

Hemant Yadav

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[LinkedIn](#) [Github](#) [Personal Portfolio](#) [LeetCode](#)

PROFESSIONAL SUMMARY

Robotics-focused engineering student with hands-on experience in computer vision, gesture-based control systems, mobile robots, and embedded sensing. Built real-time vision pipelines using OpenCV and MediaPipe, integrated software control with physical robots, and led robotics teams in competitive environments. Strong foundation in Python, perception systems, and applied AI, with supporting experience in full-stack development for robotics dashboards and tooling.

EDUCATION

B.Tech in Artificial Intelligence & Machine Learning

Newton School of Technology (ADYPU), Pune

2024-2028

B.S in Data Science and Application

IIT MADRAS

2024-2028

INTERNSHIPS

UI/UX & Frontend Developer Intern

The MA Studio Online

May 2025 - July 2025
Online

- Designed human-centered interfaces for an AI-driven recruitment platform.
- Experience relevant to robotics dashboards, operator UIs, and monitoring systems.
- Worked closely with product and engineering teams to translate requirements into usable systems.

PROJECTS

Gesture-Based Robot & Game Control System (PyHandControl) [\(Github\)](#) [\(Demo\)](#)

December 2024

Tech: Python, OpenCV, MediaPipe, PyAutoGUI

- Designed a real-time hand-gesture recognition pipeline using MediaPipe landmarks.
- Mapped multi-finger gestures to discrete control commands (movement, jump, directional combos).
- Achieved low-latency vision-to-action control suitable for human-robot interaction experiments.
- System architecture transferable to robot teleoperation and HRI use-cases.

RoboSoccer Bot (Competition) IIT BHU TechFest [Demo](#)

February 2024

Tech: Microcontrollers, Sensors, Embedded Control

- Led the technical team in designing and implementing a competitive robotic soccer system.
- Worked on motion control, sensor integration, and real-time decision logic.
- Coordinated hardware-software integration under competition constraints.

Pick-and-Grab Robot (Competition) [Demo](#)

June 2024

Hardware: Microcontroller, Motors, Gripper, Sensors

- Designed and built a mobile robot capable of object pickup and placement.
- Implemented motion control logic for navigation and coordinated grasping.
- Tuned system for real-time performance under competition constraints.

Wireless Communication & RF Experimentation System [Demo](#)

November 2024

Hardware: ESP32, NRF24L01

- Experimented with wireless communication reliability and interference patterns.
- Analyzed packet loss, signal overlap, and protocol behavior.
- Gained practical experience with embedded RF systems.

CERTIFICATIONS

Bhartiya Antariksh hackathon [Link](#)

Developed a web app to visualize ongoing and upcoming forest fires with prediction confidence using remote sensing, deep learning, and simulation models

Data Analytics Job Simulation Forage [Link](#)

April 2025

Completed Deloitte Australia's virtual internship program, gaining hands-on experience in data analysis and visualization.

Introduction to Critical infrastructure protection OPSWAT [Link](#)

April 2025

Gained comprehensive knowledge of Critical Infrastructure Protection (CIP).

Postman API Fundamentals Student Expert Postman [Link](#)

December 2024

Acquired core skills in API functionality, testing, and development using Postman.

SKILLS

Programming: Python, C/C++ (basic), JavaScript

Robotics & Vision: OpenCV, MediaPipe, Sensor Integration, Control Logic, Computer Vision Pipelines

Embedded & Hardware: Microcontrollers, Actuators, Sensors (IR, Ultrasonic, Lidar, Motion Detection), ESP32, NodeMCU, Arduino UNO, Mega

Tools: Git, Linux, Figma (for robotics UI), Web Visualization

Designing: Fusion 360

EXTRA-CURRICULAR ACTIVITIES

- Head of Technical Team – RoboSoccer (TEKRON Fest)
- Core member, Robotics LFR Workshop (Mentored juniors, hands-on builds)
- Open-source contributor (FOSSIA, AsyncAPI – supporting tooling skills)