Kestrel Yarrow (she/her)

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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` `Vulkan` `OpenCL` `WebAssembly` `Embedded Cortex-M` `RISC-V` `Jupyter`

→ **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)` `Environment management (spack/nix)`

→ **Theory**

`Static program analysis` `Distributed/randomized algorithms` `Spatial data structures` `Linear algebra` `Discrete mathematics` `Graph theory` `Machine learning 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** Elpha 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)** Elpha 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 techniques.

→ **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.