Cameron Rodriguez

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Experience

Software Engineering Intern, **Red Hat** - [WildFly Elytron](#) & [JBoss EAP](#) *(May 2022 - Aug 2023)*

- Developed new TLS subsystem to simplify configuration, and refactored Elytron to reduce deployed size
- Implemented features for signing filesystem-based realms and custom Jakarta EE principals
- Created a Rust crate for commenting support on blogs, and updated Elytron website resources
- Participated in open-source community by answering questions, creating demos, writing blogs, mentoring, performing PR reviews, and fixing issues such as role remappers

University of Toronto Aerospace Team (UTAT), [Space Systems](#) *(Sep 2019 - Sep 2023)*

- ➤ **HERON Software & Hardware Developer** *(May 2022 - Sep 2023)*
  - Wrote Python scripts to orient the ground station antenna, using orbit data from the SatNOGS API
  - Debugged and redesigned the PCB schematic for an Arduino shield managing the rotator

- ➤ **FINCH Firmware System Lead** *(May 2021 - Dec 2022)*
  - Designed a system architecture for communicating between multiple microcontrollers on a CubeSat, including selecting MCUs, protocols, RTOS, and creating a data budget
  - Tested memory solutions for high speed (300 Mb/s) and size (700 MB) imagery data
  - Mentored members on software design & architecture, and working with other teams

- ➤ **FINCH Firmware Developer** *(Sep 2019 - May 2021)*
  - Researched MCUs, developed STM32 drivers, and investigated on-board remote programming

Research Summer Student, University Health Network - [NerveX](#) *(May 2021 - Aug 2021)*

- Implemented tri-stage compression algorithms in Python based on Huffman encoding, achieving ~2.35 compression ratio, 300 MB/s compression, and 400 MB/s decompression
- Designed platform to test compression on Flash memory connected to a Lattice FPGA

Projects

rss_autogen_giscus | [crates.io](#) *(Apr 2023 - Aug 2023)*
A Rust program that automatically creates a GitHub Discussion for new blog posts, using the GitHub GraphQL API. Users are no longer required to grant global authorization for the [Giscus](#) commenting app.

XKCDAltTextBot | [bit.ly/XKCDAltTextBot](#) *(Nov 2018 - Dec 2022)*
An OAuth Twitter bot written in Python, which posted alt text for the popular XKCD webcomic. It inspired multiple clones, and consistently achieved over 10k impressions at the time of its shutdown.

StreetWise | [Final Presentation](#) *(Jan 2021 - Apr 2021)*
Developed a OpenStreetMap-based mapping service, as part of an engineering team design course. Written in C++14, it implements custom search, navigation, and a GTK interface.

Open Source Contributions | [GitHub: @cam-rod](#) *(Jun 2018 - Present)*
Includes packaging the Signal Messenger beta as a Flatpak, adding power-off support for Fedora offline upgrades, and all of my Red Hat and UTAT contributions.

Education & Certificates

- ➤ **Computer Engineering (BASc), University of Toronto**: 4th year, 3.54 cGPA
- ➤ **Red Hat Certified System Administrator (RHCSA):** Issued July 2023 [[230-143-497](#)]
- ➤ **Amateur Radio Operator License (Basic with Honours):** Issued October 2021 [[VA3CNZ](#)]