TUFAN LAYEK

B.Tech in Electronics and Communication Engineering (4^{th} Semester)
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Career Objective

A motivated Electronics and Communication Engineering student with a strong interest in research and product development, aiming to contribute to cutting-edge engineering projects and deliver high-quality, socially impactful technological solutions.

Educational Qualifications

Degree	Year	Institution	CGPA
B.Tech (ECE)	2024–2028	SRM Institute of Science and Technology, Chennai	9.67
Higher Secondary	2022–2023	DAV Public School, MTPS	8.4
Secondary	2020–2021	DAV Public School, MTPS	9.24

Areas of Interest

- Embedded Systems.
- RF and Microwave Engineering with emphasis on electromagnetic wave propagation and sensing.
- Signal processing and detection using RF-based sensing systems.

Skills / Software Tools

- Programming: C, Python, Verilog
- Tools: MATLAB, Arduino, Proteus, LTSpice, STM32CubeIDE, Logisim, AutoCAD
- Design: Altium Designer, EasyEDA, HFSS

Experience

Team Member, SRM Automation Club *Oct 2024 – Present*
Worked on embedded system projects involving sensor data acquisition, communication protocols (UART, I^2C, SPI), Wi-Fi network setup, PCB design, and actuator control.

Associate Team Lead (Embedded Systems), Hyperloopin
Sep 2025 – Dec 2025
Worked on Hyperloop prototype involving sensor data acquisition, communication protocols (UART, I^2C, SPI), LoRa Communication, Wi-Fi network setup, PCB design, Battery Management Systems (BMS), and Power Electronics.

Projects

Flexible Planar Monopole Antenna with FEM Analysis
Apr 2025 – Dec 2025
Designed and fabricated a flexible 2.4 GHz planar monopole, combining HFSS full-wave optimization with FEM-based near-field analysis to study dielectric loading, resonance shift, and impedance stability, validated through on-body measurements.

Variable Frequency Drive (VFD) for LIM Control
Oct 2025 – Dec 2025
Designed a DC-to–three-phase AC variable frequency drive using a three-leg inverter and PWM-based control to regulate motor speed, frequency, and torque, ensuring efficient and stable operation under dynamic load conditions.

Real-Time Vision-Based Object Detection System
Nov 2024 – Feb 2025
Built a real-time perception pipeline using YOLOv8 and OpenCV for object detection with spatial awareness (left/right/front), integrated OCR (Tesseract) and text-to-speech to deliver low-latency audio feedback at 30 FPS.

Certifications

- PCB Design – Altium Education
- Python Developer – Udemy
- Problem Solving through C programming – NPTEL
- Computer using Transistors – Udemy

Extra-Curricular Activities

- National Service Scheme (NSS) – Community service and outreach activities.
- Sports – Represented school at zonal level in Volleyball and Football; medalist in intra-school 1500 m sprint and Long Jump.

Personal Profile

- Languages: English, Bengali, Hindi
- LinkedIn: linkedin.com/in/tufan-layek
- Github: github.com/tl5275

References

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