Lavitra Sahu

Kanpur, India *(Willing to Relocate)* lavitrasahu123@gmail.com +91 7992118899
techarcanist.com linkedin.com/in/tech-arcanist github.com/TechArcanist

ABSTRACT

Engineer specializing in embedded avionics, robotics, and edge AI systems. Experienced in developing fault-tolerant hardware–software architectures, real-time telemetry pipelines, and embedded AI deployments. Built 25+ engineering-grade projects with full PCB design, documentation, and field testing across aerospace, IoT, and autonomous robotics.

EDUCATION

Pranveer Singh Institute of Technology (PSIT), Kanpur — B.Tech in Computer Science (IoT), 2021–2025
Senior Secondary — Laughing Buddha Academy, Kanpur, 74%, 2021
High School — Delhi Public School, Kalyanpur, Kanpur, 76%, 2019

CORE COMPETENCIES

Embedded Systems: ESP32, Raspberry Pi Pico, Jetson Nano, Arduino Nano BLE, LoRa, XBee, GSM (EC200U)
AI/ML: TensorFlow, PyTorch, YOLOv5/v8, OpenCV, EasyOCR, Tesseract, Edge AI inference
Avionics: Flight computers, telemetry, IMU fusion, pyro control, redundancy systems
PCB Design: EasyEDA, DRC checks, noise optimization, dual-MCU boards
Tools: Ubuntu, WSL2, Docker, Jupyter, Git, Autodesk Fusion 360, CAD, 3D printing, Laser Engraver, PCB Plotter

KEY ACHIEVEMENTS

- 2nd Prize – IN-SPACe ISRO Rocket Competition (2025): Designed dual-MCU avionics for telemetry and event control.
- Best CanSat Design Award – IN-SPACe ISRO Challenge (2025): Built redundant telemetry and payload PCB.
- Cleared all technical review stages for Teknofest Rocket Avionics (Turkey, 2025).
- Delivered 10+ IoT & Avionics workshops — 1000+ students trained.
- Published avionics documentation: **IN-SPACe Insights Report**.

PROJECTS

Avionics & Rocketry

- **Avionics – Teknofest Rocket Competition** — Integrated IMU, barometer, pyro channels, and telemetry into real-time flight computer.
- **InSpace ISRO Rocket Avionics PCB** — Custom dual-MCU board enabling high-reliability telemetry & event sequencing.
- **InSpace ISRO CanSat PCB** — Miniature satellite PCB with GPS, IMU, GSM, and payload automation.
- **Payload & Insights (Combined Project)** — Atmospheric sensing payload + complete documentation of avionics architecture.

IoT & Embedded Systems

- **MultiSense IntelliNest** — Smart IoT node integrating environmental sensors with local edge analytics.
- **Multi-Tier Secure Lock System** — Five-level authentication: RFID, fingerprint, OTP, TOTP.
- **Smart Plant Watering v2** — ESP32 system with LCD analytics & Blynk-based cloud data logging.

AI & Robotics

- **Vaman v3 – Quadruped Robot** — IMU-stabilized gait control + LiDAR mapping & motion planning.
- **Jetson Nano YOLOv5** — Optimized 30 FPS object detection pipeline on embedded GPU.
- **Autonomous Warehouse Robot** — AI robot for navigation, sorting, and collision avoidance.

Full archive of 25+ avionics, AI, and IoT projects: techarcanist.com/projects

MENTORSHIP & OUTREACH

Guided and mentored over 1000 students through hands-on workshops in embedded systems, avionics, and AI integration with emphasis on practical engineering implementation.

"From zero to maker — building, documenting, and learning through every iteration."