

Dhruv Pednekar

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Dedicated and highly motivated Electric Vehicle Engineer with a good foundation in embedded systems (C++/C), electric propulsion systems, battery technology and sustainable mobility. Seeking a challenging role in the field of Embedded Systems (IOT) and EV engineering to contribute innovative solutions, optimize existing systems.

Experience / Achievements

CRCE Formula Racing

- **Team Captain** at CRCE Formula Racing Electric - 2023-24
- **Electronics Department Head** at CRCE Formula Racing - 2023-24
- Solely responsible for designing and production of all the **High Voltage & Low Voltage PCB's** and wiring schematic and layout for the vehicle.
- Implemented a custom **DAS** system with multiple sensors using **CAN,I2C,SPI** etc. and in the process of the development of a custom **GUI** using **MicroPython/C++** and **LVGL**.
- Senior Member of **Costing & Procurement Team** for importing and procuring items from India and international countries, creating a detailed budget for the entire vehicle considering risks, cost reduction strategy planning etc.
- Represented the team in **3 National Level Competitions** at the Formula Student Events.
- Achieved **AIR 5th in PI-EV 2022** , **AIR 7th in Formula Bharat 2023** and most recently secured **AIR 4th in Formula Imperial** held between **12th - 16th October 2023 in Buddh International Circuit , Noida**.

Projects

Vehicle health and performance enhancement using DAS with embedded ML

We are developing a custom DAS(STM32) system with a GUI for real-time data visualization. The DAS system collects data from the various sensors mounted in the vehicle and data received from the High Voltage using **CAN BUS** stores them on an SD CARD. The project is in the developing phase where an ML model will be trained to detect unwanted vibrations in the car. In addition to this an ML model will be trained to also predict Battery Range Estimations.

Ongoing
Feb ~
April
2024

Emotion Detection Robot

An IoT project involves a mini robot that uses OPEN-CV and the FER library to track and record the user's mood based on their facial expressions. This is achieved through a combination of sensors connected via ESP8266. The robot had servo motors which controlled the hand and body movements along with a mini OLED display for eyes of the robot.

April 2023

Home Automation System

Wi-Fi Controlled home automation system using ESP8266 (with units consumed)
The user would be able to control multiple appliances present in their homes using the BLYNK app.

April 2022

Courses/Certifications

Certification

Certifying Authority

Completion Date

EV Safety Level 3 (Certified HV Engineer)

Skill Shark

June 2023

Web Development Courses

Udemy

Ongoing

Microcontroller Embedded C/C++ Programming

Udemy

Ongoing

Awards & Extra-Curricular Activities

- Placed **1st** in **Adalat Event** at Fr. Conceicao Rodrigues College of Engineering – March 2023
- Student of the year in Standard X – St. Xavier's Boys Academy
- Sports Captain in Standard X – St. Xavier's Boys Academy

Educational Background

Qualification

College/School

Percentage/CGPA

Year

B.E. (Electronics & Computer Science)

Fr. Conceicao Rodrigues College of Engineering,
Mumbai University

8.11
(Up to Sem 6)

2024

Class XII

St Xavier's College, Mumbai

59.23%

2020

Class X

St. Xavier's Boys Academy, Mumbai

87.00%

2018