Adrien Carrou

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Education

Johns Hopkins University expected Dec 2026 M.S. in Electrical and Computer Engineering.

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

Work Experience

Software Development Engineer - Maxar Technologies **Dec 2023 – Present**

- Developed and maintained test scripts for satellite flight software systems, identifying critical bugs and performance issues.
- Implement Hardware-in-the-Loop (HIL) testing to simulate satellite operations and run command sequences.
- Create comprehensive test reports and documentation for software verification processes.
- Optimize proprietary test tools to enhance efficiency and system compatibility.

Founder and Director of Embedded Systems - Nexus Analytica https://www.nexusanalytica.tech/ **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.
- Create 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

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

- Oversaw and guided a team of 11 engineering students.
- Led the primary intelligence systems stack for the rover competition, focusing on advanced path tracking and positional accuracy.
- Directed a team of 15 engineers across three specialized sub-teams to engineer a Cansat for imminent launches.

Personal Projects/Clubs

Astraeus-I https://github.com/Astraeus-I **May 2023 – Present**

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

- Developed firmware drivers for Astraeus-I, our advanced avionics development board.
- Crafted the detailed 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/yycn2vjn

C/C++, Firmware, Embedded Systems

Robotics Club (SJSU) https://github.com/SJSURoboticsTeam **Sep 2021 - Dec 2023**

- Contributed to refining the rover's driving and steering mechanisms, enhancing both backend and frontend web server functionalities, and implementing advanced GPS guidance and computer vision solutions.
- Guided students in mastering controls and intelligent systems, accelerating the team's advancements

Cube3 (Satellite) Club (SJSU) https://github.com/Cube-3-San-Jose-State **Sep 2022 – Dec 2023**

- As a mentor in the club, I took charge of the Cansat's development, incorporating various sensors and modules for computation and communication.

Skills

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

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