Nathan Strobl

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Education

Rochester Institute of Technology **expected graduation Spring 2027**
Bachelor of Science in Software Engineering, Minor in Cybersecurity *Rochester, NY*
Immersion in the Science of Film, Photography, and Imaging

Technical Skills

Languages: Python, C, C++, Bash Shell, Java, JavaScript, TypeScript, HTML, CSS, Go, SQL, C#
Tools, Technologies, & Frameworks: Git, Pytest, GitLab CI/CD, Linux, Docker, Vim, WebSockets, HTTP, Node.js, PostgreSQL

Work Experience

Metrea Advanced Signals **May 2025 – Present**
Software Engineering Co-op *Victor, NY*

- Completed development and deployment of an integration testing application for radio firmware, including roll-out to developer environments and automated GitLab CI pipelines.
- Designed, implemented, and deployed a multi-radio testing framework capable of orchestrating coordinated tests aimed at validating inter-radio communication.
- Diagnosed and resolved radio firmware issues, contributing embedded C & C++ code fixes to improve radio reliability.
- Drove adoption of new testing tools and development workflows by collaborating directly with developers, delivering technical presentations, and producing detailed documentation.
- Participated in peer code reviews to improve code quality, maintainability, and adherence to new testing protocols.

Rochester Institute of Technology **January 2023 – Present**
Auxiliary Services Technician (Tier II Student Employee) *Rochester, NY*

- Providing comprehensive technical support to the Dining division of RIT, focusing mainly on addressing issues with POS equipment and deploying new computer setups.
- Collaborating with coworkers on university-wide data management projects.
- Mentoring and assigning work to over five new student employees.

Projects

ANTS | *Python, Pytest, WebSockets, PyInstaller Docker, GitLab CI* | *Metrea Advanced Signals* **November 2025, ongoing**

- Designed and implemented a multi-radio testing framework to coordinate radios and observe their behavior during inter-radio communication.
- Architected a three-layer system (Pytest, middleware, radio nodes) that synchronizes actions and collects results over the local network using WebSockets and a custom messaging protocol.
- Currently in the process of integrating the framework into GitLab CI pipelines to run every night and generate detailed reports on action success rates, response times, and other performance metrics.

CATS | *Python, Pytest, Docker, GitLab CI* | *Metrea Advanced Signals* **May 2025, ongoing**

- Developed an integration testing suite to exercise proprietary radio firmware and prevent regressions from being introduced in the course of firmware updates.
- Extended Pytest with custom communication protocols to control and analyze radio firmware behavior.
- Integrated the test suite into GitLab CI pipelines to automatically block merges that introduce firmware regressions.
- Reduced per-release firmware testing time by 1+ hour, supporting the validation of 4+ firmware versions with automated integration tests.

CartCockpit | *C++, Arduino* | *Personal Project* **August 2023**

- Created an Arduino sketch that can transform an Arduino board and some additional components into a dashboard for golf carts, closely resembling those found in automobiles.
- Designed a user-friendly interface that utilizes custom fonts and glyphs, optimized for visibility even at far distances.

GlyphMaker | *Java, JavaFX* | *Personal Project* **April 2023**

- Created a JavaFX application to simplify custom font and glyph creation for projects using the Adafruit GFX library.
- Designed an interactive pixel grid interface allowing users to draw glyphs and automatically generate C-compatible hexadecimal font data headers.
- Streamlined the process of embedding custom glyphs for my other project, CartCockpit.

Extracurricular

RIT Linux Users Group (RITlug) **August 2023 – Present**
Member *Rochester Institute of Technology*

- Attending meetings that focus on discussing and exploring various Unix-like operating systems, networking technologies, Linux software, and more.
- Connecting and collaborating on Linux-related projects with fellow RITlug members.