

Sajeevan Veeriah

Robotics, Mechatronics, AI/ML & End-To-End Automation Engineer

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Professional summary

Mechatronics engineer combining industrial controls, automotive validation and manufacturing experience with robotics, embedded systems and client software delivery. Develops systems from requirements and design through integration, testing and handover. Recent work includes ROS 2 autonomy, custom controllers, vehicle-position sensing, business automation and community platforms.

Technical skills

Controls and integration: Programmable logic controllers (PLC), Siemens TIA Portal, HMI/SCADA, iFIX, PVI+, drives, MES, Modbus, PROFINET, industrial IT/OT and GMP documentation.

Robotics and embedded: ROS 2, Nav2, SLAM, EKF sensor fusion, Gazebo, RViz, C/C++, ESP32, STM32, FreeRTOS, CAN, UART, I2C, SPI and BLE.

Software, AI and data: Python, MATLAB/Simulink, TypeScript, React, SQL, Git, CI/CD, OpenCV, scikit-learn and local language-model retrieval workflows.

Design, IoT and test: SolidWorks, Fusion 360, KiCad, Altium, PCB/enclosure design, 3D printing, Linux, LoRaWAN, MQTT, InfluxDB, Grafana, CANoe and CANalyzer.

Professional experience

Independent Consultant Engineer

SV Tech Solutions | Jun 2026 - present

- Develop client systems for Stan Wootton Locksmiths and Gendio across requirements, electronics, embedded firmware, application software, testing and release documentation.
- Deliver SWL pricing and inventory software. Design Gendio controller and serial-adaptor PCBs, display firmware, browser configuration and vehicle-position sensing; coordinate fabrication reviews.

Automation and Controls Engineer

JAG Process Solutions | Jan 2026 - Jun 2026

- Integrated PLC logic, HMI/SCADA, field devices, drives and production data for pharmaceutical, biotechnology and food manufacturing.
- Migrated validated iFIX content to PVI+; completed functional checks and supported FAT/SAT, commissioning, GMP handover and MiR mobile-robot fault tracing.

Product Development Test Engineer (Contract)

Ford Motor Company via Invenio | Oct 2025 - Jan 2026

- Tested vehicle-software integration and ADAS through feature-vehicle, breadboard and regression testing. Instrumented vehicles and analysed CAN/CAN FD data in CANoe and CANalyzer to isolate faults and document software-readiness evidence.

Technical Officer & Quality Assurance

ABMARC | Jul 2024 - Aug 2025

- Conducted emissions, EV/PHEV range and vehicle-system tests using calibrated instrumentation and data acquisition; maintained traceable test, safety and quality records for certification review.

Consultant Engineer, IoT and Projects Administrator

DuxTel | Feb 2024 - Aug 2024

- Built ESP32 and LoRaWAN AU915 telemetry with ChirpStack, MQTT, InfluxDB and Grafana. Integrated custom PCBs, CAN/GPS, MikroTik connectivity and Linux services for field trials and handover.



Manufacturing and quality experience

Production Line Worker / Supervisor / Commissioning Support; Cellar Hand

IDL Australia | Aug 2022 - Feb 2024

- Led output, changeovers and handovers; maintained quality and traceability and supported canning-line commissioning to Sep 2023. Then supported cellar sanitation, sampling and production records.

Production Line Operator and Commissioning Support

Carbon Revolution | Sep 2021 - Dec 2021

- Operated carbon-fibre wheel equipment, maintained quality records and supported equipment trials, setup and first-level fault recovery.

Undergraduate Quality Engineer

Thornton Engineering Australia | Mar 2018 - Mar 2020

- Supported drawing review, ITPs, MDRs, material traceability and AS/NZS compliance in structural-steel fabrication.

Selected engineering projects

Autonomous navigation rover | ROS 2

Built a differential-drive platform with LiDAR and IMU. Integrated SLAM, EKF localisation and Nav2 in C++/Python; checked navigation and recovery in Gazebo and RViz. Autonomy validated in simulation.

Ataxia assessment device | Embedded mechatronics

Designed an ESP32 prototype, Altium PCB and enclosure with four Hall-effect channels at 100 Hz. Added Bluetooth reporting; tested accuracy, reversals, drift and temperature behaviour in MATLAB.

SWL pricing and inventory control | Client software

Sole engineer across React/TypeScript, Tauri/Rust, SQLite, pricing rules, testing and release packaging. Built operator-reviewed ServiceM8 imports with change, exception, rollback and audit reports.

Gendio controller and vehicle positioning | PCB and embedded systems

Designed a four-layer ESP32-S3 controller, serial adapter, firmware and browser configuration. Extended vehicle-detection and distance-measurement integration; prepared fabrication files. Assembled-system and field validation remain pending.

SPC-001 waterless solar-panel cleaner | Robotics

Developed mechanical CAD, electronics, supervisory control and coverage planning. Produced an independent research paper covering contact mechanics, traction and energy; distinguished analysis from physical performance.

Deadline-aware robot runtime assurance | Simulation research

Developed a simulation study of sensor uncertainty, measurement age and command delay in a braking supervisor; compared recovery strategies using fault-injection benchmarks.

Potato-processing automation | Industrial simulation

Built a browser-based process simulation informed by Farm Frites discussions, with control and operator-interface concepts. Uses simulated data; no factory implementation is claimed.

Community platforms and engineering tools

Built the NDCC website and Dino Coach fantasy-cricket platform, including CMS, registration, teams, budgets, payments and meal ordering. Developed Engineering Mastery Lab for technical learning and calculations.

VeerAI | Local AI system

Built a locally deployed language-model system with document ingestion, retrieval, memory, tools and evaluation.

Education and additional information

Bachelor of Mechatronics Engineering (Honours), Distinction

Deakin University | 2025

Higher National Diploma in Mechatronics, Robotics and Automation Engineering

Cardiff Metropolitan University | Distinction | 2016

Member, Engineers Australia. English, Tamil and Sinhala. Community leadership and engineering mentoring.

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