Prajwal Bende

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EDUCATION

INDIAN INSTITUTE OF TECHNOLOGY, KHARAGPUR
Dual Degree (B.Tech + M.Tech) in Electrical Engineering
Expected July 2021
Cum. GPA: 8.20 / 10 (till 4th Semester)

Senior Secondary School Exam
Maharashtra State Board | April 2016
Score: 94%

Secondary School Exam
Maharashtra State Board | April 2014
Score: 96.4%

COURSEWORK

- Signals and networks
- Programming and Data structures
- Transform calculus
- Analog Electronic Circuits
- Matrix Algebra*
- Probability and Stochastic processes*
- Power Electronics*
- Digital Electronic Circuits*
- Embedded Systems*
- Control Systems Engineering*

ONLINE COURSES

- Digital Signal Processing
- Deep Learning A-Z: Hands on Artificial Neural Networks
- Python for Data Science and Machine Learning Bootcamp
- Mathematics for Machine Learning*

SKILLS

PROGRAMMING

- Python
- MATLAB
- Arduino
- C/C++

PLATFORMS AND SOFTWARES

- Windows 7/8/10
- Linux
- Android Studio
- SolidWorks
- Spyder

LINKS

LinkedIn
Github

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*ongoing courses

RESEARCH EXPERIENCE

BIOMEDICAL SIGNAL PROCESSING | Health Smart-wear
Froot Research | May 2018 - ongoing | Remote Internship

- Working on developing a smart wearable device which could predict possible diseases using physiological features like ECG, pulse(PPG) and skin galvanic response
- Pre-processed the time series data using various signal processing techniques like filtering and anomaly detection/correction
- Extracted significant features from time series using mathematical and statistical models

COMPUTER VISION | Deep Learning | Soil Science
Prof. Somsubhra Chakraborty| Sept 2018 - Nov 2018 | IIT KGP

- Applied computer vision and deep learning algorithms to predict soil organic carbon percent from mobile camera captured images
- Implemented CNN regression algorithm along with image augmentation which gave significant R-squared value of 81 percent

MACHINE LEARNING | Speech Processing | Remote Internship
Prof. Carol Espy-Wilson | June - July 2018
University of Maryland, USA

- Worked on predicting PHQ-8 depression scores from speech data based on Audio/Visual Emotion Challenge and Workshop (AVEC 2017) Depression challenge
- Modelled a predictive regressor using various Machine learning techniques (Random Forest, ANN, CNN etc.) using COVAREP speech features and audio spectrograms
- Improved the baseline model obtaining RMSE of 6.46 as opposed to baseline RMSE of 7.78, using a CNN regressor based model.

ACHIEVEMENTS

JEE ADVANCED 2016 | June 2016

- All India Rank (AIR) 3499 amongst 200 thousand applicants

JEE MAINS 2016 | May 2016

- AIR 252 amongst 1.5 milion students appearing (3rd city topper)

TECHFEST Jan 2014 | IIT Bombay

- Regional winner of the workshop-cum-competition, conducted by Robosapiens, India on sensor based bots

AUSTRALIAN NATIONAL CHEMISTRY QUIZ | RACI | Tata Chemicals

- High Distinction in four consecutive years(2010-2013)
- Regional topper in 2011 and 2013