ANIRUDH RAGHAVAN

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An Autonomy graduate student actively seeking challenging internship and co-op opportunities to further develop skills in vehicular and robotics automation, AI, computer vision, and embedded systems. Proficient in C++ and Python, with hands-on experience using Arduino, ESP32, and Jetson Nano platforms. Passionate about leveraging cutting-edge technology, data-driven approaches, and interdisciplinary collaboration to build innovative, reliable solutions for intelligent and autonomous systems.

EDUCATION

Purdue University, *West Lafayette, IN, USA* - *MSE in Autonomy* (Candidate 2026) **(GPA: 3.72 / 4)** 2024 – Present

- **Coursework:** Vehicular Cyber-Physical Systems, Embedded Systems, Autonomous Systems, Artificial Intelligence

Vellore Institute of Technology, *Chennai, India* - *B.Tech- Electronics and Communication Engineering* **(GPA: 8.11 / 10)** 2020 – 2024

- **Coursework:** Robotics and Automation, Machine Learning Fundamentals, Control Systems

SKILLS

- **Technical Areas:** Computer Vision, IoT, Embedded Systems, Control Systems, Perception, Real-Time Processing
- **Languages, Tools & Frameworks:** Python, C++, ROS2, Gazebo, Arduino IDE, OpenCV, YOLO, TensorFlow, PyTorch
- **Hardware:** Arduino UNO/Nano, ESP8266, ESP32, STM32, NVIDIA Jetson Nano
- **Certification:** Python for Everybody, IBM AI Engineering Specialization, Modern Robotics Course 1: Foundations of Robot Model

EXPERIENCE

Internet of Things, Externship *(Remote from Chennai, India) — SmartInternz*, Hyderabad, India May 2023 – Jul 2023

- Gained in-depth knowledge and hands-on experience on IoT concepts. Developed a project titled “WePark”, a Smart Parking System aimed to improve urban parking management by providing accurate real-time slot information and allowing users to reserve spaces using ESP32 board, IBM Cloud, Node-RED, MIT App Inventor, and Google Firebase | GitHub

PART-TIME EXPERIENCE

Student Barista - *Aramark at Purdue University – Starbucks* – West Lafayette, IN , USA Feb 2025 – Present

- Effectively balanced part-time barista duties with full-time academics, demonstrating reliability, strong communication, attention to detail, and professionalism in a fast-paced, customer facing environment while building time management skills.

PUBLICATION

1. Abhishek Sebastian, R. Pragna, K. Vishal Vythianathan, Dasaraju Sohan Sai, U. Shiva Sri Hari Al, **R. Anirudh**, Apurv Choudhary; Design of rubble analyzer probe using ML for earthquake. AIP Conf. Proc. 9 November 2023; 2946 (1): 040003. | Link

ACADEMIC PROJECTS

Exploring Object Detection And Semantic Segmentation On Road Scene Dataset | GitHub Jan 2025 – May 2025

- Developed and evaluated YOLOv8 and U-Net models for road scene understanding using a custom Waymo-based dataset.
- Implemented a modular training pipeline enabling side-by-side benchmarking of detection and segmentation performance.

Weather-Invariant Object Detection: Enhancing YOLOv8 with Environment Adaptive Preprocessing for Robust Performance Across Diverse Conditions | GitHub Aug 2024 – Dec 2024

- Developed a modular, scalable pipeline seamlessly integrating weather classification, adaptive image enhancement, and YOLOv8 for robust real-time object detection in adverse weather conditions.
- Achieved consistent and reliable object detection performance across synthetic fog, rain, and challenging low-light conditions using targeted, domain-specific augmentations.

Traffic Sign Recognition Using Deep Learning and Tkinter | GitHub Jun 2025 – July 2025

- Built a high-accuracy traffic sign recognition system using Convolutional Neural Networks (CNNs) trained on the GTSRB dataset in TensorFlow.
- Deployed the model using a custom Tkinter GUI to enable real-time image classification for potential in-vehicle applications.