

# Sajeevan Veeriah

Highton, VIC 3216 | +61 498 586 654 | sajeevanveeriah@gmail.com | LinkedIn | Portfolio

## Professional Summary

---

R&D focused Mechatronics Engineer developing intelligent automation systems from concept to production-ready prototypes. 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 Captain - 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