Oliver Calder

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Mathematics and Computer Science student at Carleton College, with experience working in a variety of technical and instructional roles in Computer Science and technology, with particular emphasis on low-level systems and virtualization. Highly skilled in C, Python, and Linux with strong interest in Rust, Go, and functional programming. Uses first principles to seek efficient, modular solutions to problems. I am a full-time Linux user who supports open source software and ethical computing, and I am a clarinetist and pianist with a deep passion for classical music.

WORK EXPERIENCE

Software Engineering Intern, Cray/Hewlett Packard Enterprise

JUN 2021 – SEP 2021

- Built and released software and security updates for the Cray XCCS line of supercomputers.
- Wrote scripts to identify unpatched security vulnerabilities and allow the team to respond more quickly to customer needs.

Data Research Assistant, Minnetronix, Inc.

DEC 2019 – JAN 2020

- Built automation scripts to streamline data processing workflow and scale up speed dramatically.
- Used Python to verify and manipulate spreadsheets and script file management in a Windows environment.

Computer Science Prefect, Lab Assistant, Carleton College

SEP 2019 – PRESENT

- Communicate key Computer Science concepts to students in a way which builds on their current understanding and reinforces algorithmic problem-solving skills.
- Guide students through debugging their own code, encouraging efficient and consistent solutions to problems.

RESEARCH

Exploratory Operating Systems, Carleton College

JUN 2020 – SEP 2020, DEC 2021

- Studied current research in operating systems, with particular emphasis on serverless computing and unikernels.
- Wrote a minimal unikernel in Rust, designed for use in serverless contexts and optimized for speed and simplicity.
- Developed performance benchmarks to compare the Rust unikernel to Linux, Docker, and processes, and demonstrated that the Rust unikernel dramatically outperformed industry standards.

Sonic Signatures, Carleton College

JUN 2019 – JUN 2020

- Wrote modularized Python scripts to scrape Shakespeare plays from API and process them into character phoneme data for use in machine learning classification.
- Used scikit-learn to predict characteristics of individual characters using a variety of machine learning models, and wrote python scripts to compute and display statistics about results.
- Used multithreading and automation to streamline the process of scraping, processing, classification, and analysis of all permutations of options into three modular command-line tools.

EDUCATION

Carleton College Northfield, MN

SEP 2018 – JUN 2022

B.A. Computer Science, Mathematics | GPA: 3.85

RELEVANT COURSEWORK

AI
Algorithms
Combinatorial Theory
Computational Mathematics
Computer Systems
Computer Graphics
Data Structures
Differential Equations
Linear and Abstract Algebra
Multivariable Calculus
Operating Systems
Probability
Programming Languages
Quantum Computing
Software Design

SKILLS

Languages:

Expert: C, Python

Skilled: Bash/sh, Java, Scheme

Familiar: Rust, Go, SQL, x86 asm

Linux:

3+ years full-time | Worked on security releases based on SUSE | Professional workstation and server administration

Experience:

AI, Automation, concurrency, gdb, git, HPC, Jenkins, kernel development, LaTeX, ML, parallel computing, system administration, vim, virtualization, unikernels