

SULAIMAN AL AKBARI

Robotics Application Engineer | AMR/AGV Systems Integration & Field Commissioning

AMR/AGV Application Engineering • Field Commissioning • Customer Support & Training • Industrial Automation

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PROFESSIONAL SUMMARY

Robotics Application Engineer with 3+ years of hands-on experience commissioning, configuring, and supporting automated system solutions across 100+ AGV deployments in large-scale industrial and warehouse environments. Skilled in AGV application software configuration (Navitec, Navitrol), on-site field commissioning, and customer-facing technical support for both internal teams and external clients. Direct experience with mobile manipulators and mounted-arm platforms (Fetch Mobile Manipulator, Kinova Gen3), plus ROS/ROS2, Python, and C++ for robotics integration and diagnostics. Background spans server/network environments, technical documentation, quote and proposal support, and Agile/Scrum cross-functional collaboration with engineering, sales, and integrator teams. Strong communicator with a track record of 100% customer satisfaction scores and measurable process improvements.

WORK EXPERIENCE

System Installation Engineer (Full-Time)

JBTC Marel — Hybrid

Dec 2023 – May 2026

- Commissioned, configured, and validated 100+ AGV/AMR systems, sensors, LiDAR units, and peripheral equipment across large-scale P&G warehouse sites, achieving 99% operational uptime.
- Configured and tuned AGV application software using Navitec (configuration, calibration, performance tuning) and Navitrol Monitor (real-time fleet diagnostics) across multiple large-scale deployments — analogous to commissioning and optimizing software applications for end customers.
- Served as primary on-site technical point of contact for AGV software issues, delivering customer training and support that earned 100% positive satisfaction scores from client engineering teams.
- Performed system testing, diagnostics, and debugging using Python-based tools and robotics frameworks, reducing troubleshooting time by 25% through automated scripts.
- Supported integration of AGV systems with customer network and server environments, working across Python, AutoCAD, Jira, GitHub, and SQL to enable scalable deployment and system interfacing.
- Authored technical documentation, configuration guides, and training manuals to support customer onboarding, deployment, and ongoing maintenance.
- Analyzed and reported system performance metrics via Power BI dashboards, enabling data-driven engineering decisions that improved fleet throughput.
- Collaborated within Agile/Scrum cross-functional teams to deliver engineering solutions and drive continuous improvement, contributing to a 20% reduction in deployment cycle time.

Reserve Engineer (Contractor)

Cobalt Robotics — Seattle, WA

May 2023 – May 2025

- Delivered remote diagnostics and technical guidance to specialists and engineers across Seattle sites, reducing average robot repair time by 30% and minimizing production disruptions.
- Performed hands-on repair and troubleshooting on an average of three mobile robots per week, maintaining consistent operational uptime.
- Mapped and optimized patrol routes for 12+ mobile robots across a 5,000+ sq ft facility, improving coverage and operational efficiency.
- Coordinated with distributed engineering teams to streamline troubleshooting workflows and maintain consistent robot performance.

Capstone Robotics Developer

Global Innovation Exchange — Bellevue, WA

Jun 2021 – Dec 2021

- Fetch Mobile Manipulator: executed SLAM-based mapping using ROS and Gmapping, reducing navigation errors and improving localization precision through fused LiDAR and IMU sensor data.
- Kinova Gen3 robotic arm: developed pick-and-place application code using ArUco fiducial markers for precise object detection, achieving an 18% improvement in pick-and-place accuracy.

- Integrated visual SLAM using OpenCV, decreasing collisions and improving object recognition accuracy for autonomous navigation.
- Conducted competitive analysis and usability research with a team of five engineers; arranged testing schedules and collected feedback to enhance project value proposition.
- Developed a storytelling robot web application for children using JavaScript, HTML, and CSS with a computer vision and speech recognition-based interface.

EDUCATION

Master of Science in Technology Innovation (Robotics) | GPA: 3.5/4

Sep 2020 – Aug 2022

University of Washington, Bellevue, WA

Bachelor of Engineering in Computer Engineering | GPA: 3.7/4

Oct 2013 – Dec 2018

Umm Al-Qura University, Mecca, Saudi Arabia

TECHNICAL SKILLS

Robotics Software: ROS / ROS2, Gazebo, MoveIt, SLAM, AMCL, Nav2, Path Planning, Navitec, Navitrol, Mobile Manipulators, Kinova Gen3, Fetch Robot, Motion Control, System Integration & Commissioning

Sensors & Hardware: LiDAR (2D/3D), IMU, GPS/GNSS, Depth Cameras (RGB-D), Ultrasonic Sensors, Encoders, Actuators, Sensor Fusion & Calibration, Wiring & Schematics, PLC Basics, Firmware Updates, Electromechanical Troubleshooting

Networking & Connectivity: Server & Network Environments, Network Configuration & Troubleshooting, WLAN Basics, System-to-System Interfacing

Programming & Data: Python, C, C++, Java, SQL, MATLAB, VHDL, MIPS, JavaScript, HTML/CSS, Computer Vision (OpenCV), Machine Learning (scikit-learn), Predictive Modeling

Software & Tools: AutoCAD, Autodesk Fusion 360, Jira, GitHub, Linux (Ubuntu), Windows, Power BI, RViz / RViz2

Professional: Technical Documentation, Customer Training & Support, Quote & Proposal Support, Agile/Scrum, Field Deployment & Commissioning, Cross-Functional Collaboration, Travel-Ready for On-Site Customer Work

LANGUAGES

English — Fluent / Professional Working Proficiency

Arabic — Native

PROJECTS

Hydration Robot

- Executed algorithm optimizations in Python leveraging the Fetch manipulator and Kinova arm, boosting drink delivery efficiency by 20% and increasing daily deliveries from 10 to 15 per robot (50% expansion in hydration coverage).
- Coordinated ROS and Gazebo frameworks with Python and C++, integrating LiDAR-based obstacle avoidance for safe navigation in dynamic environments.
- Deployed an OpenCV precision control system, achieving 95% cup placement accuracy on tables, substantially reducing spillage.

Weather Conditions Analysis in World War Two

- Analyzed historical weather data with linear and polynomial regression, achieving accuracy of 0.7639 and 0.7983 with MSE of 17.61 and 15.05 respectively.
- Employed Python to identify temperature distribution patterns contributing to deeper understanding of historical events and military planning.

3D Model Xbox Controller Design

- Designed a bespoke Xbox controller from hand-drawn sketches to precise 3D modeling in Autodesk Fusion 360, expediting the design process by 20%.
- Enhanced user satisfaction by 15% through rigorous user testing and iterative feedback analysis.

HONORS & AWARDS

- First Honor Certificate (2018) — Computer Science Department, Umm Al-Qura University.
- Fully funded scholarship from the Hadramout Foundation covering tuition and living expenses for both undergraduate and graduate studies.