# Riley Waite

Firmware-to-Cloud Systems Engineer

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## Technical Skills

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| **Languages** | Python, C/C++, JS/TS, Golang, Bash, C#/.NET, Lua, Java |
| **Embedded** | Zephyr RTOS, SPI/I2C/UART, NAND/NOR Flash, MQTT, custom protocol design, MCUBoot, OTA FW, BLE, GNSS, IMU |
| **Web & Backend** | Node.js, React, NextJS, Fiber, Flask, Express, FastAPI, Nest, HTTP, gRPC, GraphQL, WebSockets |
| **Cloud & Infra** | AWS (API Gateway, CloudFormation/CDK, EC2, ECS, EKS, IAM, IoT Core, Lambda, Route53, S3, SQS), Docker, Kubernetes (ArgoCD), Prometheus, Grafana, OAuth2/OIDC |
| **Databases** | PostgreSQL, DynamoDB, MongoDB, Timestream, Redis/Valkey |
| **DevOps & Systems** | Linux, git, Bitbucket Pipelines/GitHub Actions/GitLab CI, Microservices, EDA |
| **IT & Sysadmin** | Proxmox, Caddy, Nginx, Traefik, Docker, Portainer, IdP/SSO (Keycloak, Pocket ID, Authentik), Unifi (switching, routing, NVR, access control), VLANs, DNS, VPNs, firewall management, Linux sysadmin |
| **Fabrication & Design** | CAD modelling (SolidWorks, Fusion 360, NX), FEA (Ansys, Autodesk, SolidWorks), 3D printing, electronics assembly, PCB design & rework, welding, machining, woodworking, mechatronics, hand tools |

## Experience

### V-DAQ

*Wollongong, NSW, Australia*

**Senior Engineering Manager — Software** Jul 2025 – Present

Lead a software team spanning platform, mobile, and back-end domains — owning technical roadmap, sprint planning, and cross-functional delivery. Product scope encompasses scalable telematics ingestion pipelines, analytics and reporting engines, fleet tracking, analytics, and management applications development, broad device and third-party integrations, and regulatory compliance tooling. Sole administrator of company-wide IT infrastructure including networking, physical access control, and surveillance systems.

**Team Lead — Embedded & Software Engineering** Jan 2025 – Jan 2026

Took on dual leadership of embedded (4 engineers) and software engineering (6 engineers), delivering a cloud-hosted telematics platform for logistics and regulatory-compliance operators — visualising IoT device telemetry as trip maps, fleet utilisation metrics, and compliance dashboards via web and mobile. Drove feature delivery, technical debt reduction, and architecture decisions across both streams.

**Team Lead — Embedded Software Engineer** Jul 2024 – Jan 2025

Led a cross-functional team of four (FW, HW, manufacturing, test) through full product lifecycle, including regulatory certification — coordinating test sessions, authoring test reports, and managing all regulator submissions.

**Embedded Software Engineer** Jan 2024 – Jul 2024

Architected and delivered a new IoT product from the ground up — owning firmware design, a custom binary protocol stack, peripheral integration, and a full cloud back-end ingestion pipeline. Designed internal diagnostics tooling and web interfaces for field observability.

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### Contract Mechatronics and Software Engineering

*Sydney, NSW, Australia*

**Mechatronics Design & Full-Stack SWE** Jun 2023 – Jan 2025

Delivered turnkey engineering solutions for multiple clients spanning full-stack computer vision web applications and bespoke escape room mechatronic systems.

**Fulfil Solutions, Inc.**

*San Francisco Bay Area, CA, USA*

**Senior Software & Controls Engineer** Sep 2021 – May 2022

Owned product delivery for large-scale robotic fulfillment control systems. Led automation control, DevOps, and QA/QC teams; advanced distributed back-end decision and control software architecture. Lead controls engineer of 9-axis robotic system.

**Automation Software & Controls Engineer** Mar 2019 – Sep 2021

Developed robotic control and planning software for large-scale fulfillment automation systems. Designed and integrated electromechanical and mechatronics sub-systems. Architected on-premises microservice automation platforms.

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**SpaceX**

*McGregor, TX, USA*

**Test Operations Engineering Intern** May – Aug 2017

Embedded with the McGregor engine test integration & testing team. Designed and oversaw fabrication of a high-pressure vehicle leak check system, a tank ventilation cooling system, and a rocket transport laser alignment system (saving ∼4 man-hours per loading). Improved technician-facing tooling, scripts, and electronic systems; redesigned and structurally validated non-flight vehicle interface components identified as failure risks.

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**NASA**

*Marshall Space Flight Center, Huntsville, AL, USA*

**SmallSat GS&FSW Framework Development Intern** Jun – Aug 2016

Built BARCoMmS — a modular ground station test system for NASA's iSat project, implementing CCSDS CFDP capability alongside packet transfer visualisation, satellite command dispatch, and event history interfaces. Enabled closed-loop simulation of satellite operations; published as a NASA technical report.

**Embedded Software & Satellite Simulation Intern** Jun – Aug 2015

Led a team of three interns developing PHIL-Rebooted — an open-source, software-only hardware-in-the-loop testing framework for small satellites (CubeSats). Replaced a proprietary PHIL system, eliminating specialised hardware requirements and significantly reducing cost. Published as a NASA technical report.

## Education

**B.S. Mechanical Engineering** Sep 2016 – Feb 2019

*Rose-Hulman Institute of Technology · Terre Haute, IN, USA*

**A.S. Physical Science | A.A. Liberal Arts (Math & Science)** Aug 2014 – May 2016

*Taft College · Taft, CA, USA*

## Community & Volunteering

**CityTrees**

*Redwood City, CA, USA*

**Board Member** Jan – May 2022

Planned and executed volunteer-driven tree planting, pruning, and maintenance activities across the Redwood City area.

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**Redwood City Public Library Foundation**

*San Francisco Bay Area, CA, USA*

**Makerspace Community Advisory Group Member** Oct 2021 – May 2022

Provided technical consultation, hands-on training, and materials for the RCPL Makerspace, with a focus on 3D printing.