / patents: None

Brief description of working environment, expectations from the company: All my colleagues are friendly and very supportive. The culture at UPGRAD is really welcoming and the training and onboarding of the interns is really smooth.The company's expectations are practical.

Academic courses relevant to the project: None

Name: KANTIPUDI JYOTHIRMAI (2017AAPS0290H)

Student write-up

Short summary of work done during PS-II: It is an ed-tech company. My role is intern, tech content. Our main work is to create technical courses (content creation) which are to be uploaded on UPGRAD website.

Tool used (Development tools - H/w, S/w): Eclipse

Objectives of the project: To provide opportunities to advance your professional journey through rigorous online programs that offer personalised support, developed in collaboration with best in class faculty and industry professionals.

Major learning outcomes: I worked on advance data structures course. This helped me a lot for my interview preparation.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Upgrad has great work culture and the onboarding of interns and the entire internship period is smooth even during the pandemic. The colleagues are welcoming and supportive. I really like the open discussion atmosphere at UPGRAD.

Academic courses relevant to the project: None

PS-II Station: UPGRAD1, Mumbai

Faculty

Name: Dinesh W Wagh

Student

Name: Yash Laturiya (2016B1A40829P)

Student write-up

Short summary of work done during PS-II: Develop world-class content for online courses on technology, entrepreneurship and management.

- Understand the industry requirements and develop courses to help students meet high standards.
- Plan and execute student competency assessment and engagement to ensure extraordinary learning experience.
- Quickly learn complex concepts and ensure quality of content, instructional design and overall course experience.
- Collaborate with business development team to meet content production deliverables.
- Define & structure content development process; work with educational content across all levels.
- Structure, grow and lead content development team including research assistants, video producers, scriptwriters etc. for B2B clients.
- Work closely with senior faculty, freelancers and global industry leaders.

Tool used (Development tools - H/w, S/w): Excel, PowerPoint, Word, Zoom / Google meet.

Objectives of the project: Design end-to-end couse for various university partners keeping learner centricity at the core.

Major Learning Outcomes: External stakeholders engagement, advanced PowerPoint skills, structural aspect of learning content.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Work culture is pretty chill and people seem to be nice, but haven't met them personally can't say much.

Academic courses relevant to the project: None

Name: ANIK JINDAL (2017A2PS0706P)

Student write-up

Short summary of work done during PS-II: The work was basically of a content strategist. I worked with Deakin Global MBA team. We were suppose to create course for learners willing to undertake a course on Global MBA under Deakin University. We understood learners requirements and their industry trends to make industry-fit courses. We also onboarded subject-matter experts with viable industry experience to provide some insights on real life applications. All in all, the work was to strategize and prepare course as per learners requirement.

Tool used (Development tools - H/w, S/w): Ms Excel, Power Point, Word, H5P.

Objectives of the project: Content creation for Deakin GMBA course.

Major learning outcomes: Preparing projects and courses as per requirement while keeping up the future trends in mind.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The work is a bit hectic. It is important to have a right balance. As the company has the startup culture, personal life goes for a toss. People are really helpful and approachable.

Academic courses relevant to the project: None

Name: SAPTARSHI SENGUPTA (2017A2PS0917H)

Student write-up

Short summary of work done during PS-II: Work involves course creation from scratch, which in turn includes a lot of steps. First is competitor research to understand which other competitors are providing the same course and what are their plus points. This is a rather deep desk research, you have to carefully plot which companies have openings for the course you are designing as well, entire content of the course to be created, you also have to go through the bylaws of the representative university through which certification has been facilitated, so as to create a course structure that covers all topics in depth. Next you have to create this course from scratch to full platform level and there are different levels of quality checks and reviews to be tackled here. Work is fun you get to learn a lot, interact with many professors. If you are lacking in speaking skills worry not by the end of this PS you'll be a master at that.

Tool used (Development tools - H/w, S/w): Google suite, Slides, Excel, Canva, Docs.

Objectives of the project: Data Strategy: Content Delivery for upcoming courses.

Major learning outcomes: Major increase in soft skills, lot of management work, teamwork.

Details of papers / patents: Cannot disclose, course is still to be launched.

Brief description of working environment, expectations from the company: Very chill work environment, in the course of 5 months we have not once been treated as interns, we were

given full range of responsibilities and access to company resources. Organization structure is very flat, you're team is going to have many managers catering to different aspects of the work. Work might sometimes get hectic, when approaching set deadlines, but otherwise it's pretty chill. Honestly, I was preparing for a PM kind of role, and then I randomly got into content strategy, which is also kind of management role; but yes I joined late and I absolutely missed the initial training period. My journey over the last 5 months has been tremendously a learning experience. I would encourage fellow BITSians to take up this opportunity, and work at the best startup of the year according to LinkedIn for two consecutive years 2019 and 2020 it will be wonder ride.

Academic courses relevant to the project: TRW.

Name: CHANDAN UDGATA (2017A2PS0961H)

Student write-up

Short summary of work done during PS-II: Creating content for BBA and MBA courses for different programs. UPGrad partners with various universities to create programs and course for learners. I worked on three marketing courses, finance and soft skills courses. Created design excel, shoot decks, ppts, assessments, platform text, summary documents etc.

Tool used (Development tools - H/w, S/w): Microsoft office, Google docs and slides.

Objectives of the project: Creating course content for learners of these programs.

Major learning outcomes: Developed communication skills, professionalism, accountability etc. Learnt about content creation process and created courses that will be available to 30000+ learners.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Great team-friendly, helping and encouraging. Young workforce with mostly youths in all positions. High workload and pressure because of deadlines. Often had to work extra hours. Interns had to work just as much and the same as permanent employees.

Academic courses relevant to the project: No

Name: SHASHANK SHEKHAR MANI (2017A4PS0874H)

Student write-up

Short summary of work done during PS-II: My work involved creating content for a humanities domain. It started off by doing basic research and on-boarding the faculties for collaboration. Once the instructor has joined the team, we are provided by content from their side and the team at UPGRAD has to convert it in the form of presentations, assessments, notes, study material etc.

Tool used (Development tools - H/w, S/w): Heavy use of Microsoft PowerPoint, Google sheets, Google docs, Google slides.

Objectives of the project: Content creation for the assigned project.

Major learning outcomes: The internship at UPGRAD has helped in improving my communication skills. I have improved my presentation skills. The process of creating content has enhanced my knowledge about the respective subject that I was a part of. All in all, I have improved my inter-personal and corporate skills.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment is extremely friendly. All senior team members are very cooperative. The interns are made part of real projects. The working rules are followed efficiently. If anyone faces any

trouble regarding the workload, the managers try to make proper arrangements. There are periodic fun-events to lighten up the work stress.

Academic courses relevant to the project: None

PS-II Station: VCTIP Pvt. Ltd., (Market Data Forecast) Research Associate, Hyderabad

Faculty

Name: Anjani Srikanth Koka

Student

Name: ASHER NIRAV YOGESH (2017A5PS1066P)

Student write-up

Short summary of work done during PS-II: Report and document writing. Includes title, meta title, meta description, description, market drivers, market restraints, market segmentation, regional analysis, key market players, Covid-19 impact.

Tool used (Development tools - H/w, S/w): Microsoft word.

Objectives of the project: Write and publish reports on the company's website.

Major learning outcomes: Improved language proficiency, writing skills, communication skills.

Details of papers / patents: In depth explanation about regional and global reports of various industries.

Brief description of working environment, expectations from the company: Work from home.

Academic courses relevant to the project: Current affairs.

PS-II Station: Versa Cloud ERP Inc., - Non-Tech, Portland

Faculty

Name: Gaurav Nagpal

Student

Name: SHIVAM THUKRAL (2017A8PS0974G)

Student write-up

Short summary of work done during PS-II: We created a drip marketing campaign to expand the Versa ecosystem by converting the trial customers to full time e-commerce edition users. It was done using Hubspot as the primary tool. The main steps included creating a user journey, deciding the content, designing the workflow on hubspot and creating triggers for the same. The other project needed us to review all the existing reports / widgets on Versa to create a knowledge base for the user and as the backend data for the chatbot. The final project was designing a UX dashboard with PowerBI that took their reports and made them interactive and easier for user by the use of graphs, bars, charts etc.

Tool used (Development tools - H/w, S/w): PowerBI, HubSpot.

Objectives of the project: Creating a less cluttered dashboard of the business reports that is easy to access and rovides more insights to the user while the drip marketing campaign aimed at increasing profits by the increase in e-commerce edition users.

Major learning outcomes: 1. Working in teams and coming up with ideas from scratch 2. Designing using PowerBI.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The CEO of the company was directly taking all the presentations and weekly working review under him was extremely helpful with whatever we needed. Their was minimal pressure and maximum freedom to come up with new ideas and deliver the best possible product.

Academic courses relevant to the project: None

PS-II Station: Versa Cloud ERP Inc., - Tech, Portland

Faculty

Name: Pawan Sharma

Student

Name: PRASANN AGARWAL (2016B2A80592G)

Student write-up

Short summary of work done during PS-II: 1. Developed APIs to predict sales from the past data for better inventory management.

2. Integrated PowerBI to a demo rails application through APIs as per organization's needs.

Tool used (Development tools - H/w, S/w): Python3, SQL, PostgreSQL, Ruby on Rails, PowerBI, AWS EC2.

Objectives of the project: Enhancing inventory management system by developing a sales forecasting model.

Major learning outcomes: Software development, data science.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The working environment is very flexible and very supportive. You will be allowed to work as you like and lets you discover the solution to their problem statements on your own.

Academic courses relevant to the project: Neural network and fuzzy logic, C programming, Object oriented programming.

Name: KALAPARTY V VISHNU PRASAD (2017A8PS0770H)

Student write-up

Short summary of work done during PS-II: You can take up any number of projects that interest you. We prepared a inventory optimization model and packaged them into an API, the second project was to Embed Power BI reports into Versa's website (product engineering work), and the third project was to design UX of Power BI template multi-page report and to implement the same.

Tool used (Development tools - H/w, S/w): AWS, Flask, Ruby on Rails, Figma, Power BI, Google Colab.

Objectives of the project: Developing an end product that could be incorporated into Versa's website.

Major learning outcomes: You'll learn how to develop and build products from scratch keeping the user's requirements in mind.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Company expects you to develop products based on the user's requirements and update the product features taking the feedback from clients (bottom-up approach), you'll be given sole ownership of the product you are building. The tech head will not get involved a lot in the project but gives suggestions on how to go about the project. The mentor conducts 2-3 weekly meets to discuss progress and issues. You can start new projects which you think will benefit the user and the company by taking the mentor's opinion.

Academic courses relevant to the project: Machine learning, OOPS.

PS-II Station: Viacom18 Media Pvt. Ltd., - Corporate Strategy, Mumbai

Faculty

Name: Ambatipudi Vamsidhar

Student

Name: ISHIKA SUNIL KUMAR GUPTA (2017A1PS0855G)

Student write-up

Short summary of work done during PS-II: Data analysis - Retention and viewership of channels.

Tool used (Development tools - H/w, S/w): Python, Excel.

Objectives of the project: To increase the retention of the channel and predict advertiser's demand.

Major learning outcomes: Python, advanced Excel for data analysis.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Helpful seniors and professional environment.

Academic courses relevant to the project: None

Name: SHIRIN KAUSHIK (2017AAPS0229G)

Student write-up

Short summary of work done during PS-II: The work domain was data science. Two machine learning models were developed for a channel for different time bands and recommendations for ad break scheduling were sent on a weekly basis.

Tool used (Development tools - H/w, S/w): Jupyter notebook.

Objectives of the project: To develop a predictive ML model for recommending ad break scheduling for a channel.

Major learning outcomes: Machine learning, Microsoft Excel, time management, open communication, professionalism.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The work environment was friendly. Everyone in the data science team was supportive and could easily be reached out in case of any doubt. The transition to work was smooth and things were explained from scratch. Overall, the experience was full of technical and personal learnings. Besides the practical implementation of ML, theoretical insights were also provided by the mentor and rest of the team.

Academic courses relevant to the project: Mathematics II

PS-II Station: Vinilok SoluNons Pvt. Ltd., Indore

Faculty

Name: Akshaya G

Student

Name: MADUGUNDU VENKAT AMRIT (2017A7PS1212H)

Student write-up

Short summary of work done during PS-II: Create machine learning logistic regression model to predict chronic vs acute health condition based on customer invoice.

Tool used (Development tools - H/w, S/w): Python 3.9, Jupyter Notebook, Spyder, PyQt5, Pyinstaller.

Objectives of the project: Create a classification model to predict chronic vs acute health condition based on customer invoice data and develop a desktop application integrated with the classification model.

Major learning outcomes: 1. How to create a user friendly application 2. Business skills are required for developing the application 3. Classification algorithms using cluster analysis 4. Classification of medicines based on their chronicity.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The project required us to develop a desktop application, to be used by the company's sales team, with full front-end and back-end functionality. To solve the classification problem, research and trials were required to obtain the best-fit model. On discussing the various approaches with the team, two were decided upon and hence, two versions of the application were developed with the same GUI for both models. A project timeline was decided at the beginning of the internship in order to ensure we were on schedule.

Academic courses relevant to the project: Machine learning, NNFL, information retrieval, DSA, Software engineering.

PS-II Station: VMware Software India Pvt. Ltd., Bangalore

Faculty

Name: Chandra Shekar R K

Student

Name: AKSHAT GOVIL (2016B4A70502H)

Student write-up

Short summary of work done during PS-II: The work was divided into three phases,
The first phase involved developing prototypes and disambiguating key issues in implementing page-table replication. This phase involved learning new concepts (like virtualization, memory management hypervisors, and ESXi in particular). This phase also involved reading and understanding large volumes of systems code (which involves things like atomic operations, locks, concurrency, etc..).
The second phase involved assembling the prototypes to demonstrate Mitosis on ESXi. We also employed software and hardware methods to verify if the instrumentation is working as expected.
The third phase was all about workload profiling / performance benchmarking. The phase involved selecting workloads, configuring, and stabilizing them for benchmarking purposes. The phase was not just about running the workloads in VMs: We had to identify what factors affect the execution times of the workload (processor C-states, page-sizes, scheduler interrupts, interrupt affinities to name a few) and how we can remove them to reduce jitter in readings. We also read about PMU in Intel and leveraged them to measure micro-architectural (for example, TLB miss cycles, EPT walk cycles, workload execution cycles).

Tool used (Development tools - H/w, S/w): Software - C, Python – VSCode.
Version control system - Perforce

Objectives of the project: The aim of the project was to implement page-table replication (Mitosis) in ESXi and to estimate the performance benefits. Mitosis eliminates overhead due to remote page-table walks on TLB misses in large memory NUMA machines.

Major learning outcomes: Reading and writing systems code, virtualization, memory management in hypervisors and operating systems, debugging, workload profiling / performance benchmarking.

Details of papers / patents: Reto Achermann et al. “Mitosis: Transparently Self-Replicating Page-Tables for Large-Memory Machines”. In:Proceedings of the Twenty-Fifth International

Conference on Archi-tectural Support for Programming Languages and Operating Systems. ASPLOS ’20. Lausa.

Brief description of working environment, expectations from the company: The work culture was really good. I had great help from my mentors and manager. I never felt disconnected from the project and helped me learn a lot of new things. The IT team was always available to clarify the silliest of doubts and help for a smoother transition into the company. HR also kept a very smooth process during onboarding as well as off-boarding. The company met to all the expectations and overall, it was a very delightful experience.

Academic courses relevant to the project: Operating systems, Cloud computing, Computer architecture.

Name: Shubham Tiwari (2016B4A70935P)

Student write-up

Short summary of work done during PS-II: My project was implementing page-table replication (Mitosis) in VMware ESXi. First phase involved developing prototypes for disambiguating key implementation issues. This also involved reading and understanding large amounts of code in C and getting familiar with systems code (for example, atomic operations, how locks are used, etc). Second phase was assembling the prototypes to demonstrate EPT (Extended Page Table) replication and verifying if the code instrumented is working. Third phase was performance benchmarking to estimate the performance benefits from Mitosis. The last phase was not easy, as configuring the workloads and stabilizing them required some effort and I also got to learn from it.

Tool used (Development tools - H/w, S/w): C, Perforce

Objectives of the project: Implementing page-table replication (Mitosis) in VMware ESXi and estimating the performance benefits.

Major learning outcomes: Kernel development, virtualization, memory management in hypervisors and operating systems in general, workload performance benchmarking.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Due to COVID-19, we had to Work From Home (WFH). But the WFH infrastructure is great and the virtual nature of the internship did not impact my work at all. We did not get to visit the VMware office, so can't say much about it. My manager and mentors were great and they helped me whenever I was stuck. We had daily meets and I got to learn a lot from them.

Academic courses relevant to the project: Cloud computing, Operating systems, Computer architecture.

Name: BIPIN SAI NARWA (2017A7PS0030H)

Student write-up

Short summary of work done during PS-II: I was asked to develop a centralised interface so that all the team members would perform all their operation from a single point itself instead of navigating to multiple pages to finish a single task. The interface named as VMware multi cloud - NIMBUS console is supposed to provide all the current statistics of the users using resources (software defined data centers), provide a dash board with all the relevant data for data analysis, predicting the future usage using the current and past data already available, provide the users with the functionality to run diagnostics on these resources and help them troubleshoot the problem whenever it arises.

Tool used (Development tools - H/w, S/w): Mongo DB, Express framework, Angular Js, Node Js, Docker, Kubernetes, Jenkins.

Objectives of the project: A one stop solution for operational effectiveness. A central inrterface for all the operation done by the VMWare multi cloud team.

Major learning outcomes: Modern technologies like Docker, Kubernetes. One of the popular tech stacks like MEAN. Part of real corporate world software development life cycle.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Since, the mode of operation was WFH, there is nothing much to comment on the working environment. But as a whole, the teammates, mentor, manager are really friendly. You can approach them for any problem and they see to it that it is resolved as soon as possible. The timings are totally flexible. You can work anytime during the day and finish the work assigned diligently. There are few events conducted too, which are fun, and hackathons too. Overall, it was a very good experience.

Academic courses relevant to the project: Software engineering.

Name: MADDI SUHAS GUPTHA (2017A7PS0232H)

Student write-up

Short summary of work done during PS-II: We extended the existing prototype developed by previous interns based on VMware ESXi by adding features such as replication and compression.

Tool used (Development tools - H/w, S/w): C++, Python, ESXi servers.

Objectives of the project: To extend the existing prototype with certain features such as replication and compression and to test its compatibility with VMware product chain.

Major learning outcomes: This has helped me learn new concepts about cloud and distributed computing.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Good work culture with good work- life balance and many people who are willing to help you at any time.

Academic courses relevant to the project: None

Name: MADDI SUHAS GUPTHA (2017A7PS0232H)

Student write-up

Short summary of work done during PS-II: Worked on features such as replication and compression that are implemented in a prototype using the existing VMware ESXi architecture. Tested the prototype and solved all the failure scenarios.

Tool used (Development tools - H/w, S/w): C, Python, ESXi, VS code, PUTTY.
Objectives of the project: To provide the users with the features of replication and compression.

Major learning outcomes: I was able to dive deep in a new domain of distributed computing. Learnt many new techniques used at the system level.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Good environment to work in. The team and manager were very supportive during whole internship. They expect you to complete the assigned work within the intended deadlines.

Academic courses relevant to the project: Operating systems, Cloud computing.

PS-II Station: Voziq India Pvt. Ltd., Hyderabad

Faculty

Name: Vimal S P

Student

Name: Nitin Vinayak Agrawal (2017A4PS0415P)

Student write-up

Short summary of work done during PS-II: The development of a customer churn prediction model using machine learning algorithms to provide analytics to the client and solve different business use cases. During the course of this project, algorithms have been implemented for customer churn prediction, machine learning. It involves a comparative study of the state of the art models and their variations to get better and efficient solutions for the chosen use cases. The different factors contributing to a model and various processes that improve model accuracy are also studied during the course of this project.

Tool used (Development tools - H/w, S/w): Python (pandas, numpy, scikit-learn), MS-SQL, MS-Excel, AWS tools (remote desktop).

Objectives of the project: The aim of this project is the development of a customer churn prediction model using machine learning algorithms to provide analytics to the client and solve different business use cases.

Major learning outcomes: 1. Experience of working in a professional environment.
2. Importance of effective communication, teamwork and efficient planning.
3. Application of technical concepts to live problems.
4. I learnt how to own the task and work independently.
5. How meetings happen and deadlines are set.

6. I got a chance to improve my interpersonal skills.
7. Understood the importance of data QC.
8. How to write optimized code.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Voziq is a great place to learn about traditional machine learning applications in the field of customer churn prediction and proactive retention based on insights given by machine learning algorithms.

Academic courses relevant to the project: Applied statistical methods, Machine learning, Foundations of data science, Data mining and Information retrieval.

Name: SHERYALA SAI DHARMA SRINIDHI (2017AAPS0357H)

Student write-up

Short summary of work done during PS-II: Voziq is a data analytics company. It provides machine learning models to clients with subscription based customers. These models helps the client companies to predict the high risk customers who are very likely to cancel their subscription soon. I and one other intern worked on improving the performance of few such models with hyperparameter tuning, feature engineering and sentimental analysis.

Tool used (Development tools - H/w, S/w): Python programming language, Pandas, NumPy, Scikit Learn, Spacy, Keras.

Objectives of the project: Improving the recall rates of machine learning models.

Major learning outcomes: I learnt feature engineering, course of dimensionality, sentiment analysis.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Working environment is very nice. It was fully work from home for sem1. The mentors and junior data scientists are very friendly and are eager to help when ever required.

Academic courses relevant to the project: NNFL, ML.

PS-II Station: Vymo, Bangalore

Faculty

Name: Chennupati Rakesh Prasanna

Student

Name: AMAN GARG (2016B4A70584P)

Student write-up

Short summary of work done during PS-II: Completetly WFM due to Covid. Backend work in node.JS and Java. I worked on several new features for vymo's selfserve portal. All of the features got released into production. I had complete ownership and responsibility of those features i.e. from designing and modelling to deliver in time, documentation, fixing bugs, giving demos etc. It was an amazing learning experience. At the end I was offered PPO as well.

Tool used (Development tools - H/w, S/w): Hardware: Macbook Pro 16 inch 2020 provided by the company.
Software: IntelliJ, Webstrom, Postman, Robo3T, Slack, Zoom.

Objectives of the project: To reduce the turn around time for customization requests from clients.

Major learning outcomes: Learnt about development a lot. Since, it is a startup I had much more responsibilities and I worked together with developers with 6-10 years experience.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Around 12 hours per day. Weekends are off. Latest macbook pros are provided by the company. Very talented people and very positive work environment. We had game nights everyweek. It is a growing startup and they are hiring a lot.

Academic courses relevant to the project: OOP, DSA, DBS.

PS-II Station: Wake-up Technology Pvt. Ltd., - Onsite, Gurgaon

Faculty

Name: Ritu Arora

Student

Name: AKSHAT AGRAWAL (2016B3AB0459P)

Student write-up

Short summary of work done during PS-II: I worked as a research intern in the company and my work revolved around technologies based on deep neural network.

Tool used (Development tools - H/w, S/w): Python, Keras.

Objectives of the project: To find and implement research paper for content based image recognition.

Major learning outcomes: Neural network architectures.

Details of papers / patents: Scene image retrieval with siamese spatial attention pooling.

Brief description of working environment, expectations from the company: The company is ambitious and is planning to launch various products based on machine learning and artificial intelligence.

Academic courses relevant to the project: Machine learning.

PS-II Station: Wavelabs Technologies, Hyderabad

Faculty

Name: Ramakrishna Dantu

Student

Name: WAGHMARE SUKRUT PRASANNA (2016B4A80513P)

Student write-up

Short summary of work done during PS-II: Worked with RL code repository involving real time bidding in display advertising. The code involved implementations using Dynamic Programming and Neural Networks.

Tool used (Development tools - H/w, S/w): Python, Tensorflow, GCP, Docker, K8s.

Objectives of the project: Make the repository functional and scale it according to the company's in house multipurpose platform which was under development.

Major learning outcomes: Scaling code repositories, reinforcement learning concepts, team work, time management.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Work was mostly wfh deadline based model. Accountability using daily scrum calls.

Academic courses relevant to the project: N/A

Name: TANISHK AGARWAL (2017A7PS0105H)

Student write-up

Short summary of work done during PS-II: Different tasks in project includes,

1. Video preparation- Video is being recorded with desired objects, In our case objects can be different types of guns, knives and objects that can be similar to weapons in terms of shape. Recorded video can be in any format for now we are using only .mp4 and .avi.
2. Pre-processing - Objective for this section is chopping the video into frames and populating the dataset CSVs with metadata and backup information.
3. Labelling (CVAT)- Computer Vision Annotation Tool (CVAT) is a annotation tool which is used for the annotating the frames and used to draw the bounding box coordinates.
4. Autodetecting COCO classes- Some coco classes like face detection are detected using pre-defined models.
5. Post-processing- After annotating the frames json file is provided to post processing scripts and required bounding box coordinates are fetched.

6. YOLO dataset preparation- Data augmentation is done on the frames and some classes are converted to one superclass for dataset preparation.
7. Training YOLO model- With the dataset balancing is done and is given to yolo model and is converted to rt file.
8. Unit testing- Unit test cases for pre-processing and post processing scripts.

Tool used (Development tools - H/w, S/w): AWS S3, OPENCV, CVAT tool, Yolo model.

Objectives of the project: The idea of the project is to detect weapons and live stream it on some source. The unprocessed video is taken from s3 bucket and frames are being generated of that particular video and the corresponding metadata and unique frame id etc are stored in 3 CS.

Major learning outcomes: Unit testing, Python, Data augmentation, CVAT tool, Deep neural network, OPENCV, AWS S3.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: 1. Everyone in the technical department is cooperative and are willing to share their knowledge.
2. Everyone is highly enthusiastic and hard working towards their work.
3. People are highly coordinated while they work on a particular project and the expectations are okayish not much.

Academic courses relevant to the project: ML

Name: SHREYANSA SUNDER DAS (2017A8PS0552G)

Student write-up

Short summary of work done during PS-II: I was part of team working on a live project. I was solely responsible for addition of end-to-end feature of video meetings in web application.

Technologies that I have learnt through this project are - ReactJS, JavaScript, WebRTC, NodeJS, and OpenVidu (open sourced software).

Tool used (Development tools - H/w, S/w): ReactJS, NodeJS, JavaScript, Material UI, Bootstrap, WebRTC, OpenVidu.

Objectives of the project: Integration of video meeting in web application.

Major learning outcomes: In-depth knowledge on real time communications in web applications. Establishing secure connection between users.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Mentors are helpful and ready to solve and clarify your smallest doubts. One needs to actively look for opportunities and grab them as soon as you find them. At times you might need to take initiatives to ask for more work or transfer you to a team working on live projects.

Academic courses relevant to the project: Not really, we rather had to use the knowledge gained from the initial trainings and look and learn from various sources present online.

Name: DHRUV RAJEEV DWIVEDI (2017A8PS0642G)

Student write-up

Short summary of work done during PS-II: Networking, developed client-server interaction programs via Python.

Tool used (Development tools - H/w, S/w): Python, Ubuntu, Linux, Networking knowledge, CISCO packet tracer.

Objectives of the project: Establish connectivity of 5G.

Major learning outcomes: Understanding of networking.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Working environment is pretty good.

Academic courses relevant to the project: Networking, Programming.

Name: BHASKARA VENKATA RAMANA GARBHAM (2017AAPS0159G)

Student write-up

Short summary of work done during PS-II: Created a HTML form and passed the user entere data to a Python file using PHP as the backend to test the Python file and its functionality.The Python file represents 5G architecture component called user plane function which takes care of packet forwarding.

Tool used (Development tools - H/w, S/w): Html, CSS, PHP, Ubuntu VM, Git.

Objectives of the project: To perform testing of a 5G component using web based GUI.

Major learning outcomes: Learnt the basics of web development and used my webpages to pass the data to a backend file in order to test its functionality.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Good working environment and constant follow up from the mentors.

Academic courses relevant to the project: Communication networks.

PS-II Station: Wealthy, Bangalore

Faculty

Name: H. Viswanathan

Student

Name: ATHALYE OM ASHOK (2014B4A80605G)

Student write-up

Short summary of work done during PS-II: Work done involved frontend web application development using React. Since it's a big task other tools like Atlassian's Bitbucket were employed to manage work between all employees. For API integrations, we used Axios for Rest API calls and Apollo GraphQL for other calls. Models were made for different API data using Javascript and TypeScript and different sorts of responsive email templates were made using MJML.

Tool used (Development tools - H/w, S/w): Git, Visual studio code, Axios, React, MJML, Apollo GraphQL, HTML, CSS, Javascript, TS.

Objectives of the project: Wealthy is a new age fin-tech startup that leverages technology to build superior financial advice and transaction capabilities. They train and hire a team of advisors, who use their platform and tools to help service clients.

Major learning outcomes: Optimizing network calls during component mounts such that total calls are reduced and page load times are faster.
Managing and handling different types of errors during API calls and input validations.

Creating a custom calendar component for multiple date select and display.
Designed templates for different types of notifications.
Learnt to design responsive email templates, route pages using react-router.
Learnt to pictorially represent different types of information using tables and graphs in React using the recharts and react-tables libraries.
Learnt Regex, Git, Axios, React, Apollo GraphQL and MJML.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Expectations from the company are work being delivered on time, and getting things done in a scalable, reusable and responsive way. The working environment is very nice with regular standups twice a day to discuss the day's proceedings and future plans of work, along with cooperative coworkers who are available to connect at all times to sort out any doubts and confusions.

Academic courses relevant to the project: None

Name: PONDUGULA SRI CHARAN REDDY (2017A7PS0098H)

Student write-up

Short summary of work done during PS-II: Wealthy is a Fintech Platform. I was part of Tech team. The day to day work of Tech team is to build tools that help the financial advisors at Wealthy and also to fix the issues of already built tools. In my 6 months at Wealthy, I worked on making APIs to send WhatsApp messages, to shorten URLs. I also worked on UI. Apart from these, I tested some of the product that were about to release.

Tool used (Development tools - H/w, S/w): Python Django, REST framework, MySQL, MS office, GIT, Insomnia / Postman.

Objectives of the project: Developing Tools required to ease the work of financial advisors.

Major learning outcomes: Learnt to build APIs using Python Django and REST framework, basics of frontend and test tech products.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Working environment was good. All the mentors were happy to help whenever there is a problem. Regular feedback on the work was taken. The company expects you to have atleast some knowledge on the Tech the platform is on. They expect you to be fast at finding solutions and grasping new things.

Academic courses relevant to the project: DBMS, Operating systems, Computer programming, Software engineering.

PS-II Station: Weir Minerals India Pvt. Ltd., Bangalore

Faculty

Name: Naga V K Jasti

Student

Name: AMBUJ UPADHYAY (2016B1AB0819P)

Student write-up

Short summary of work done during PS-II: 1. Impeller wear prediction in centrifugal slurry pumps: Literature survey of the factors responsible for impeller wear. Wear analysis of centrifugal slurry pump impellers. Data analysis. Uni and Bivariate analysis. Approaches to

handle multicollinearity: Variance Inflation Factor, PCA, Forward feature selection. Modelling using LightGBM, Linear, Lasso ridge regression, ElasticNet and random forest algorithms,
2. GA drawing language translation project: Worked on Text extraction from the PDF and writing the translated text back into the PDF using PyMuPDF package in python.
3. Coolant concentration prediction: Visualizing the time series. Imputing the missing values, Stationarize the series. Plot ACF / PACF charts and find out the optimal parameters. Build the ARIMA model and make predictions. All the coding and data analysis was done using Python and SQL. The Python environment was Jupyter notebooks and Visual studio code.

Tool used (Development tools - H/w, S/w): Python (Jupyter notebooks and visual studio code), SQL.

Objectives of the project: 1. Impeller wear prediction in centrifugal slurry pumps 2. ENTRON: GA drawing language translation project 3. Coolant concentration prediction: time-series data of coolant concentration and pH level of CNC machines.

Major learning outcomes: Writing production level code, Professional development.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The company made it easy to communicate and connect and I didn't face any problem even though WFH. The team is approachable and supporting. Proper guidance and room for growth.

Academic courses relevant to the project: Machine learning and manufacturing processes.

PS-II Station: Wheebox, Gurgaon

Faculty

Name: Ankur Pachauri

Student

Name: PURANI DAIVIK MANISHKUMAR (2017A7PS0166H)

Student write-up

Short summary of work done during PS-II: Created a microservice for evaluating students on their project making skills in various languages.

Tool used (Development tools - H/w, S/w): Spring tool suite, Postman, Tomcat.

Objectives of the project: New mode of online evaluation.

Major learning outcomes: Exposure to spring and rest Apis.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Good

Academic courses relevant to the project: Yes

PS-II Station: William O Neil India Pvt. Ltd., Bangalore

Faculty

Name: Gaurav Nagpal

Student

Name: SAMYAK JAIN (2017A2PS0052P)

Student write-up

Short summary of work done during PS-II: The internship profile was Quant research and we were given projects in which we had to write Python codes to create different financial trading models and do some research. In total, I worked on two projects which included trading models and SQL database management.

Tool used (Development tools - H/w, S/w): Python, SQL, Redshift (SSMS), Ms Excel.

Objectives of the project: Two projects were given. For the first project, we had to develop Python codes for various technical indicators and research about their significance in markets. 2nd project, we developed our own financial model for live trading.

Major learning outcomes: Learnt high level of coding and SQL database management along with the basic use of our financial knowlege to develop a working algorithm for live trading.

Details of papers / patents: No papers / patents.
Brief description of working environment, expectations from the company: The work environment was very relaxing and calm. The mentors were extremely helpful and we're available all the time if any issues were faced. The company gave us two projects which helped us learn a lot more but we were not overloaded with work.

Academic courses relevant to the project: Security analysis and portfolio management, Financial management, Derivatives and risk management.

Name: SAURABH SHAHDADPURI (2017A4PS0915G)

Student write-up

Short summary of work done during PS-II: First role was as a quantitative research analyst where we had to develop algorithms of trading strategies using technical indicators and provide detailed analysis of each strategy and it's results and potential application in real time markets. Second role was as a backend developer, where we had to had add new features to an existing website for providing detailed financial analysis of a portfolio to the user.

Tool used (Development tools - H/w, S/w): PyCharm, GitLab, SSMS, Amazon Redshift, Postman.

Objectives of the project: 1) To develop new trading strategies using technical indicators 2) Add new features to the company's website-based product.

Major learning outcomes: 1) Leaned about various financial analyses tools and ratios.
2) Proficiency gained in Python and SQL.
3) Integrating Pycharm, Postman and Gitlab for working with git repositories and for API testing.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: We had Zoom meetings every single day to check on progress and any help that might be required. The mentors were friendly and helpful. They guided us all the way through our projects. Every week, we reported directly to the CEO and had our work assigned for that week. The working environment was professional and the timings for WFH was quite flexible.

Academic courses relevant to the project: Security analysis and portfolio management, C programming, Fundamentals of finance and accounting, Probability and statistics.

PS-II Station: Xilinx India Technology Services Pvt. Ltd., Hyderabad

Faculty

Name: Krishnendu Mondal

Student

Name: MANSI NAHAR (2016B2A30538G)

Student write-up

Short summary of work done during PS-II: Worked for the silicon validation team. Worked on different validation test cases and efuse test cases. Apart from this, I had to work for my PS2 project as the task given to me was internal to the company.

Tool used (Development tools - H/w, S/w): Verilog, TCL scripting, Linux commands and some internal tools.

Objectives of the project: Develop basic RTL for AXI slave.

Major learning outcomes: Verilog and TCl scripting.

Details of papers / patents: None

Brief description of working environment, expectations from the company: It was great experience to be part of the Xilinx. Work load is between moderate and high. The timing were very vague, they sometimes make you work till 12. Apart from this, rest of the things are well and good.

Academic courses relevant to the project: Digital design and C programming.

Name: SHARAD NAG (2016B2A30738G)

Student write-up

Short summary of work done during PS-II: As part of system validation team worked on automation of regression testing infrastructure and was involved in various testing and debugging jobs.

Tool used (Development tools - H/w, S/w): Python, Shell, TCL, Perl.

Objectives of the project: Automation of regression tasks and maintenance.

Major learning outcomes: Learnt about system validation process and scripting majorly using Python. Learnt about various embedded components and communication protocols used in Xilinx platforms. Developed scripts to automate the process of regression testing of their validation testing software.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Contact with the manager and mentor was adequate despite the limitations of WFH environment. Interaction with rest of the team was limited. There was no pressure and they have very reasonable expectations. Enough time is given to learn and deliver on the tasks and the team is very helpful. Working hours are flexible.

Academic courses relevant to the project: Not much. Courses like comp arch and ESD were useful in giving context and understanding to the work.

Name: ANIKET AVINASH GAIKWAD (2016B4A30548P)

Student write-up

Short summary of work done during PS-II: I was with the system validation team. The work consisted of implementing a statistics gathering module for thier random system validation tool. A new algorithm for DMA allocation based on the gathered statistics for each test also was developed. A Python script to read the statistics from the log generated by the random system validation tool was also integrated.

Tool used (Development tools - H/w, S/w): C, Python.

Objectives of the project: Statistics visualization and usage for a random system validation tool.

Major learning outcomes: Vastly improved my knowledge in DMA devices, gained some C and python experience.

Details of papers / patents: NA as the tool is a proprietary software of Xilinx.

Brief description of working environment, expectations from the company: The work environment was great even with the internship being remote. The team was very supportive and always ready to answer and sometimes ask questions. The work environment exceeded my expectations.

Academic courses relevant to the project: DD, DSA, basic course on Python, C and statistics.

Name: PARAS VAISH (2016B5A30860H)

Student write-up

Short summary of work done during PS-II: Worked on hardware accelerators.

Tool used (Development tools - H/w, S/w): Vivado, Vitis, Juypter notebooks, Xilinx FPGA. Boards: zcu102 and zcu104.

Objectives of the project: Development and testing of hardware accelerators.

Major learning outcomes: 1. Embedded design flow 2. Hardware accelerator design and testing.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Work environment is nice, team mates are really helpful and encouraging. Most of the skills required can be learnt on the go however following skills are beneficial:
Knowledge of any scripting language (preferred Python), Unix commands, Verilog or system verilog, Experience in C or C++ (mostly C), Vivado design suite, Some knowledge of STA.

Academic courses relevant to the project: FPGA lab, ADVD, Digital design.

PS-II Station: Zaggle Prepaid Ocean Services Pvt. Ltd., - Onsite, Hyderabad

Faculty

Name: Chetana Anoop Gavankar G

Student

Name: SAILAB SWARNIM (2017A8PS0618P)

Student write-up

Short summary of work done during PS-II: Learnt about website building. Built a basic website with CRUD functionality on articles. Wrote code level tests for numerous models, methods and controllers for the existing web application of the company.

Tool used (Development tools - H/w, S/w): Gitlab, Rspec, VS Code, WSL, RoR Framework, PgAdmin, FactoryBot.

Objectives of the project: To write code level test cases for the backend infrastructure of the Zaggle propel and save web / mobile application.

Major learning outcomes: Web development, code level testing.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The work environment was extremely healthy. Even though, we were called to the office during the pandemic, it never felt uneasy coming to a place like this. We were given enough time to learn about the technologies that the company is working with. The work that was expected from us was exactly the right amount that we could do with our knowledge. Our managers and the entire Zaggle stuff were extremely cooperative and considerate to any of our needs.

Academic courses relevant to the project: Object oriented programming.

PS-II Station: Zaggle Prepaid Ocean Services Pvt. Ltd., Hyderabad

Faculty

Name: Y V K Ravi Kumar

Student

Name: SHIKHAR SINGH (2016B1A80943P)

Student write-up

Short summary of work done during PS-II: The project was related to backend web development using Ruby on Rails. The two major segments of the project were:
1- Unit testing of the existing codebase.
2- Addition of new features / modules to the existing backend framework.

Tool used (Development tools - H/w, S/w): Ruby on Rails, Git, Linux (WSL), Postgres.

Objectives of the project: The major objectives of the project were: 1- To increase the test coverage of the different models and controllers 2- Addition of new features / modules to the existing backend framework.

Major learning outcomes: Backend web development, working with databases and unit testing.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: I'd say the working environment was pretty good. The mentors were very cooperative. We were expected to work for about 6-7 hours a day, for 5 days a week.

Academic courses relevant to the project: Object oriented programming.

Name: NITIN GUPTA (2017A3PS0484H)

Student write-up

Short summary of work done during PS-II: Develop company's new product founders card App

Tool used (Development tools - H/w, S/w): Android studio, Java, XML.

Objectives of the project: Company is preparing to launch new product and we made an App.

Major learning outcomes: Learnt android studio, how codes are managed, how Apps are build.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Healthy learning environment, mentor was quiet supportive and helpful. Learning in stress less environment.

Academic courses relevant to the project: OOPs, Human computer interaction.

Name: UDAY SURYAKANT SHAHAPUR (2017A7PS0136H)

Student write-up

Short summary of work done during PS-II: I've been allotted the internship at Zaggle prepaid ocean services on August 10th. A few days later, the interns have been divided into various project groups based on their preferences. My group consisted of me and a student from BITS Goa and we were in the React project. We spent first few weeks learning Javascript and React. We went through the official Javascipt documentary and completed a course on frontend web development with React on coursera. We had to present a demo project to back up our learnings. After presenting the demo project, we've been assigned to create a 'Login', 'Signup' and 'Schedule Demo' webpages for the Zaggle save website. We created a 'floating label' functionality and ensured that the webpages created by us were mobile responsive.
Post midsem, we were asked to go through the codebase and understand it's working. From mid October, we were assigned the task of writing tests for the code. We spent few days learning about Jest and Enzyme. We were assigned the task of writing tests till end of the internship. We managed to cover 50% of the entire codebase. Overall, a pretty good learning oppurtunity.

Tool used (Development tools - H/w, S/w): HTML, CSS, Javascript, ReactJS, GitLab, Jest, Enzyme.

Objectives of the project: Web development and testing the codebase.

Major learning outcomes: ReactJS, testing code.

Details of papers / patents: Not applicable

Brief description of working environment, expectations from the company: At the start of the internship we had a Zoom meet with the CEO, CTO and founder of the company and had a nice warm introductory session. After being allotted to different groups, I had to work under my mentor, Mr Vishwadeep Kapoor. The working hours for the company was 9:30 AM to 6:30 PM. We were expected to finish off the given tasks within a deadline as other tasks depended on it. During the testing phase, there was some leniency in deadlines as other people's work didn't depend on ours. Was a fun work environment and had regular google meets with our mentor usually at 11AM or in the evening at 5PM on an everyday basis.

Academic courses relevant to the project: None

Name: PONUGOTI UTTEJ KUMAR (2017A8PS0265P)

Student write-up

Short summary of work done during PS-II: I did backend and frontend development for some applications and then worked with testing for zaggle save application.

Tool used (Development tools - H/w, S/w): Ruby on Rails, CSS.

Objectives of the project: To write Rspec tests for the Zaggle save product.

Major learning outcomes: I learnt web development and writing testcases for the applictions.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: Working time is flexible, no pressure at all and my mentor is very helpful in explaining the concepts needed for work to proceed. There will be daily scrum call to give updates to the mentor.

Academic courses relevant to the project: OOP

Name: HARKARAN SINGH TANDON (2017AAPS0259G)

Student write-up

Short summary of work done during PS-II: During the PS-2, I worked on the frontend development of the Zaggle save website, I developed the signup page and added floating label functionality to the website. I also contributed in developing the front-end of the landing page of the Zaggle propel website. In the second half of the PS-2, my work was to to write Jest tests (tests written to check the working of React apps) for the entire code base for Zaggle save to test the website.

Tool used (Development tools - H/w, S/w): Software tools used were: Visual studio code, ReactJS, Javascript, Redux, ant-design for front-end development, Jest and Enzyme as the testing environments, Git for version control.

Objectives of the project: Frontend development of Zaggle save website along with writing Jest tests to test the whole code-base.

Major learning outcomes: Learnt a lot of of new thing about frontend development of Apps using ReactJS, testing them using Jest and Enzyme.

Details of papers / patents: Not applicable

Brief description of working environment, expectations from the company: Although, the internship being WFH, the working environment was very engaging and collaborative. It was challenging and also fun at the same time. I interacted with the project mentor and the rest of the team everyday, and proper feedback was given for the work every day.

Academic courses relevant to the project: OOP

PS-II Station: Zinnov Management Consulting Pvt. Ltd., (IT Project), Bangalore

Faculty

Name: Pradheep Kumar K

Student

Name: MANIT BASER (2017A3PS0370P)

Student write-up

Short summary of work done during PS-II: I was alloted to the backend team of Draup.

- Developed various features for the Talent platform in QA using Django, REST APIs, PostgreSQL and Git.
- Modified the existing APIs in QA platform and reduced the DB hit frequency to optimise data retrieval.
- Optimized the imports and eliminated the circular dependencies in the pipeline.
- Ported from Python 3.5 to 3.6.

Tool used (Development tools - H/w, S/w): Django, Postbird, REST Framework, Github.

Objectives of the project: Learnt about backend development, implementation and optimization of various APIs and queries.

Major learning outcomes: Backend development, DB management, Optimization, SQL.

Details of papers / patents: NA

Brief description of working environment, expectations from the company: The company would expect you to learn the skills and start contributing. There were few issues in performing tasks as the internship was online. Draup is a startup only, so the work can get a bit hectic.

Academic courses relevant to the project: OOP

PS-II Station: Zinnov Management Consulting Pvt. Ltd., Bangalore

Faculty

Name: Annapoorna Gopal

Student

Name: ANURAG KUMAR (2016B1AA0606G)

Student write-up

Short summary of work done during PS-II: I was placed in the talent intelligence division of Zinnov where the work revolved primarily around talent consulting. Interns were required to do market research for project work and also prepare the final deck to be delivered to the clients. During the course of the internship, interns are exposed to a wide variety of clients and projects.

Tool used (Development tools - H/w, S/w): MS Excel, PowerPoint and LinkedIn sales navigator.

Objectives of the project: To deliver talent consultancy projects to clients.

Major learning outcomes: Market research and consultancy.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: As in any consulting firm, the work hours at Zinnov are also quite hectic. The projects at the company are simple but time-consuming. Interns are expected to put in long hours when required but timings mainly depend on the requirements of clients and your manager.

Academic courses relevant to the project: None

Name: DISHA JAIN (2016B2A10797P)

Student write-up

Short summary of work done during PS-II: Location analysis for a transition plan of an international client.

Tool used (Development tools - H/w, S/w): Powerpoint, Jira, Excel.

Objectives of the project: Save costs for the operations of client and help them figure out the locations for transition plans across the globe. To help them consolidate the right talent at the right places.

Major learning outcomes: Presentation skills, client interaction, MS- excel intermediate level functions, business operations of the client industry.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The teams are cordial and the work is demanding in terms of time and analytical skills using Excel. High level application of Excel would be very handy as it can make your work efficient. The teams are focused and work-oriented, scope of learning for anyone exploring the management consulting domain is high.

Academic courses relevant to the project: Business analysis and valuation.

Name: KISHLAY JHA (2017A1PS0580P)

Student write-up

Short summary of work done during PS-II: We had to work with associate consultants, strategizing, researching and presenting peer company analysis, ecosystem analysis and market research to clients based on their needs. First, the components to be included in the deck are thought of and a way to find them from data available online & various analyses to be done are strategized. Then exhaustive research is done and is presented in the deck. Same things are done for follow up projects and new clients.

Tool used (Development tools - H/w, S/w): MS Excel, MS Power Point, Sales navigator.

Objectives of the project: Talent hiring consulting.

Major learning outcomes: Strategic consulting & performing, Effective secondary research.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Work environment is good. People are understanding and you can shift to projects you have a

inclination towards. The mentors are very friendly and patiently answer your queries and keep us involved, thus making the learning curve smooth.

Academic courses relevant to the project: None

Name: SRIVASTAVA RIA (2017A1PS0770G)

Student write-up

Short summary of work done during PS-II: Did research work for making a business report. Performed data scraping on various sources. Classified 22k company databse of startups according to industry, business model and advance tech used by them. Most of the work requires good knowledge of advanced excel.

Tool used (Development tools - H/w, S/w): Advanced excel.

Objectives of the project: To make a business market analysis report on current startup ecosystem in india. This report gives a reflection of the overall scenario of the startup ecosystem and will give some essential market insights of the current trends.

Major learning outcomes: Latest industry trends of healthcare, EdTech and banking industry and how they have been growing in the past few years. This helped me gain insight on some of the new business strategies that we don't commonly hear about. I also learnt about upcoming technologies in various sector. Learnt about accelerators and incubator, mergers and acquisitions, investors and different company funding stages.

Details of papers / patents: No papers

Brief description of working environment, expectations from the company: The working environment was nice and welcoming. They keep sessions every alternate friday for team building sessions which helped me get adjusted very soon. Company expects dedicated employees who easy going and fit well in the work culture.

Academic courses relevant to the project: Business analysis and valuation.

Name: ABHIMANYU RAJ SHEKHAR (2017A1PS0790P)

Student write-up

Short summary of work done during PS-II: Deep dive analysis of the companies to provide a strategic approach to the clients for the set-up of talent and sales division in the desired location globally. Worked on the Draup platform development as well where I ended up learning a lot about how data processing is done in production environments on large databases, and how firms deal with the problems present in self-reported data. I also learnt a lot about various ways to remove junk from data obtained and how to obtain useful representations for use in machine learning models.

Tool used (Development tools - H/w, S/w): LinkedIn, Sales navigator, Draup platform.

Objectives of the project: To assist client companies set-up their talent and sales division in a certain specific regions.

Major learning outcomes: Market research techniques, ETL techniques, SQL, Web scraping and automation.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The company provides a very open and friendly working environment. You are encouraged to take up projects that you find to be interesting and to take responsibility for their outcomes. There is very little in the way of instructional training, except for the initial period where you learn about the working culture and client dealings. However, you can approach anyone at any time for help and they will almost always try their utmost to assist you (even if they have important work on their hands

at the time). The company is also very generous when it comes to working hours, giving you the opportunity to work at a relaxed state.

Academic courses relevant to the project: N/A

Name: PRAHARSHITHA AYITHAPU (2017A1PS0798G)

Student write-up

Short summary of work done during PS-II: Conducted various talent or market research to match the client needs. Analysed the data collected, then prepared and presented solutions to the clients.

Tool used (Development tools - H/w, S/w): PowerPoint, Excel.

Objectives of the project: Match clients needs, find data that answers their questions and form a solution.

Major learning outcomes: Business communication, professionalism, data visualization, smart way to draw insights, market / talent research, punctuality, powerPoint presentation skills and excel skills.

Details of papers / patents: Not applicable

Brief description of working environment, expectations from the company: Work environment was nice. People do understand that we require some time off as a stress buster. Hence on asking formally breaks were allowed. All employees were genial and understanding. Work sometimes can go till 12 in the night owing to the WFH model. One was expected to finish work within deadlines. Punctuality and sincerity was expected. But equal amount of freedom was also given.

Academic courses relevant to the project: Not applicable

Name: MISBAHUL HAQUE (2017A1PS1038H)

Student write-up

Short summary of work done during PS-II: I was a part of the braindesk team at DRAUP that provides consulting and advisory services to organizations, which are looking to re-skill / up-skill their employees or looking to expand their presence outside their headquartered location. My project focused on talent landscape analysis for compiler and hardware engineering roles across multiple locations with special emphasis on data center and enterprise hardware roles. Our client was a Multi-National Fortune 500 internet company that was looking to analyse talent employed in the relevant hardware / compiler development roles across different locations in order to get a holistic view of data center and enterprise hardware innovations and developments. Our client recently acquired a microelectronics company to expand its enterprise hardware capabilities and become a market leader in enterprise as well as consumer hardware products. We had to perform micro-analysis of each of the roles and of the top employers of these roles in order to bring out interesting insights that would have a tangible impact.

Tool used (Development tools - H/w, S/w): LinkedIn sales navigator, Ms-Excel, Ms-PowerPoint.

Objectives of the project: Performing market research and preparing insight laden decks as per client requirements.

Major learning outcomes: Time management and project ownership.

Details of papers / patents: N.A

Brief description of working environment, expectations from the company: Really friendly and supportive environment, everyone is accessible, good place for personality development.

Academic courses relevant to the project: None

Name: NIMBARTE SRUSHTI VINOD (2017A3PS0318G)

Student write-up

Short summary of work done during PS-II: Consulting related research and analysis. Worked on projects like diversity trend and talent analysis, talent research and profile sampling, talent and university ecosystem analysis.

Tool used (Development tools - H/w, S/w): Excel, PowerPoint, Microsoft 365.

Objectives of the project: Provide insight into talent pool available across various countries, provide diversity trend and talent analysis.

Major learning outcomes: Insight into consulting process and projects, improvement in quality of decks / presentation skills, enhancement in corporate communication skills.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Helpful and encouraging mentors. Work can be hectic as the project domain is consulting.

Academic courses relevant to the project: Nil

Name: JIA ABHIRAAJ (2017A3PS0330P)

Student write-up

Short summary of work done during PS-II: Worked on the government-initiated project titled "Future Skills" which aimed at the reskilling of 2 million Indian citizens (people who are currently

working in the industry or fresh graduates who are about to enter the industry) in upcoming and latest technologies such as Blockchain, IoT, Cloud computing, etc. I was involved in the creation of several documents (from scratch) vital to the delivery of the technologies under the Future Skills. Documents included NOS sheets, model curriculums, functional analysis, etc. Work also included in-depth secondary research on the latest technologies so as to prepare talent demand-supply of that particular technology and figure out what is the estimated supply and demand of skilled people in the industry. Quality checks were also performed on documents of extremely high value.

Tool used (Development tools - H/w, S/w): General MS-Office tools such as Teams, Outlook, PowerPoint, Word, etc.

Objectives of the project: Objective of the project "Future Skills" was to reskill close to 2 million Indian people who are currently working in the industry or fresh graduates who are about to enter the industry, in latest technologies such as Blockchain, IoT, Cloud computing, AI.

Major learning outcomes: Domain specific knowledge, secondary research, learnt how to analyze the set of data in a meaningful way to find the trends of the market, working in high pressure environment, devised national strategic initiatives, collaborative with varied stakeholders (both internal and external), Excel and PowerPoint.

Details of papers / patents: Not applicable

Brief description of working environment, expectations from the company: The organization is a consultancy firm hence the environment is pretty much towards the hectic side. Although, it depends department to department as the team I was alloted (NASSCOM team), the work was slightly less and there wasn't much pressure from the mentors who were extremely helpful.

Academic courses relevant to the project: None as such

Name: MASADI PRANAVI (2017A8PS0747H)

Student write-up

Short summary of work done during PS-II: All the interns were allotted different projects and my project was for a client in the leading cloud certifications market space. We had to do analysis for a particular set of locations and each week we had to deliver a few locations to the client and we had a client meeting at the end.

Tool used (Development tools - H/w, S/w): The major tools that we have used are Microsoft Excel, Microsoft PowerPoint.

Objectives of the project: The project objective was to meet the client's requirements and to provide the best insights for the client.

Major learning outcomes: Major excel skills, team work and communication skills.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The work environment is good. Mentors are really helpful and cooperative.

Academic courses relevant to the project: Principles of management, Principles of economics.

Name: MEHTA IRISH HARESH (2017AAPS0295G)

Student write-up

Short summary of work done during PS-II: I was in the DRAUP team within Zinnov and my projects were mainly in the braindesk department, where we created reports and slide decks for clients. The work was mainly oriented towards talent analysis based on various parameters and

reskilling presentations based on DRAUP platform database as well as secondary research. Talent analysis here means quantitative things like average salaries of a certain job role, number of employees in a certain role at a certain location, etc. Reskilling analysis here describes the skills required for certain roles and how to gain those skills (courses, learning paths, etc.).

Tool used (Development tools - H/w, S/w): DRAUP platform, secondary research, Excel, Powerpoint.

Objectives of the project: I worked on a total of 4 projects, 3 of them dealing with reskilling analysis and the remaining one dealing with location specific talent analysis. Talent analysis generally deals with assisting clients in hiring strategies or branch creation.

Major learning outcomes: I mainly learnt about Guesstimates, secondary research, talent analysis, organizational structures, job description analysis, making customer-friendly presentations, internal stakeholder engagement, high-pressure work environment. Another major learning outcome was that consultants within DRAUP have to engage with clients on a daily basis, and sometimes interns too, hence soft / behavioural skills are extremely important for this role. The ability to work for long hours is also a prerequisite here.

Details of papers / patents: None

Brief description of working environment, expectations from the company: Unfortunately, the entire internship was WFH, so interaction with office staff was limited only to work and there was practically no relationship building. However, as far as work is considered, it's extremely high pressure and interns have to do a lot of work, sometimes as interesting as running models for generating location specific talent data and making guesstimates and sometimes as boring as excel data entry. If someone is interested in consulting, the braindesk team within DRAUP provides a great learning curve, however, the working hours exceed 7 hours daily and sometimes extend till 12 / 13 hours too.

Academic courses relevant to the project: EPS, TRW.

Name: C SRIKRISHNA (2017AAPS0461H)

Student write-up

Short summary of work done during PS-II: I worked on the future skills project which is involved in providing information to NASSCOM on future technologies so that they can reskill the IT workforce for the technologies of the future. I have to perform secondary research to gather the necessary information.

Tool used (Development tools - H/w, S/w): Microsoft word, excel and powerpoint.

Objectives of the project: To provide information to NASSCOM on future technologies, so that they can reskill the IT workforce for the technologies of the future.

Major learning outcomes: Learnt to perform secondary research.

Details of papers / patents: None

Brief description of working environment, expectations from the company: The company had really productive work environment and the people in Zinnov were really friendly and helpful.

Academic courses relevant to the project: None

Name: PARAMBIR SINGH CHADHA (2017AAPS0993G)

Student write-up

Short summary of work done during PS-II: We majorly performed secondary research and data entry based tasks related to the project. In the latter phase, we worked on analytical and deck-making aspects of the project as well.

Tool used (Development tools - H/w, S/w): Microsoft excel and powerpoint.

Objectives of the project: Supporting senior analysts in creation of a public report for a client.

Major learning outcomes: 1. Basic deck making for multi-facet analysis 2. Excel based analytical skills.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: The work environment was good and we had mentors who were just a year elder to us. The expectation was of 6-8 hours of daily work.

Academic courses relevant to the project: N/A

PS-II Station: Zinnov Management Consulting Pvt. Ltd., Gurgaon

Faculty

Name: Annapoorna Gopal

Student

Name: JHA UJJWAL RAKESH (2017A1PS0043P)

Student write-up

Short summary of work done during PS-II: I was involved in 2 client projects. The first one required cold-calling the Indian businesses owners with less than 100 employees to ask their cloud preferences & convince them to fill a survey form. This involved scraping contacts from Justdial, Sulekha, Yellowpages & making cold-calls for 8 hours daily. The same continued for initial 2 months. The second project involved building the automation strategy for a leading software firm, wherein my work was doing secondary research of company websites of the client's competitors. The remaining 10-20% of time was spent on mining emails and contact numbers from Naukri & Linkedin to expand Zinnov's outreach databases.

Tool used (Development tools - H/w, S/w): MS excel, MS powerpoint.

Objectives of the project: To conduct a telephonic market survey to understand the digital technology adoption challenges of Indian VSBs. To do build go-to-market strategy for an automation platform through secondary research of company websites.

Major learning outcomes: Microsoft office suite (MS powerpoint, teams, excel, outlook), presentation skills, e.mail & contact no. scraping from LinkedIn salesnavigator & Naukri resdex, communication skills, organizational psychology, time management skills.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Zinnov focuses on market research & outsourced advisory projects. Most of the work of interns are required to do is primary and secondary research. This includes doing cold-calls to conduct telephonic surveys, visiting company-websites to capture their data, and visiting LinkedIn & Naukri to scrape email IDs of company professionals.

Academic courses relevant to the project: None

Name: ABHISHEK ANAND (2017A3PS0377G)

Student write-up

Short summary of work done during PS-II: I interacted with more than 200 Small & Medium Businesses (SMBs) for a market study related to digital technology adoption. Also, I helped profile more than 1000 startups, large enterprises and corporate accounts across several different parameters - employee count and growth, technology talent, digital technology adoption, funding, etc.

Tool used (Development tools - H/w, S/w): MS excel, MS powerpoint & MS teams.

Objectives of the project: Digital consulting.

Major learning outcomes: A peek into the world of digital consulting; a broad idea about various kinds of companies active in India.

Details of papers / patents: N/A

Brief description of working environment, expectations from the company: Since I worked remotely, I can't say much about the work environment. However, interns can expect quite a variety of projects over 5 months. The mentors are helpful too. PPO chances are generally high.

Academic courses relevant to the project: Technical report writing.

Name: ASHISH (2017A3PS0407G)

Student write-up

Short summary of work done during PS-II: Interns in this company are offered the task of market research on the various ongoing projects that the company has taken up. The projects are diverse and are aimed to provide a better business thought to its clients. Due to diversity in the projects, the researches also have a broad spectrum, so every other research seems different. The mentors are helpful and also take constructive criticism on the nature of research upholded for any additions / changes.

Tool used (Development tools - H/w, S/w): Nil

Objectives of the project: Business consulting for clients.

Major learning outcomes: Better understanding of all sectors of economy; critical thinking; financial jargons; efficiency in research.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: A corporate work culture. Mentors are helpful and hierarchy is blurred, so questioning and criticism is welcomed. Company expects a friendly & progressive workflow and on-time deliverables.

Academic courses relevant to the project: Principles of economics.

PS-II Station: Zluri, Singapore

Faculty

Name: Manoj Subhash Kakade

Student

Name: YATHARTH SINGH (2016B2A20845P)

Student write-up

Short summary of work done during PS-II: The project involved handling the whole backend server side coding for the SaaS management dashboard web application, including ideating the database collections and their schemas, then making and using them to write usable APIs as per company requirements.

Tool used (Development tools - H/w, S/w): MongoDB, Express.js, Node.js, Postman API client, MongoDB Compass.

Objectives of the project: 1) Writing APIs as per requirements 2) Making database collections and ideating over its schema 3) Testing APIs to make sure they wont break on corner cases.

Major learning outcomes: 1) Server side coding 2) NoSQL database querying 3) API testing.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The work is fast paced and a lot of learning takes place over the entire PS-II. Deadlines are fixed on a daily basis. Being an early stage start-up, the workload is lot, we were expected to work and attend meetings on all 7 days of the week.

Academic courses relevant to the project: Nil

PS-II Station: Zwende Design Tech Pvt. Ltd., Bangalore

Faculty

Name: Srinivas Kota

Student

Name: Jannu Akash (2017A2PS0805P)

Student Write-up

Short summary of work done during PS-II: Job Description: Website uploads & Improvement. Work: Zwende is an online e-commerce company which collaborates with urban boutique designers (who in turn work with local artisans and craftspeople), and onboardes their products on the Zwende website. Product page of a website consists of the product description, product pricing, product images, shipping cost and timelines of the product, utility style & care of the

product and other important details pertaining to that product. I have to create these product pages of various products of those designers using an e-commerce platform built on open source technology called Magento. With the help of Magento, I created a total of around 415 product pages spanning across different product categories. This work was coupled with conducting website audit as well to look for any issues within the website and report them.

Tool used (Development tools - H/w, S/w): Software - Magento (e-commerce platform built on open source technology). GIMP (GNU Image Manipulation Program) software - A graphic editor software used to edit and crop images.

Objectives of the project: To create product pages of different boutique designers on the website.

Major learning outcomes: Understand the basics of creating product pages and maintaining a website. Learnt the use of an image editing software to crop and edit images.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: The working environment is a bit flexible at Zwende. Ever alternate day of the week, there wil be a meeting with all the team members of Zwende giving an update on their respective work progress and ironing out issues, if any. On top of that, there were meeting within a particular team as well. Every friday / saturday of a week, there will be a fun session organized where everyone has fun by interacting, playing games and sharing some gossip. In that way, it keeps all the team members in high spirits going ahead into the next week. The work assigned has to be completed within the stipulated time as any delay would result in the delay of all other activities associated with that particular product. Overall, the work culture is really amazing having both work and fun elements embedded in their organisational framework.

Academic courses relevant to the project: Nil

Name: SHRAVAN KUMAR SHETTY N (2017B5PS0559G)

Student write-up

Short summary of work done during PS-II: At the initial part of the internship, I was involved with the backend of the product website. Since, Zwende offers a vast array of customization available to the customers, there is a lot of work on photography, graphics & website product uploads. I used a software tool called Magento for the process. In the later part of the internship, I shifted to workshop website management, which was a very different experience than the previous one. The software platform used was Thinkific. The online workshops had just begun when I joined & there were a lot of structural changes, improvements & new elements added to the workshop part of the website. I was intensely involved in the brainstorming & implementation of ideas & it was a very fulfilling process.

Tool used (Development tools - H/w, S/w): Thinkific, Magento, GIMP, Canvas.

Objectives of the project: Decided as per the requirement & my abilities.

Major learning outcomes: Great experience. Became familiar with the knowhows of working of a company / startup.

Details of papers / patents: Nil

Brief description of working environment, expectations from the company: Zwende is a unique e-commerce start-up, which puts out products that are all handmade & customizable. They also conduct online & offline workshops, which teach art skills to anyone willing to learn. The main aim of Zwende is to uplift wonders created by human hands & make art accessible to everyone.
People are very lovely & it feels like a family. It was a wonderful experience to be part of a company striving to make handmade & art reach every home!

Academic courses relevant to the project: Nil