AKHIL S NAIR

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OBJECTIVE

Leverage skills as a Robotics and Automation Engineer in designing, building, and deploying innovative AI-driven systems. Aiming to contribute to projects that solve complex challenges in automation and robotics while continuously enhancing expertise in the field.

EDUCATION

B.Tech in Robotics and Automation Engineering, Saintgits College of Engineering, Kerala, India 2019 - 2023
Relevant Coursework: Robotics, Machine Learning, Automation Systems, AI, Control Systems.

12th Grade, Aravinda Vidyamandiram, Pallickathodu, CBSE Board 2019

10th Grade, Girideepam Bethany Central School, Kottayam, CBSE Board 2017

SKILLS

Programming Languages	C, C++, Python
Software	ROS, RViz, Gazebo, MATLAB, LabVIEW, SCADA, SolidWorks, Blender
Core Skills	Path Planning, Navigation, Localization, Obstacle Avoidance, NLP, Sensor Integration
Soft Skills	Self-Starter, Flexible, Adaptable, Leadership, Communication

ACADEMIC PROJECTS

Fire Extinguisher Robot Prototype: Developed a robot capable of detecting and extinguishing fires autonomously using C++, Arduino, and flame sensors.

Floor Cleaning Robot: Built an autonomous robot using Python, ROS, and SLAM for efficient floor cleaning with obstacle detection and path planning.

Wild Animal Surveillance using Autonomous Drones: Developed a drone system for wildlife monitoring using Python, OpenCV, and machine learning.

Stroke Prediction System: Designed a machine learning model to predict stroke risk based on lifestyle and clinical parameters, achieving 92% accuracy.

Emotion Recognition System: Built a system using Python and TensorFlow to classify human emotions from facial expressions with over 90% accuracy.

Autonomous Car Navigation: Created a robotic car using C++ and OpenCV that autonomously follows road lines and avoids obstacles.

Maze Clearance Robot: Designed a robot capable of clearing mazes using pathfinding algorithms and obstacle avoidance techniques.

Human Follower Robot: Developed a robot using Python and ROS that tracks and follows a human based on facial detection.

Industrial Pick and Place Robot: Built a robot using C++ and SolidWorks to automate pick-and-place tasks in a warehouse environment.

PROJECTS

Obstacle Avoidance Wheeled Robot: Created a robot capable of navigating an environment autonomously to reach a target position without collision.

Multi-Agent Search System: Designed a search and rescue bot that detects humans in hazardous locations and navigates them to the nearest exit.

Localization of a Mobile Robot: Implemented localization techniques using Adaptive Monte Carlo Localization in ROS.

Autonomous Navigation Robot: Developed a robot capable of navigating autonomously in different environments.

In-House Delivery Robot: Created a mobile robot that navigates to a pick-up zone to retrieve an object and then moves to a drop-off zone.

CERTIFICATIONS

Completed online course 'The Bits and Bytes of Computer Networking' by Google (Coursera).

Completed online course 'Natural Language Processing (NLP) and Text Mining Tutorial for Beginners' (Simplilearn).

Completed online course 'Machine Learning' (Simplilearn).

Completed online course 'Agile Scrum Master' (Simplilearn).

Attended offline course in 'Multimedia' by Finch Animation and MAAC, Kottayam.

WORKSHOPS

2-day workshop on Vega Processors and Ecosystem by CDAC, Trivandrum.

Gesture Controlled Robotics Workshop at Government Engineering College, Barton Hill.

LabVIEW Workshop organized by Saintgits College of Engineering.

IoT and Drones Workshop by Bennett University.

Participated in e-Yantra 2022-2023 Sentinel Drone Project.