

Alok Dixit

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ACADEMIC DETAILS

Degree	Department	Institute	Year	CGPA
B.Tech. Instrumentation Engineering	Department of Electrical Engg.	IIT Kharagpur	2017	7.42
M.Tech. Engg. Entrepreneurship	RMSoEE	IIT Kharagpur	2017	

EXPERIENCE

- **Mean Box Technologies Pvt. Ltd (Kuants.in)** (Algorithmic Trading platform) *jan'18 - Till Date*
 - Programmed backend system for backtesting and live algorithmic trading strategies in python.
 - Optimised and speeded the pre-written numpy code by **100X** times by re-writing the functions in pure python.
 - Responsible for implementing **Microservices** architecture using **Docker swarm** on AWS and GCP, and integrating the jenkins CI pipeline for automated testing and deployment by just committing the code to bitbucket.
- **Airbus INDIA** *july'17 - jan'18*
 - Responsible for Integration testing and unit testing of Avionics software systems for A380 and A320 aircraft.
 - Reviewed the Software verification cases and procedures) and Software verification results and Software Requirements Data Documents

PROJECTS

- **Cross-domain relations with Generative Adversarial Networks (GAN)** *Oct'17 - Dec'17*
 - Implemented a Discover GAN for cross domain style transfer with Tensorflow's tflearn library
 - Deep Network consisted of 6 Neural Networks with 4 generators and 2 discriminator networks
 - Adversarial Entropy loss of 3.6×10^{-6} and discriminator loss of 8.9×10^{-6} was obtained for domain style transfer
- **Neural network based system for Malware Network (botnet) detection** *July'16 - Mar'17*
 - Implemented a Tensorflow based five layer neural network to detect the malicious data packets
 - Prevented Overfitting of data by introducing a dropout layer and got an accuracy of 95 %
 - Alternate method used was to cluster data using Gaussian mixture model and get the cluster feature
 - These cluster features were given to a decision tree classifier to classify with an accuracy of 93 %
- **Predicting brain waves and activity from sensors data using machine learning** *July'15 - April'16*
 - Applied Random Forest Regression on accelerometer data from smartphone and got RMSE of 0.3
 - Preprocessing EEG and sensor data due to different sampling rate by sliding window approach
 - Built an **android app** for connecting to MindWave module and acting as a gateway to dump the data on cloud.
- **Sentiment analysis of text using Online Spherical K-means Clustering in Scala** *june' 18*
 - A small project for purpose of learning Scala, from downloading corpus to classification with core libraries
- **Backpropagation algorithm implementation from scratch in python** *sept' 18*
- **Wrote an email client in scala using Akka framework for automated bulk emailing** *dec' 17*

INTERNSHIP

- **Developed an IOT framework for Dept. of Computer Science, IIT Kharagpur** *May '15 - June'15*
 - Made a universal radio device with Zigbee, Bluetooth and WiFi capabilities
 - Programmed Web-Socket protocol over TCP for ESP8266 MCU for bifacial, half-duplex data communication
 - Development included programming Sensor nodes, a routing node and websocket server
 - Developed an Android application which can fetch data from cloud and plot in real time

ENTREPRENEURIAL EXPERIENCES

- **FOUNDER and CTO, ALIVE HOME TECHNOLOGIES PVT. LTD.** *July'15 - July'16*
 - Founded, a cost effective Home Automation company which manufactures smart Switch module
 - Developed android app, Embedded system switch board module and websocket server programming.
 - Architected home automation system which could operate with or without WiFi at home
 - Developed Features included like Smart Config, controlling IR devices (Air Conditioner) with ordinary smart-phone not having IR transmitter

COMPETITION

- Finalist position in The Business Plan Competition, kshitij 2016 for Alive Home.
- Won The Most Innovative Product award in Empresario 2016 by E-cell IIT Kharagpur for Alive Home

SKILLS

- **Language:** Java, Python, Scala, C, **Databases:** MySQL, MongoDB **Big Data:** Kafka, Apache Spark, Spark Stream
- **Other Skills:** Experience in Embedded system, Android Development, IOT