PATEL DEVKUMAR NAYANBHAI

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Profile

Computer Science and Engineering student at GSFC University with hands-on project experience in autonomous robotics, computer vision, embedded systems, UAVs, and 3D fabrication. Technical interests and work include autonomous navigation, sensor processing, machine learning, computer vision, and hardware-system integration.

Education

GSFC University — Vadodara, Gujarat

B.Tech. Computer Science and Engineering | 2025–2029

CGPA: 6.86/10 | Semester 3

Technical Skills

- **Programming:** Python, C, C++, Java
- **Web:** HTML, CSS, JavaScript, React, Node.js
- **AI/ML & Computer Vision:** OpenCV, YOLOv8, Machine Learning, Reinforcement Learning, Face Recognition, Depth Anything V2
- **Robotics & Embedded:** ESP32, Arduino, Raspberry Pi, Sensors, BLDC Motors, ESCs, Drones, UAVs, USVs, FlySky
- **Tools & Fabrication:** Git, GitHub, VS Code, Linux, Fusion 360, 3D Printing, 3D Scanning, Laser Cutting, RDWorks
- **Databases:** Supabase, Firebase

Technical Projects

USV Neil – Autonomous Disaster Response Vehicle

Autonomous Robotics | Computer Vision | 3D Printing

- Developing an autonomous surface vehicle for flood-response, surveillance, and disaster-management applications.
- Working on 3D-printed components, autonomous navigation, and planned integration of an image-recognition camera for environmental perception.

Quadcopter Drone

UAV | Embedded Systems | 3D Printing

- Led development of a custom quadcopter with a 3D-printed frame, integrating 1500 RPM BLDC motors, ESCs, FlySky radio control, and flight-control electronics.
- Led hardware assembly and system integration; future work includes computer-vision based autonomous perception.

Lane Following Bot

ESP32 | C/C++ | Python | Embedded Systems

- Built an autonomous lane-following robot using ESP32, IR sensors, and TB6612FNG motor driver.
- Developed the control algorithm for real-time sensor processing and motor control using C/C++ and Python.

UAV Talon

Fixed-Wing UAV | Embedded Systems | RC Control

- Worked on a single-motor fixed-wing UAV using 1500 RPM BLDC motor, servo motors, and FlySky radio-control system.
- Future development includes sensor-based flight telemetry and enhanced wireless communication capabilities.

Research Experience

GUIITAR Council, GSFC University | June 2026

Research Intern | 1 Month

- Contributed to technical and research-oriented activities involving engineering and emerging technologies.
- Worked as a 3D Designer at NUEROSIL AI TECHNO LLP, researching 3D modeling, visualization, and digital design workflows for technology-oriented projects.
- Also contributed to Guiitar Council activities involving creative research, planning, collaboration, and event coordination.