

Payal Mahure

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<https://github.com/cdac2025/Geo-Intelligent-Vehicle-Accident-Alert-System.git>

PROFILE

Detail-oriented Embedded Systems Engineer with expertise in microcontroller programming (STM32, ARM Cortex), RTOS, and hardware-software integration. Proficient in Embedded C, C++, Python, and protocols like UART, I2C, SPI, and CAN bus. Skilled in Linux-based development, including device drivers and IPC. Strong foundation in electronics and telecommunication engineering, with experience in debugging, circuit design, and signal processing. Proven ability to deliver innovative solutions in IoT, automotive systems, and robotics through end-to-end project development.

EDUCATION

PG-DIPLOMA at CDAC ACTS, PUNE **2024-25**
Embedded System And Design
Government College of Engineering, Chandrapur **2020 – 24**
*B.E. - Electronics and Telecommunication Engineering - **CGPA - 7.10*** *Chandrapur, Maharashtra*

COURSEWORK / SKILLS

- | | | | |
|--------------------|-----------------|-----------|----------------------|
| • C | • Device Driver | • HAL API | • Team Collaboration |
| • Microcontroller | • Linux | • UART | • Problem-solving |
| • Operating System | • GitHub | • I2C | • Good Communication |

PROJECTS

Geo-Intelligent Vehicle Accident And Alert System (PG-Diploma Project) **2024-25**

- This project integrates an STM32F407VGT6 as the core controller, an Arduino Uno for GPS data acquisition, and an ESP32 for cloud connectivity.
- The system detects accidents using the STM32's built-in accelerometer and processes real-time location data from the Neo-6M GPS module.
- Upon detecting a collision, GPS coordinates are transmitted to emergency services via a cloud-based alert system, ensuring rapid response.
- This solution demonstrates expertise in embedded systems, multi-protocol serial communication (UART and SPI), sensor integration, and real-time data processing for safety-critical applications.

Crop Cutting Vehicle / Electronic Circuit Design **2023-24**

- Developed a crop cutting vehicle that combines mechanical, electrical, and control systems to automate the crop harvesting process.
- Designed the vehicle to efficiently cut crops like jowar, bajra, and rice, utilizing FlySky FS-i6 for remote control operation.
- Integrated electrical and control systems to enhance the vehicle's performance, making the system more efficient and user-friendly.

Automatic Hand Sanitizer Machine | Electronics Circuit Design **2022-23**

- This machine workout by using sensors and other electronics components.
- Sensor like IR sensor for sensing the object or detect the object.

HOBBIES

- Listening Music

