TEJASHVI RAJ

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EDUCATION

- **Vellore Institute of Technology** — Bhopal,Madhya Pradesh
  Bachelor of Technology - Electronics and Communication Engineering; CGPA: 8.52/10 — 2022 – 2026
- **Mithila Public School** — Araria, Bihar
  CBSE: 84.6% — 2021
- **Vidya Vihar Residential School** — Purnea,Bihar
  CBSE: 89.4% — 2019

SKILLS

- **Programming Languages:** C++, Embedded C, Python, MATLAB.
- **Domains:** Embedded Systems, VLSI Design, IoT, Signal Processing, Computer Vision, PCB Design.
- **Tools and Platforms:** ESP32, Arduino, Raspberry Pi, KiCad, Blynk IoT, LTSpice, Tinkercad, SIMULINK, Git.

PROJECTS

- **DHARA – The Ultimate Aqua-Hydro Manager:** — Sep 2024 – Jan 2025
  Embedded Systems & IoT
  - Developed an ESP32-based IoT system integrating TDS, pH, turbidity, and temperature sensors for real-time hydroponic/aquaponic monitoring with automated pH regulation and cloud analytics.
  - **Technologies:** ESP32, TDS Sensor, Turbidity Sensor, pH Sensor, Temperature Sensor, Ubidots IoT, C++.
  - **Role:** Embedded logic design, automation control, IoT integration.
- **IoT Based Garbage Level Monitoring System:** — Jan 2025 – Mar 2025
  Embedded Systems & IoT
  - Designed a smart bin system using ESP32 and ultrasonic sensing with <10 ms alert response, integrated with Blynk IoT for cloud-based overflow notifications.
  - **Technologies:** ESP32, Ultrasonic Sensor, Blynk IoT, C++.
  - **Role:** Sensor integration, calibration, and firmware optimization.
- **Aquatic Life Monitoring System:** — Jan 2025 – Mar 2025
  Embedded Systems & IoT
  - Built a multi-sensor platform for pH, turbidity, and TDS measurement, achieving ±0.2 accuracy with real-time anomaly detection for aquaculture environments.
  - **Technologies:** pH Sensor, TDS Sensor, Turbidity Sensor, ESP32/Arduino, C++.
  - **Role:** Embedded logic design, sensor fusion, and system validation.

EXPERIENCE

- **Embedded System Design Internship** — Maven Silicon
  Externship — Jan 2025 – Mar 2025
  - Worked as an Embedded System Design Intern, demonstrating applied proficiency with Arduino UNO Rev3, Raspberry Pi 4, and NodeMCU boards. Effectively integrated diverse sensors and gained hands-on experience with three serial communication protocols (UART, I2C, and SPI).

- **VLSI Design Internship** — Maven Silicon
  Externship — Jan 2025 – Mar 2025
  - Worked as a VLSI Design Intern, gaining hands-on experience with RISC-V ISA and RV321 RTL Design. Developed proficiency in register-transfer level (RTL) modeling, digital logic design, and hardware description languages (HDLs). Applied VLSI design principles in a real-world environment, focusing on ISA architecture understanding and implementation.

CERTIFICATIONS & TRAINING

- **Embedded System Design Certification** (Maven Silicon, 2025).
- **VLSI Design Internship – RISC-V & RTL Fundamentals** (Maven Silicon, 2025).
- **MongoDB Associate Database Administrator** (FacePrep, 2025).
- **PCB Design Using KiCad** (Pantech AI, 2025).

CO-CURRICULAR

- **Co-Head, Electronics Team, VITroniX Club (**July 2024 – Feb 2025**)**