MARY STRODL

Computer Scientist Seeking a Summer 2024 Co-op

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mstrodl

EXPERIENCE

Bryx
Software Engineer

📅 August 2022 – Present   📍 Rochester, NY

- Maintaining a large React codebase with a Kotlin and Python backend
- Creating software to manage 5G modems in embedded Linux systems
- Building a new software update solution based on OSTree

Tools: React, Typescript, Python, Rust, Kotlin, C, Swift

D3 Engineering
Engineering Intern

📅 May 2022 – August 2022   📍 Rochester, NY

- Developed camera drivers for Texas Instruments' RTOS Jacinto platform
- Maintained the Linux kernel and device tree for the Texas Instruments TDA4
- Improved custom build tooling, leading to a 50% decrease in build times

Tools: Linux Kernel, C, RTOS, I2C

Geisel Software
Software Engineer Intern

📅 November 2021 – May 2022   📍 Worcester, MA

- Collaborated with a team on a large PHP API and Vue web application
- Migrated internal projects from Vagrant to Docker containers
- Upgraded codebase to use database migrations

Tools: Nuxt, Vue, PHP, CodeIgniter 4

PROJECTS

Pixel Shader Programming Language
 mstrodl/anarchy

- Designed a pixel shader programming language in Rust.
- Built an editor with live preview, inline errors, and syntax highlighting using React and WebAssembly
- Optimized interpreter to reach ~4ms per frame

Tools: WebAssembly, TypeScript, Rust

Gatekeeper Access Control System
 mstrodl/gatekeeper-core

- Architected a door lock system to control access to Computer Science House special rooms using NFC (DESFire) tags to authenticate users
- Leveraged Rust to ensure memory safety in a high-security environment
- Wrote server software to pull data from LDAP and communicate with doors over MQTT

Tools: NodeJS, Rust, Embedded Systems, KiCad, MQTT, Express, MongoDB, Kubernetes

Flask
 computersciencehouse/devin

- Published an Android app to buy drinks from CSH vending machines on the Google Play Store
- Developed NFC support to allow unlocking doors using an Android phone
- Created a robust OAuth2 client to authenticate and bill users

Tools: Kotlin, Jetpack Compose, NFC

EDUCATION

Rochester Institute of Technology
Computer Science B.S.

📅 Expected Graduation May 2026

SKILLS

Languages

JavaScript TypeScript C C++ Kotlin Java HTML/CSS SCSS/SASS Python Swift Rust

Tools

Express Webpack Parcel React NGINX Linux Jetpack Compose Android Git GitHub Bash SQL Kubernetes Docker MongoDB Flutter PostgreSQL Openshift

ACTIVITIES

Computer Science House
Member

📅 May 2021 - Present

CSH is a student-run organisation at RIT providing a productive, inclusive, and educational community for everyone interested in Computer Science.

System Administrator

📅 September 2021 - Present

Managed and maintained house-provided computing resources for members, including a Kubernetes cluster, a student-run server room, and other member projects.

Drink Admin

📅 November 2021 - Present

Maintained and stocked CSH's internet-connected vending machines. Wrote embedded software for the machines, a touch screen interface, a CLI drink client, and an Android client.

Rochester & Genesse Valley Railroad Museum
Volunteer

📅 August 2023 - Present

Volunteered in the restoration yard machining, welding, and even working on air brake systems.

Amateur Radio Service
General Class

📅 September 2022 - Present

Licensed to operate in the Amateur Radio Service under the call sign KE2ABY.