Alok Dixit

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EDUCATION

Degree	Institute	CGPA
Dual Degree (B. Tech), Instrumentation Engineering (M.Tech), Engineering Entrepreneurship	**IIT Kharagpur** Electrical Engineering RMSoEE	7.42
Senior secondary Examination, 2011	CBSE	77.8%
Higher secondary Examination,2009	CBSE	88.5%

PROJECTS

- **Cross-domain relations with Generative Adversarial Networks (GAN)** (Oct'17 - Present)
  - Implemented a **Discover GAN** for cross domain style transfer with **Tensorflow's tflearn** library
  - Deep Network consisted of 6 Networks with 4 generators and 2 discriminator networks
  - Adversarial Entropy loss of 3.6e-6 and discriminator loss of 8.9e-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 features
  - These cluster features were given to a **decision tree** 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
  - Implemented Random Forest algorithm in Android application using **WEKA Java framework**

INTERNSHIP

- **Developed an IOT framework for Dept. of Computer Science, IIT Kharagpur** (May '15 - June'15)
  - Development included programming Sensor nodes, a routing node and websocket server
  - Implemented inter sensor communication using **Zigbee**, **Bluetooth** and **WiFi** for a universal radio
  - **Real-time data transfer** using ESP8266 IC and Websocket protocol in C on top of TCP
  - Developed an **Android application** which can fetch data from cloud and plot in real time

ENTREPRENEURIAL EXPERIENCES

- **CHIEF TECHNOLOGY OFFICER, ALIVE HOME TECHNOLOGIES PVT. LTD.** (July'15 - July'16)
  - Alive Home is a cost effective **Home Automation company** which manufactures smart Switch module
  - Lead and managed a technical team of 4 IITians, working on various domains
  - Architected home automation system which could operate with or without WiFi at home
  - Features like Smart Config, controlling IR devices (AC) with ordinary smartphone with no 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 AND EXPERTISE

- Experienced in **Python**, Java, C, Android app development
- Databases: MySQL, SQLite, MongoDB
- Interested in Deep Learning, Cyber Security, Internet of Things and Network programming
- Experience in Android Application Development and server side programming