BARGAVAN R

ROBOTICS AND AUTOMATION UNDERGRAD

Chennai , Tamil Nadu | bargavanroboti[redacted]gineer@gmail.[redacted] | Linkedin | Github | Portfolio

SUMMARY

Robotics and Automation Engineer with expertise in AI/ML, ROS2, SLAM, and computer vision. Experienced in robotics simulations, hardware integration, and autonomous systems. Competed in E-Yantra, ISRO ANAV. Passionate about AGI ,driving innovation through real-world applications and continuous learning.

PROFESSIONAL EXPERIENCE

Unified Mentor

- Ma[redacted]Learning Intern **Feb 2025 - Mar 2025**
- Developed a heart disease dete[redacted]model using supervised learning te[redacted]ques. Analyzed patient data to enhan[redacted]redi[redacted]a[redacted]d improve early diagnosis.

PROJECTS

E-yantra Robotics Competition 2024-2025-Warehouse Drone

Gained hands-on experien[redacted]in autonomous drone navigation for warehouse automation. Developed and optimized software for drone [redacted]ol, [redacted]pleting all software rounds su[redacted]fully. Ranked in the top 45 among 800+ parti[redacted]ts, show[redacted]g problem-solving skills in ROS2, [redacted]puter vision, and path planning.

ISRO Robotic Challenge - URSC 2025

Currently developing autonomous navigation and guidan[redacted]ques for an aerial vehi[redacted]n Mars without external aids like GNSS. Fo[redacted]g on spa[redacted]ploration appli[redacted]s.

AI-Driven Accelerating Drug Discovery

- Designed a neural network model to predi[redacted]g's effi[redacted]d redu[redacted]ial durations.
- A[redacted]ed improved predi[redacted]a[redacted]fine-tuning hyperparameters.
- Analyzed drug [redacted]ounds to a[redacted]te dis[redacted]y timelines.

Autonomous Drone Navigation

- Developed a drone navigation system using Reinfor[redacted]t Learning (PPO), enabling the drone to autonomously navigate between multiple points.
- Optimized the model for obsta[redacted]oidan[redacted]d effi[redacted]pathfinding without using ROS.

SKILLS

Programming: Python, C/Embedded C, Obje[redacted]Oriented Programming (OOP), **Robot Operating System (ROS2)**, PLC Programming (Ladder Logi[redacted]), **Computer Vision (OpenCV)**, MATLAB Programming, **SLAM (Simultaneous Localization and Mapping).**
Simulation Tools: Gazebo Classi[redacted]**Ignition Gazebo, RViz, Simulink**, Tinker[redacted]c
Design & Analysis: SolidWorks (Modeling & Simulation), PCB Design (EasyEDA, KiCAD), Human-Ma[redacted]c Interfa[redacted]PLC (HMI) Design .
Artificial Intelligence: **Machine Learning** (Supervised, Unsupervised, Reinfor[redacted]t Learning).
Operating Systems: Linux (Primary), **Windows** (Se[redacted]ary).

EDUCATION

Bachelor of Engineering in Robotics and Automation
Madras Institute of Te[redacted]logy (MIT), Anna University **Aug 2023 - July 2027**

Patents/Publications/IPR(Activities)

1. ErgoPedal An Ergonomi[redacted]t Relaxation and Cir[redacted]n-Enhan[redacted]System for Automotive vehi[redacted]c
2. Su[redacted]Lo[redacted]sed landing gear.

ADDITIONAL INFORMATION

- **Languages:** English, Tamil , Telugu .
- **Certifications:** Indutrial Automation with PLC & HMI (Siemens) , Learn to Program: The Fundamentals (Coursera) , Supervised Ma[redacted]Learning: Regression and Classifi[redacted]n (Coursera).
- **Roles/Responsibities/Activities:** Pla[redacted]t Representative , NSS Best Student Volunteer of the year , MIT VARIETY TEAM PERFORMER .