

Akhil S Nair

📍 Kerala, India 📞 +91 8089213103 ✉ theakhil2000@gmail.com 🔗 akhil-nair 🌐 akhil-s

PROFESSIONAL SUMMARY

Innovative Robotics Engineer specializing in Humanoid Robotics, Autonomous Vehicles, and Multi-Agent Systems. Expertise in ROS1/ROS2, AI-driven perception, SLAM, path planning, and real-time simulation. Passionate about advancing intelligent robotics for dynamic environments, with hands-on experience in designing and deploying autonomous systems through impactful projects.

CORE COMPETENCIES

Robotics Software: ROS1/ROS2, Gazebo, RViz, MoveIt, SLAM, Path Planning, Localization
AI & Machine Learning: Deep Learning, Reinforcement Learning, Computer Vision, NLP
Programming & Tools: Python, C++, Embedded Systems, MATLAB, Linux, OpenCV
Hardware Design: URDF Modeling, CAD Design, LiDAR, Kalman Filters, Sensor Integration

ROBOTICS ENGINEERING EXPERIENCE

Autonomous Vehicle Navigation Jan 2021 – Present

- Developed AI-driven perception and LiDAR-based SLAM, enhancing path planning efficiency by 30%.
- Integrated deep learning models with ROS2, boosting object recognition accuracy by 25%.
- Reduced localization errors by 15% using advanced Kalman filter optimizations.

Humanoid Robotics Framework Mar 2022 – Dec 2022

- Engineered a ROS-based humanoid robot with facial emotion recognition, improving human-robot interaction by 40%.
- Implemented reinforcement learning for adaptive motor control, increasing response speed by 20%.

Multi-Agent Swarm Robotics Jun 2021 – Sep 2021

- Developed a fleet of UAVs with collaborative SLAM, reducing disaster response times by 45%.
- Achieved 95% terrain mapping accuracy through optimized real-time data fusion pipelines.

Fire Extinguisher Robot Aug 2020 – Nov 2020

- Developed an autonomous fire extinguisher robot using C++ and Arduino, capable of detecting and extinguishing fires.

EDUCATION

B.Tech in Robotics and Automation Engineering 2019–2023

Saintgits College of Engineering, Kerala, India

- Relevant Coursework: Robotics, Machine Learning, AI, Control Systems, Automation Systems

12th Grade | CBSE Board 2019

Aravinda Vidyamandiram, Pallickathodu

10th Grade | CBSE Board 2017

Girideepam Bethany Central School, Kottayam

CERTIFICATIONS & WORKSHOPS

Certifications

- The Bits and Bytes of Computer Networking – Google (Coursera)
- Machine Learning Specialization – Simplilearn
- Agile Scrum Master Certification – Simplilearn
- Natural Language Processing (NLP) and Text Mining – Simplilearn

Workshops

- IoT and Drones Workshop – Bennett University
- Gesture Controlled Robotics Workshop – Government Engineering College
- LabVIEW Workshop – Saintgits College of Engineering