

Edward Adam Payzant

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EDUCATION

Carleton University
Bachelor of Computer Science

Ottawa, Ontario, Canada
Sept. 2017 – June 2021

EXPERIENCE

Software Engineer

Cisco Systems

May 2021 – Present
Ottawa, Ontario, Canada

- Worked on the Switch Integrated Security Feature (SISF) for team for the network operating system IOSXE developing a distributed network security feature to glean and track IPv4 and IPv6 hosts throughout a network
- Implemented bug fixes and feature enhancements in C for SISF
- Developed black box and performance testing suites in Python to validate functionality and detect performance regressions with all tests configured to run nightly
- Drafted and edited test plan alongside international test teams
- Utilized GDB to analyze provided core files to resolve customer found issues
- Developed internal white box testing framework in C to replace the unsupported legacy system while still maintaining backwards compatibility

HERE Intern

Oak Ridge National Laboratory

May. 2018 – August 2018
Oak Ridge, TN, USA

- Enhanced research software in Python using Numpy, SciPy, and Matplotlib for parameter optimization of high temperature corrosion patterns
- Collaborated with the material scientists to ensure resulting product had all desired features and produced accurate results

PROJECTS

TTHelper | *Typescript, Rust, PostgreSQL*

- Developing a table top management system using Rust and PostgreSQL for the backend and Svelte (Typescript) for the client

RiscV Kernel | *Zig, Embedded, RISCv ASM, UART*

- Developed a simple RISCv MicroKernel written in Zig and assembly
- Implemented a UART interface as a basic testing and debugging console
- Utilized OpenSBI to boot into supervisor mode
- Created a virtual memory allocator using SV39

doit.rs | *Rust, FFI, Linux, PAM*

- Developed a privilege escalation for Linux in Rust akin to sudo or doas
- Implemented support for authentication via shadow and Pluggable Authentication Module (PAM)
- Utilized FFI to interface with the PAM library's C API

Personal Site | *Rust, Leptos, Vercel, TailwindCSS*

- Developed a portfolio website using the Leptos Framework, a JSX inspired framework in Rust
- Styled the website using TailwindCSS
- Utilized Vercel to deploy and host the website

TECHNICAL SKILLS

Languages: C, Python, Rust, C++, Go, Javascript, Zig

Technologies: Linux, RiscV, gRPC, Tokio, Svelte, OpenCV, Docker/Podman, PostgreSQL, TailwindCSS

Developer Tools: Git, Valgrind, GDB, Make, CMake