

Systems, security, and infrastructure

TECHNICAL SKILLS

→ Programming Languages

10+ years experience: [C](#) [C++](#) [Python](#) [Bash scripting](#) [x86-64 assembly](#)

3+ years experience: [Rust](#) [Golang](#) [Erlang](#) [SQL](#) [Java](#)

→ Ecosystems

[Linux low-level userspace](#) [Linux kernel development](#) [Linux TCP/IP stack](#) [AWS](#)

[GCP](#) [podman/docker](#) [LLVM](#) [OpenGL](#) [WebAssembly](#) [Embedded Cortex-M](#)

[RISC-V](#)

→ Tooling

[Kubernetes](#) [CI/CD \(Jenkins/Gitlab CI\)](#) [Ansible](#) [Puppet](#) [Terraform](#)

[Parser generators](#) [Version control \(git/hg/fossil\)](#) [dpkg](#) [sqlite](#) [postgres](#)

[Build systems \(CMake/scons/make\)](#)

→ Theory

[Static program analysis](#) [Distributed/randomized algorithms](#) [Spatial data structures](#)

[Linear algebra](#) [Discrete mathematics](#) [Graph Theory](#)

SELECTED WORK EXPERIENCE

→ R&D Engineer

[Geopipe, Inc](#) | [Remote](#) | 2022-2023

Contributed to existing ML inference pipeline for constructing digital twins of city-scale real-world environments from raw sensor data. Main individual contributions include a fault-tolerant distributed work-scheduler, smoother developer tooling, CI/CD infrastructure, and both visual and geometric output model enhancements.

→ Chief Information Security Officer

[Alpha Secure Technologies, Inc](#) | [Remote](#) | 2021-2022

Responsible for security of internal systems and platforms, and overseeing internal security reviews of products. Oversaw a rollout of the use of 2FA tokens for in-company authentication and instituted best practices for responding to security incidents. Also acted as a mentor for the infrastructure team during this time, including an on-call maintenance rotation.

→ Senior Software Engineer (Infrastructure)

[Alpha Secure Technologies, Inc](#) | [Remote](#) | 2020-2021

In charge of deployment infrastructure and development tooling to support insurtech products. Main individual contributions were CI/CD infrastructure, Kubernetes integration, AWS/GCP interfacing and administration, and company-wide IAM infrastructure. Also included an on-call maintenance rotation.

→ Research Assistant

[Brown University](#) | [Providence, RI, USA](#) | 2017-2020

Built research prototypes of systems security defenses, including a large-scale static software analysis platform, porting existing defenses to RISC-V, and leveraging new x86 hardware features to improve existing designs.

→ Research Assistant

[University of British Columbia](#) | [Vancouver, BC, Canada](#) | 2014-2017

Contributed to security research prototypes for run-time program layout rerandomization and static analysis of cryptographic code.

EDUCATION

→ Brown University, ScM Computer Science

2017-2020

→ University of British Columbia, MSc Computer Science

2014-2017

→ University of Calgary, BSc Honours Computer Science, Minor Pure Mathematics

2010-2014

HONOURS

→ 2013 International Collegiate Programming Competition

[St. Petersburg, Russia](#)

Placed as Honourable Mention among 120 teams worldwide.

→ 2014 NSERC Canada Graduate Scholarship - Masters

\$17,500 graduate scholarship to attend the University of British Columbia for a MSc in Computer Science.