

Kaley Chicoine

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Technical Skills

Languages: Rust, Python, C, C++. TypeScript, SQL

Familiar Technologies: Distributed systems, Zero-knowledge proof systems, Backend engineering, Complex data structures, Microcontroller programming (Beaglebone, RaspberryPi)

Education

- **University of Oregon** **Eugene, OR**
M.S. Computer Science 2017 – 2021
 - **Pennsylvania State University** **State College, PA**
B.S. with Honors, Computer Science 2012-2017
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Experience

- **Espresso Systems, Inc** **Remote**
Systems Software Engineer November 2021 – August 2023
 - Designed and implemented a merkle tree data structure to support searchable key/value pairs and n-ary branch hash function
 - Worked with product team to research, design, and implement L1 testnet reward collection mechanism, including robust CI and unit testing
 - Wrote web API to support NGINX CDN to accelerate content delivery among nodes running the HotShot decentralized distributed consensus protocol

Technical Environment: Rust, Nginx, AWS, Docker, Kubernetes, Nix

- **University of Oregon** **Remote**
Research Scientist, High Performance Computing Lab August 2020 – March 2021
 - Expanded LLVM call graph capabilities to statically generate call graphs for high performance scientific computing libraries
 - Added centrality metrics and other analysis information to call graph nodes
 - Second author on ACM publication: Empirical Investigation of Code Quality Rule Violations in HPC Applications (Hussain, EASE '21)

Technical Environment: LLVM/Clang, C++, Python, Bash scripting, Docker

- **Connected Signals, Inc.** **Eugene, OR**
Intern October 2019-May 2020
 - Wrote efficient path-finding algorithms using OpenStreetMap data for Enlighten, an app which used predictive information about stoplights to optimize traffic flow
 - Worked with the front-end team using React and native Java interfaces to create real-time data visualizations

Technical Environment: React, C++, TypeScript, Javascript, SQL database

- **University of Oregon** **Eugene, OR**
Graduate Research Fellow, Sventek Lab September 2017 – September 2019
 - Studied small operating systems with a focus on security and optimization in resource-constrained environments
 - Built a ground rover robot that uses a complex event processing stream database to coordinate movement and goals among a system of robots and static computers
 - Added encryption and secure key-establishment functionality to custom UDP remote procedure call library
 - Recipient of Promising Scholar Award, 2017

Technical Environment: C, BeagleBone and Raspberry Pi programming with a variety of sensor components

Interests: Outdoor endurance sports, the many uses of microcontrollers, learning and foraging local flora