Sajeevan Veeriah

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Professional Summary

R&D focused Mechatronics Engineer developing intelligent automation systems from concept to deployable systems. Expertise integrating robotics & autonomous systems, embedded firmware (ESP32, STM32, FreeRTOS), AI-driven decision-making, industrial automation (PLC, SCADA), and IoT pipelines. Full-stack capabilities spanning hardware design (PCB, CAD), firmware development, sensor fusion (ROS 2, SLAM), machine learning integration, and system validation for rapid multidisciplinary prototyping.

Core Skills

Controls and Robotics: ROS 2, SLAM, motion planning, PID tuning, Kalman filtering, state estimation, system identification, PLC and SCADA

Embedded and Firmware: ESP32, STM32, FreeRTOS, UART, I2C, SPI, ADC, PWM, motor control

Software and Programming: C and C++, Python, MATLAB and Simulink, LabVIEW, MS Office

Automotive and Validation: AVL test systems, CAN FD, CANoe, CANalyzer, Humanetics ADAS targets, ADR/EURO workflows (ICE/EV/PHEV)

Electronics and PCB: Altium, KiCad, power and signal conditioning, oscilloscope, logic analyser

IoT and Data: LoRaWAN and ChirpStack, MQTT, InfluxDB, Grafana, REST, edge compute

Mechanical and CAD: SolidWorks, Fusion 360, FEA, 3D printing

Quality and Safety: ISO, IEC, AS/NZS, EN, ASME, ADR, EURO, FMEA, ITP and MDR, OH&S, Lean Six Sigma Foundation, JIRA, Agile, KAIZEN Foundations, RCA & CI

Soft Skills: Cross-functional collaboration, stakeholder communication, adaptability, problem-solving, attention to detail, mentoring support, documentation discipline

Experience

Technical Assistant, ABMARC   Geelong, VIC   Jul 2024 to Aug 2025

- Executed emissions and compliance testing on approximately 2 vehicles per week, aligned to ADR and EURO standards; including ADAS testing.
- Operated AVL and CAN based test instrumentation for high fidelity acquisition, contributing to an 89 percent first pass success rate across a 100 vehicle batch.
- Authored compliance and quality documentation supporting ADR and EURO validation and regulatory submissions.
- Collaborated across compliance and engineering to improve vehicle checklists and on boarding and off boarding workflow consistency.

IoT Projects Administrator, DuxTel Pty Ltd   Geelong, VIC   Feb 2024 to Jun 2024

- Designed and deployed 5 end to end IoT systems integrating sensors, gateways, and data pipelines for reliable connectivity.
- Developed real time dashboards in InfluxDB and Grafana, reducing device latency via strategic router placement and improving troubleshooting speed.
- Delivered hands on training to 5 clients and authored detailed SOPs to standardise setup and support.
- Configured and integrated 20+ LoRaWAN and ChirpStack devices, accelerating onboarding and achieving stable network uptime.
- Built an ESP32 based GPS and environmental sensing tracker, shortening prototype lead time with modular firmware reuse.
- Collaborated with engineering and operations to prototype smart city and safety solutions for rapid demonstrations.

Production Team and Cellar Hand, IDL   Geelong, VIC   Aug 2022 to Feb 2024

- Operated and maintained automated winery systems processing 10000 cans per hour and 50 kegs per hour, maintaining hygiene and AS/NZS safety compliance with zero incidents.
- Performed quality and chemical testing on samples with 100 percent batch traceability, escalating production deviations to protect product standards.
- Supervised automated bottling and packaging checkpoints sustaining 10000 unit per hour throughput with zero labelling errors across 500 plus batches.
- Maintained 5S compliant workspace to ensure sanitation and audit readiness throughout tenure.

Undergraduate Engineer and QA Assistant, Thornton Engineering   Geelong, VIC   Mar 2018 to Mar 2020

- Executed QA inspections for structural fabrication projects, ensuring compliance with design specifications and welding codes.
- Developed and compiled ITPs and MDRs for all active structural projects during tenure, improving traceability and audit readiness.
- Coordinated with engineers and project managers to streamline document control and ensure on time delivery.
- Facilitated third party NDT, mechanical testing, and welder qualification documentation across multiple contracts.

Projects

Clinical Ataxia Assessment Device
ESP32 device with IMU, time of flight, Hall and magnetometer sensors for clinical motion tracking with approximately plus or minus 2 mm precision, documented to IEC 60601 and ISO 13485 expectations. MATLAB analytics and Android app for real time assessment and logging enabled repeatable testing and basic clinical reporting.

Autonomous Navigation Rover
ROS 2 stack with LiDAR, IMU, and depth camera for SLAM and sensor fusion. OpenCV nodes for perception, localisation stability improvement via Kalman tuning, and control optimisation on varied terrain.

Education

Bachelor of Mechatronics Engineering, Honours
Deakin University, Geelong VIC   2025
Higher National Diploma, Mechatronics, Robotics and Automation
Cardiff Metropolitan University, UK   2016

Professional Memberships and Standards Training

- Engineers Australia Student Member
- ISO, IEC, AS/NZS, EN and ASME exposure
- ADR/EURO training
- Internet of Things
- Automation
- Lean Six Sigma Foundation
- JIRA , Agile, KAIZEN Foundations
- RCA & CI

Leadership

- Past President of Rotaract Club of Colombo East
- Sri Lanka National Hockey Caption - Under 19

Interests

Robotics and autonomous systems, research & development, embedded firmware and real time control, mechatronic system integration, sensor fusion and perception, industrial automation and PLCs, product design and rapid prototyping