Dhawal Sharda

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Education

- **UIET, Panjab University** — Chandigarh, India
  Bachelor of Engineering in Electronics and Communication: GPA: 3.26 (8.17/10.0) — *Aug. 2017 – Present*

Experience

- **Indian Institute of Technology, Delhi and The Marconi Society** — New Delhi, India
  Research Intern — *June 2019 - September 2019*
  - **Multivariate time series forecasting and Anomaly Detection**: Working under the guidance of Dr. Aakanksha Chowdhery, Google Brain and Prof. Brejesh Lall, IIT Delhi on the problem of exploring computationally efficient techniques in the domain of multivariate time series forecasting and anomaly detection with a focus on the state of the art detection models.
  - **Model deployment and Data collection**: Time Series forecasting on CPCB (Central Pollution Control Board) data in real-time with a fully functional pipeline of detection of the nearest CPCB station from the user. Used flask to deploy our models on server.
  - **Around App**: Developed an Android app **Around** that can fetch the predicted data of different pollutants from the server and visualize it. The predictions provided are fetched from nearest CPCB station which makes them personalized for the user. Our work was featured in the blog of The Marconi Society. Report Video Blog
  - **Wearable Device**: To make our model more personalised for user in the indoor environments, our team proposed the development of a wearable device which can detect the concentration of pollutants and send data to the android app using Bluetooth Low Energy (BLE).
- **The D-Zone** — Chandigarh, India
  Web Development Intern — *June 2018 - July 2018*
  - **Fullstack Developer**: Developed the Website for the EdTech startup The D-Zone using react.js and Node.js .

Programming Skills

- **Software** : C++, Python, Javascript, Node.js, Tensorflow, OpenCV, Git .
- **Hardware** : Raspberry Pi, ESP32, ATmega328, BLE .

Projects

- **Smart India Hackathon 2019** — IIT Hyderabad, India
  Team Member — *May 2019 - July 2019*
  - **Tracking dashboard for unsafe acts**: WON First Prize in SIH 2019 for solving the problem of the Tracking board for unsafe acts for the company **Kokuyo Camlin** organized by IIT Hyderabad.
  - **Websocket Communication**: Implemented WebSocket communication for instant transfer of data from the sensor modules to the node.js server using ESP32 WiFi-enabled microcontroller boards.
  - **Dashboard**: Data Visualization of different sensors in realtime on the dashboard using WebSockets and react.js. Follow the link for more information. Archived work Code.
- **Survey and Rescue Drone** — UIET, Panjab University
  Team Leader — *Jan 2020 - Mar 2020*
  - **PID controller**: Designed a stable PID controller for navigation of drones to different points using Python.
  - **Color detection module**: Programmed a color detection module in OpenCV and Python that can detect the colors and position of LED beacons currently active on the arena.
  - **Service scheduling module**: Programmed a python script that selects the nearest active position to the drone to be served. Video and Github Code.
- **AntBOT** — UIET, Panjab University
  Team Member — *Jan 2019 - Mar 2019*
  - **Color detection module**: Programmed a color detection module in OpenCV and Python that can detect the colors of colored boxes from different angles and in different light conditions.
  - **FSM based line following algorithm**: Developed a lighter and less complex multifunctional line following algorithm using Finite State Machine. Youtube Video and Github Code.

Certifications

- Deep Learning Specialization - Coursera

Organizations and Events

- **Software Freedom Day 2018 — Web Developer**: Developed a Website for the conference SFD, Chandigarh.
- **Programming Club UIET — Team Member**: Initiative to develop an open programming community for all with around 650+ members.