

# Adam Paul

Engineer specializing in avionics systems, satellite software, hardware design, and system integration.

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## Skills

Avionics Systems Design | PCB Design | Spacecraft ADCS | HWIL/SWIL | Python | Rust | C/C++ | Autodesk Fusion | Altium | Embedded Development | Systems Programming | Driver Development | Yocto | Docker | Ansible

## Relevant Experience

### Lynk Global - Falls Church, Virginia

January 2024 - Present

#### Satellite Flight Software Engineer

Lynk is a startup building cell towers in space, enabling cell phones to connect directly to satellites. I joined as the second flight software engineer, working directly with operational spacecraft to implement various improvements..

- Led ADCS hardware and software integration and testing for the Lynk-10 mission (launching Spring 2026).
- Developed an upgraded algorithm for Lynk's in-house star trackers to improve star recognition. Improved solve rate from 50% to 90% on-orbit. Integrated into ADCS system for 5x reduction in attitude determination error.
- Designed control loops and wrote firmware for the 8051 microcontroller in C to power spacecraft actuators.
- Developed Shakedown, an in-house testing framework written with Python and PyQt to automate satellite production testing, enabling rapid development and execution of component tests.
- Responsible for architecting and building the fleet update system in Rust used for deploying software updates to the satellite. Reduced fleet update deployment time from ~1 week to ~1 day.
- Architecting and developing LynkOS, a custom embedded Linux distribution using Yocto and Ansible that will be used as the primary OS for all computers on Lynk's next generation spacecraft.

### Reaction Dynamics - Montreal, Canada

September 2020 - January 2024

#### Technical & Team Lead - Avionics and Space Systems

Reaction Dynamics is a startup designing an orbital launch vehicle with hybrid engines. I started the company's avionics division and grew the team to 6 employees, working with multiple teams to create avionics systems.

- Systems lead for a custom avionics architecture for a suborbital test rocket, including setting requirements & timelines, sensor and actuator selection, control board design, and system validation in a simulated environment.
- Led the design, build and test of control and telemetry systems for two rocket engine test cells, successfully running over 100 engine tests and supported test campaigns for a 20 kilonewton-class hybrid rocket engine.
- Led the development of a custom hardware-in-the-loop machine for testing full avionics assemblies.
- Designed the rocket's flight software framework in C and C++ used for telemetry, control, and sequencing.
- Developed the PCB hardware in Altium and firmware in C for satellite thruster prototype.

### Apple - Cupertino, California

May 2019 - December 2019

#### Embedded Development Internship

- Designed a Linux-based driver architecture for interacting with FPGAs imitating proprietary protocols.
- Took over development of a C++ based custom microcontroller programming tool for FATP and SMT lines, adding support for multiple chip architectures.
- Traveled to Shenzhen, China to assist with implementation of this custom board in the FATP line for the now-released Magic Keyboard for iPad.

## Miscellaneous

- Completed a total of 24 months of internships at 5 companies as part of my undergraduate degree.
- Designed multiple award-winning rockets as part of a university design team, leading payload development.
- Designed and built a custom observatory for astrophotography.
- Developing a robot with dry-adhesive feet for space applications.

## Publications and Presentations

### A Method for Rapid Autonomous Deployment of Software Updates to Satellite Constellations

[\[Read Paper\]](#) [\[Watch Presentation\]](#)

- Presented at the 2025 Flight Software Workshop and the 2025 SpaceOps conference

## Education

### University of Waterloo

September 2016 - April 2021

BASc Honors Computer Engineering