Tanuj Rai

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Education

B.Tech in Electrical and Electronics Engineering *2023 – Present*
Vellore Institute of Technology, Chennai
CGPA: 8.6 / 10

Skills

Core: PCB Designing, Power Electronics, MATLAB and Simulink
Tools: MATLAB, Simulink, KiCad

Experience

PCB Design Intern – Multi Dimension Technologies, Bangalore *June 2024 – July 2024*
- Verified and tested a 6S Battery Management System circuit.
- Designed and simulated a power supply PCB for a VESC used in electric vehicles.

EV Prototyping Intern – NEXEV, VNEST, VIT Chennai *Ongoing*
- Responsible for prototyping, BMS development, and integration for an EV charger system.
- Working on component selection, PCB prototyping, and system-level testing.

Projects

Gesture-Controlled Car and Sign Language Assist Device *ESP32, OLED, Flex Sensors*
- Designed a dual-function system: one for controlling a car via hand gestures using ESP32 and gyroscope (Wi-Fi), and another for converting finger gestures into basic messages on an OLED display for sign language communication.

PCB Design for Buck Converter *MATLAB, KiCad*
- Simulated a buck converter (24V to 12V) in MATLAB with real-time parameter tuning.
- Selected appropriate components based on current and voltage ratings and designed a compact, single-layer PCB for the converter.

Certifications

- PCB Designing – Pantech ProED Pvt. Ltd.
- IoT and Embedded Systems – University of California (Coursera)
- PLC Training Program – VIT Chennai

Positions of Responsibility

General Secretary – HAVOLTZ Club (EEE Dept.) *2023 – Present*
- Managing technical events and workshops such as PCB design during techfests like IIT Bombay's Meshmerize.
- Also involved in general management of club operations and member coordination.

Treasurer – Cloud Ops Club *2023 – Present*
- Overseeing financial planning, budget allocation, and resource management for the club's activities.

Member – TECHNORATS Robotics Team *2023 – Present*
- Actively contributing to robotics and embedded system projects in the EEE Department's elite student team.