

Kaden Adlington

COMPUTER ENGINEERING
STUDENT

CONTACT

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EDUCATION

University of Canterbury 2022–Present

Christchurch, New Zealand

Bachelor of Engineering in
Computer Engineering with
Honours

Mount Maunganui College 2017–2021

Tauranga, New Zealand

NCEA Level 1, Level 2 and Level
3 with Excellence

ACTIVITIES

High-Powered Rocketry
Scouts New Zealand
Remote Control Aircraft

SUMMARY

Final-year Computer Engineering student focused on embedded electronics, autonomous systems, and systems integration. Experienced in designing flight computers and telemetry systems from schematic through PCB layout, integrating hardware and software into complete aircraft systems, and validating them through ground and flight testing. Current work spans a custom ArduPilot flight computer, automated testing, and RF integration for a fixed-wing UAV.

KEY EXPERIENCE

UC Aerospace

Avionics and Tracking Team Lead / 2024 - 2025

General Executive / 2025 - 2026

- Designed a single-board rocket flight computer integrating flight logging, LoRa telemetry, GNSS tracking, and pyrotechnic control using an STM32WL microcontroller. Applied embedded systems, RF PCB design, and power management principles while balancing validation requirements and manufacturing constraints for aerospace hardware.
- Developed a LoRa-based remote launch system with fault tolerance and safety interlocks.
- Led avionics integration for the Huia fixed-wing EDF UAV, responsible for system architecture, component integration, RTK GPS integration, and flight computer configuration.

University of Canterbury – Centre for Entrepreneurship

UCE Makerspace – Technical Intern / 2023–
2025

- Managed and operated the UCE Makerspace, providing technical support in 3D printing and additive manufacturing, delivering inductions for new users, and assisting students with CAD and electrical design projects.

SKILLS

STM32 / ARM Cortex-M



Embedded C/C++



KiCad PCB Design



Altium Designer & Altium 365



RF Systems



Systems Integration



Python Programming



CAD (SolidWorks / Fusion 360)



3D Printing



EXPERIENCE

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- Developed a LoRa-based remote launch system with fault tolerance and safety interlocks.
- Led avionics integration for the Huia fixed-wing EDF UAV, responsible for system architecture, component integration, RTK GPS integration, and flight computer configuration.
- Delivered hands-on KiCad and PCB layout tutorials to new team members, with a focus on designing flight computers for high-powered rocketry.

Qube – Custom ArduPilot Flight Computer / 2026–Present

- Designing a dual-MCU ArduPilot flight computer for high-speed fixed-wing aircraft (up to 350 km/h). Centred on an STM32H743 Cortex-M7 with a dedicated IO co-processor, triple-redundant IMUs and barometers, and dual CAN buses for DroneCAN peripherals. Designed in Altium Designer around hardware redundancy, signal integrity, and efficient board partitioning across three dedicated boards.

Huia EDF UAV – Avionics & Systems Integration / 2026

- Led avionics integration for a fixed-wing EDF UAV, designing the power distribution, communication architecture, and physical installation for the flight computer, GPS, telemetry, and sensor suite as one system, alongside a custom ArduPlane firmware build from source. Developed automated flight-testing tools for repeatable validation of flight hardware before integration. Designed antenna placement and polarisation diversity for the aircraft's telemetry link using ANSYS HFSS.

UCE Makerspace – Technical Intern / 2023–2025

- Operations & User Support: Managed day-to-day operations of the UCE Makerspace, providing technical support for 3D printing, additive manufacturing, and digital fabrication tools. Delivered safety inductions and equipment training for new users.
- CAD Assistance: Supported students and staff on mechanical design projects using SolidWorks and Fusion 360, offering guidance on design for manufacture, tolerancing, and prototyping workflows.
- Electrical Assistance: Supported students with circuit design, component selection, and troubleshooting.
- Machine Maintenance: Responsible for maintenance and calibration of advanced equipment, including Bambu Lab X1 Carbon 3D printers and a Roland BN-20A vinyl cutter. Ensured consistent uptime, quality output, and rapid issue resolution through preventive maintenance and firmware updates.

REFeree

Referees available on request.