

Arjun S Kumar

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PROFESSIONAL SUMMARY

Robotics engineering leader with **8+ years of experience** building and owning autonomy systems now running on **1,800+ commercial robots worldwide**. Track record of taking SLAM and perception research from whiteboard to fleet-scale production, and of leading the engineering teams and cross-functional partners needed to get it deployed.

EXPERIENCE

Botsync

Bangalore, India

Staff Robotics Engineer (Full-Time)

Jan 2026 – Present

- **Lead the AMR India engineering team**, owning the mapping and localization stack end-to-end and serving as the cross-functional point of contact for DevOps, embedded systems, fleet management, and customer support.
- **Replaced a manual mapping workflow with a real-time online 3D SLAM pipeline**, eliminating the need to record rosbags and hand-correct pose graphs offline – cutting site deployment time from weeks to hours.
- **Built a Map Editor tool** for 2D/3D map layers supporting map merging, coordinate transformation, and manual editing – vibe-coded end-to-end to move quickly from concept to a working internal tool.

Entri.App

Remote

Volunteer Instructor – Robotics (Part-Time)

Aug 2025 – Present

- **Volunteer instructor** teaching ROS2, C++, SLAM, controls, and robotics mathematics to engineers moving into the robotics industry, designing course content that combines theory with hands-on exercises.

LionsBot International Pte Ltd

Changi South, Singapore

Senior Engineer – Autonomy (Full-Time)

Feb 2022 – Jul 2025

- **Built a production-ready 3D LiDAR SLAM system** with GTSAM iSAM2 optimization, eliminating Z-drift in sparse vertical environments for reliable navigation across **1,800+ commercial cleaning robots** worldwide.

Ignitarium Technologies

Kerala, India

Senior Engineer – Machine Learning & Robotics (Full-Time)

Apr 2019 – Jan 2022

- **Built a complete autonomous navigation stack** on the TI Jacinto J7 processor, integrating SLAM, path planning, and obstacle avoidance, and optimized CNN architectures for real-time 2D/3D detection on ARM & x86 platforms.

Nanyang Technological University (NTU)

Nanyang, Singapore

Research Associate – Robotics (Contract)

Aug 2018 – Apr 2019

- **Designed and built a custom Micro Aerial Vehicle (MAV)** with stereo cameras and a Pixhawk flight controller, benchmarking VIO solutions (VINS-Mono, ROVIO) on Jetson TX2 for autonomous flight.

Addverb Technologies

Noida, India

Robotics Engineer (Full-Time)

Jan 2018 – Jul 2018

- **Pioneered an RGB-D bin-picking solution achieving an 80% pick success rate**, using ROS and PCL, and integrating with ABB and Universal Robots manipulators for pick-and-place execution.

Ernst & Young (EY)

Kerala, India

Robotics Consultant + Master Thesis Student (Contract)

Jan 2017 – Dec 2017

- **Delivered proof-of-concept systems for industrial clients** using Microsoft HoloLens, RGB-D sensors, and CNTK; master's thesis achieved 89% accuracy in neural network-based crack detection.

Ingeniarius Lda

Coimbra, Portugal

Mobile Robotics Intern

Jun 2016 – Oct 2016

- **Developed and validated swarm robotics algorithms** using ROS and Gazebo, enhancing Darwinian PSO to achieve 3× faster area coverage than standard PSO for search-and-rescue scenarios.

EDUCATION

Amrita School of Engineering

Kerala, India

Master of Technology – Robotics & Automation

Jul 2015 – Jul 2017

Amrita School of Engineering

Kerala, India

Bachelor of Technology – Computer Science & Engineering

Aug 2011 – May 2015

TECHNICAL SKILLS

Programming & ML: C++, Python, PyTorch, CUDA, TensorRT

Robotics & Tools: ROS/ROS2, OpenCV, PCL, GTSAM, G2O, Gazebo

Systems & Hardware: Git, Docker, CI/CD, Linux (Ubuntu); 2D/3D LiDARs, RGB-D Cameras, IMUs, Nvidia Jetson (TX2/Xavier), TI Jacinto Processors