Ryan Prairie

✉ me@ryanprairie.com | ☎ (650) 661-9516 | 🌐 ryanprairie.com | ⬡ prairir | 🔗 ryanprairie

Skills

Languages: Python, Golang, Rust, Clojure, Bash, TypeScript, JavaScript, Ruby, Java, HTML, CSS, C, Powershell

Frameworks: ReactJS, Flask, SvelteJS, Ruby on Rails

Technologies: Jenkins, Packer, Docker, Linux, Windows, TCP/IP, Emacs, PostgreSQL, Nginx, Ansible, Regex

Experience

NVIDIA — **Santa Clara, CA**
Senior Security Software Engineer — *April 2024–Present, Senior since April 2024*
- Designed and deployed a event-driven distributed state machine to automate server draining of high-performance storage VMs across 85 zones (255 servers total). Reduced manual effort by 10,000 hours per year
- Led 5 engineers to automate storage VM maintenance distributed state machine integrated into Kubernetes
- Migrated outbound cloud service calls in a 16K-line Python legacy codebase from API keys to OAuth2, introducing token reuse and adaptive scope selection for better security and performance
- Improved deployments by 3x with custom parallel deployment logic
- Developed automation tool that replaced a web-based workflow resulting in 5x workflow efficiency.

NVIDIA — **Remote**
Security Software Engineer Intern — *May 2022–September 2022*
- Security hardened Linux with Ansible, achieving PCI DSS compliance and passing 93% of CIS CAT Assessor Tests
- Coordinated with multiple teams to integrate security rules into an operating system image

Trexo Robotics — **Mississauga, ON**
Robotics Fullstack Software Developer Intern — *January 2022–April 2022*
- Created REST API to control wifi connectivity of exoskeleton robots using D-Bus and Golang
- Optimized database queries, making queries 15% faster
- Implemented custom JWT authorization and authentication based on OAuth 2.0 in Golang

University of Windsor Computer Science Society — **Windsor, ON**
Head of Technology — *June 2020–April 2023*
- Led a team of 7 to develop a student wiki built with Docusaurus, ReactJS, and Markdown
- Built a quiz webapp using Ruby on Rails, ReactJS, JavaScript, and GraphQL to be used in a major student event

BlackBerry — **Waterloo, ON**
Systems Analyst Intern — *May 2021–August 2021*
- Led the design of a automation tool in Golang, achieving over 5x faster deployments on projects company wide
- Facilitated cross–departmental collaboration to develop a ReactJS, TypeScript, and REST API app company wide

BlackBerry — **Remote**
System Software Developer Intern — *June 2020–August 2020*
- Developed fullstack features using ReactJS, GraphQL, Koa, and JavaScript
- Created a configuration translator to translate old format configurations to new format, saving 8 hours

CIBC — **Toronto, ON**
Software Developer Intern — *May 2019–August 2019*
- Led the development of a service that was rolled out nationwide at all CIBC branches and is still used monthly
- Developed a fullstack application with SvelteJS, JavaScript, Python, Flask, and Oracle DBMS

Projects

Buoy – Mesh VPN
- Distributed VPN connecting clients to clients directly written in Golang
- Concurrent design to maximize throughput and availability

– Won Best Capstone Project for U of Windsor 2023 Computer Science

imacry – Proof of Concept Ransomware
  – 500 MiB/s fully concurrent file encryption and decryption using Golang
  – Custom protocol built on websockets with network jitter to hide heartbeat

Flytrap – Parallel Webcrawler
  – Fast concurrent web crawler written in Rust
  – Creates adjacency list of websites

Hotel – Safe User Environment SSH Server
  – SSH server written in Golang
  – Creates safe environments using ephemeral OCI containers
  – Integrates with host auth using PAM

April – 6502 Emulator
  – Emulator of 6502 CPU written in Zig
  – Able to emulate multiple devices through regions of memory
  – Implements 9/13 addressing modes

encryptdir – File Protector
  – Parallel file encryption and decryption using novel lockless graph coloring algorithm written in Golang
  – Protects files using RSA and AES

Education

University of Windsor   **Windsor, ON**
Honours Computer Science B.S.   *September 2018–June 2023*