

Adrien Carrou

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Education

Johns Hopkins University (JHU) expected May 2026 M.S. in Electrical and Computer Engineering.

San Jose State University (SJSU) B.S. in Computer Engineering

Work Experience

Software Development Engineer - Lanteris Space Systems Dec 2023 – Present

- Developed and maintained spacecraft flight software for mechanism control, including rotational axis controllers supporting Solar Array Drive Assembly and Boom Articulation Mechanism operations.
- Integrated active calibration functionality into the flight software stack to improve mechanism accuracy and repeatability across operational modes.
- Implemented and debugged mission control housekeeping telemetry classes to support health monitoring; resolved segmentation faults and test failures within a Google Test environment.
- Worked across the Firmware Transport Layer to support reliable transport/integration between firmware/flight components and higher-level software interfaces.
- Managed feature development with disciplined Git workflows, including submodule-based integration and branch strategy to support multi-repo flight software development.

Founder and Tech Lead - Nexus Analytica <https://www.nexusanalytica.net> June 2024 – Present

- Founded company specializing in multispectral camera systems and advanced sensing solutions.
- Lead development of embedded hardware and firmware for specialized imaging applications.
- Designed and developed FPGA and IoT systems, integrating sensors and communication modules.
- Created custom PCBs and firmware optimized for performance, reliability, and client requirements.

Test Automation Engineer - Maxar Technologies May 2022 – Dec 2023

- Developed and configured the automation pipeline for simulations and satellite test scripts.
- Wrote documentation of work completed, configuration, and how to run/use the pipeline.
- Leveraged Linux and Python libraries to enhance development processes and automation reliability.

Leadership Experience and Projects

Club Leadership - SJSU Robotics and Cube3 Sep 2021 – Aug 2023

- Led and mentored multidisciplinary teams (11–15 students) across robotics and small-satellite projects.
- Owned intelligent systems work (path tracking, positional accuracy) and guided subsystem integration and launch preparation.

Astraeus-I <https://astraeus-library.github.io/> May 2023 – Present

C/C++, Embedded Systems, Avionics Development Board, Firmware

- Developed firmware drivers for Astraeus-I, our advanced avionics development board.
- Designed the PCB layout and schematic, ensuring optimal reliability and efficiency consistent with the board's advanced capabilities.
- Drafted comprehensive documentation to guide users in applying and utilizing drivers and board packages for functionality.

Libhal <https://github.com/libhal> May 2023 – Present

C/C++, Embedded Systems, Firmware, Open source

- Developed intuitive device drivers for various sensors on a custom development board.

Hackathon Projects <https://tinyurl.com/yycn2vjin>

C/C++, Firmware, Embedded Systems

Skills

Programming Languages: C/C++, Python, Bash, VHDL, Java, Tcl

Technologies: Linux, RTOS, Embedded Systems, Firmware, PCB Design, ROS, FPGA Design, IoT, Docker