

ARYAN GAIKWAD

Pune, Maharashtra

☎ 8956966967

✉ aryangaikwad2604@gmail.com

🌐 www.linkedin.com/in/aryangaikwad2604

🐙 github.com/GaikwadAR

Education

VIT Bhopal University

B.Tech in Electronics and communication engineering(AI and Cybernetics) Cgpa: 8.22 /10

Sept 2022 – present

Bhopal, Madhya Pradesh

Technical Skills

Languages: Python, C, C++, Embedded C, SQL

Simulation & Visualization: Gazebo, RViz, MATLAB, LTspice, Multisim, Proteus

Developer Tools: Arduino IDE, STM32, Keil uVision, Git, PowerBI

Technologies & Domains: Embedded Systems, IoT, VLSI, Robotics, ROS

Projects

Autonomous Drone with Obstacle Avoidance | *Python, LiDAR, Pixhawk, PID Control*

Sept 2024 – Apr 2025

- Designed and developed an intelligent drone system capable of autonomously detecting and avoiding obstacles using LiDAR, ultrasonic sensors, and onboard cameras.
- Implemented the Potential Field algorithm combined with a PID controller to enable dynamic adjustment of drone trajectory for smooth and collision-free navigation in complex environments.
- Integrated Pixhawk and Raspberry Pi 4 for flight control and processing sensor input, **achieving 95 % obstacle detection accuracy**.
- Reduced navigation errors and operational risk by 30 %**, demonstrating real-world potential for disaster relief and remote deliveries.

Gesture-Controlled Robotic Car | *C/C++, Arduino, NRF24L01, MPU6050*

Sept 2023 – Nov 2023

- Developed a hand-gesture-based car controlled via an accelerometer, contactless directional control.
- Transmitted real-time gesture data using NRF24L01 wireless module to Arduino-based motor controller.
- Achieved **90 % response accuracy** and a **35 % latency reduction**, enhancing control responsiveness.

Image-to-Text Recognition System (OCR) | *Python, Tesseract OCR, OpenCV*

Feb 2024 – May 2024

- Built a low-cost OCR pipeline using Raspberry Pi 3B+ and Pi Camera for converting printed images into digital text.
- Applied advanced image preprocessing (thresholding, denoising, contrast adjustment) to enhance OCR accuracy on degraded text.
- Enabled multilingual recognition and modular customization for different formats, with up to **95 % character recognition accuracy**.

Extracurricular/Achievement

AIEM Club – Event Management Team

Feb 2024 – Present

Event Team Member

VIT Bhopal University

- Assisted in coordinating university-wide technical events with 50+ attendee.
- Conducted frequent discussions to guide chapter activities and encourage collaboration.
- Oversaw logistics and team coordination to ensure smooth sailing and hassle-free completion of event.

1st Industrial Conclave 2024

August 2024

Team Member

VIT Bhopal University

- Achieved 12th rank out of 84 teams at the 1st Industrial Conclave 2023, for innovative project presentation and execution.

Research & Publications

Drone with Obstacle Avoidance for Emergency Services

Aug 2025

Published in IEEE

Certifications

IOT Markets and Security – Coursera:: Gained expertise about Industrial IoT, IoT ecosystems, market dynamics, and cybersecurity for industrial applications.

VLSI Design – Maven Silicon: Learned digital design, Verilog, and synthesis concepts relevant to semiconductors.

Embedded System Design – Maven Silicon: Gained proficiency in embedded system design, microcontroller programming, and hardware-software integration for real-world applications.