

# Ri Hong

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## EDUCATION

### University of Waterloo

2022 – 2027

*Bachelor of Computer Science (Co-op) · GPA: 3.9/4.0*

- Relevant coursework: Algorithms, Data Structures, Object-Oriented Programming, Databases, Operating Systems

## SKILLS

**Languages:** Java, C++, TypeScript, JavaScript, HTML, CSS, Go, Python

**Technologies:** React, Next.js, Docker, Kubernetes, Terraform, gRPC, AWS, Linux, PostgreSQL, OpenTelemetry, Prometheus, Grafana

**Concepts:** API design, Frontend, Microservices, Containerization, Infrastructure, Observability, Multithreading, CI/CD

## EXPERIENCE

### Groq

Sept 2025 – Dec 2025

*Fullstack Software Engineering Intern*

*Toronto, ON*

- Designed and launched an **observability** platform with **infrastructure** deployed using **Docker containers**, **Kubernetes**, and **Terraform** on **GCP** to measure engineering productivity and AI tool adoption, providing actionable insights for 400+ engineers.
- Implemented **Prometheus** for metrics collection, **Grafana dashboards** for visualization, distributed **tracing**, **monitoring**, and **alerting** to ensure comprehensive service health visibility.
- Developed **frontend** components using **TypeScript**, **React**, and **CSS** with **accessibility awareness**, ensuring responsive design and inclusive user experience for the observability platform.

### Base Power

Jan 2025 – Apr 2025

*Fullstack Software Engineering Intern*

*Austin, TX*

- Led **fullstack** initiatives, rewriting market controller **UI** using **React** and **Next.js** for on-call traders; implemented **Protobuf** and **gRPC APIs** for seamless communication between **Python** algorithm services and **Go microservices**, reducing serialization overhead by 20%.
- Improved trading simulation reliability by transitioning to cloud-native execution using Temporal Cloud and **Kubernetes**, enabling 1000s of auto-retriable workflows; discovered and resolved  $O(n^2)$  performance bug, reducing complexity to  $O(n \log n)$ .
- Implemented non-blocking async publishing using **concurrent Go** routines for **multithreaded** processing, achieving a 32% speedup; used **OpenTelemetry** distributed **tracing** to identify and eliminate blocking BigQuery writes during simulations.

### Trend Micro

May 2024 – Aug 2024

*Software Engineering Intern*

*Ottawa, ON*

- Refactored monolithic codebases into **microservices**, cutting deployment errors by 30%; revamped **Jenkins CI/CD** pipeline, achieving 35% increase in automation efficiency.

### Walnote.ai

Aug 2025 – Present

*Founder & CTO*

*Toronto, ON*

- Built AI platform with **FastAPI** backend pipeline processing 1,000+ animations; scaled with **Docker** and PostgreSQL, reducing render latency from 12s to 2s through distributed GPU rendering.

## PROJECTS

### Trasee | *React, TypeScript, Pyodide, Vite, React Flow*

Oct 2025

- Built a real-time Python code visualizer using **React** and **TypeScript** that intelligently recognizes data structures and renders them interactively in the browser; engineered two-phase static + runtime analysis pipeline using Python's `ast` module and `sys.settrace` within Pyodide WebAssembly.
- Won “**Best Revolutionizing Learning Hack**” at Hack the Valley X (100+ teams).

### HomeLab | *Linux, Proxmox, Ansible, Kubernetes*

Apr 2025

- Deployed a **Kubernetes** cluster on Proxmox with Terraform + Ansible, enabling scalable, self-healing **microservices** and secure HTTPS traffic with Nginx + Cloudflare routing.