

Sharvil Hirenkumar Patel

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SKILLS

Languages: C, C++, HTML, CSS, JavaScript, Python, MySQL, Django, Flutter, PHP

Technologies & Tools: Android Studio, VSCode, Arduino IDE, Sublime

EDUCATION

GLS University

BSc IT

July 2021 – May 2024

CGPA: 7.50 / 10

Class 12 – Divine Life School (GHSEB Commerce)

May 2021

Percentage: 74%

Class 10 – Divine Life School (GSEB)

March 2019

Percentage: 75%

PROJECT WORK

• Arduino-Based Drone (2023)

Tech Stack: C++, Arduino UNO, MPU6050, ESC, RF Module

- Designed and programmed a quadcopter using Arduino UNO and MPU6050 to achieve autonomous flight with 70% drift reduction.
- Implemented real-time flight stabilization using C++ and PID control tuned across multiple test flights.
- Synchronized ESCs with calibrated motor signals, ensuring balanced thrust and reduced unbalanced lift by 60%.
- Enabled wireless remote control via RF module, improving manual control accuracy by 40%.

• Gesture-Controlled Laptop Interface (2024)

Tech Stack: Python, Flask, Mediapipe, OpenCV, PyAutoGUI, HTML, CSS, Bootstrap

- Engineered a computer vision system for hand gesture-based laptop control, replacing traditional input methods.
- Built gesture recognition pipeline with Mediapipe and OpenCV, achieving 95% detection accuracy and <200ms latency.
- Automated system-level commands (e.g., window switch, desktop view) using PyAutoGUI to improve accessibility by 80%.
- Deployed Flask backend to process live webcam streams and route control signals in real time.
- Designed an intuitive Bootstrap interface for gesture onboarding and visual feedback.

• VehicleEye – IoT-Based GPS Tracking and Engine Control (2025)

Tech Stack: Arduino UNO, GPS NEO-6M, SIM800L, Im 2596, Relay Module, C++, Flutter, PHP, MySQL, HTML, CSS

- Built an end-to-end IoT solution integrating Arduino hardware and mobile interface for vehicle tracking and control.
- Interfaced GPS and GSM modules to transmit live coordinates (refresh rate <5s) to a PHP/MySQL backend.
- Enabled remote engine ON/OFF via authenticated relay switching, reducing unauthorized use risk.
- Developed a Flutter app with Google Maps for tracking and control, alongside user profile management.
- Designed a responsive web admin dashboard for user account control and system activity monitoring.

POSITIONS OF RESPONSIBILITY

- **Team Lead** – Final Year Project (2024)
- **Team Lead** – Capstone Project (2025)