

Ri Hong

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10× Hackathon Winner · Applied ML Engineer · Cloud and Distributed Systems Engineer

EDUCATION

University of Waterloo

2022 – 2027

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

- Relevant coursework: Algorithms, Operating Systems, OOP, Artificial Intelligence, Distributed Systems, Linear Algebra, Numerical Methods, Machine Learning, Computer Vision

SKILLS

Languages: Go, Python, C, C++, Java, JavaScript, TypeScript

Technologies: CUDA, Kubernetes, Docker, Jenkins, Ansible, Terraform, AWS, Linux, Bash, SQL, Git, Node, React

AI/ML: PyTorch, TensorFlow, CUDA, cuDNN, scikit-learn, MLflow

EXPERIENCE

Groq

Sept 2025 – Dec 2025

Software Engineering Intern

Toronto, ON

- Engineered multi-region infrastructure with **Terraform** and **Kubernetes** on GCP, enabling scalable **distributed systems** AI/ML workloads and cutting deployment time by 24%.
- Designed observability platform measuring engineering productivity and AI tool adoption, providing actionable insights for 400+ engineers.

Base Power

Jan 2025 – Apr 2025

Software Engineering Intern

Austin, TX

- Improved trading simulation reliability using cloud-native **distributed systems**, enabling 1000s of auto-retrievable workflows and eliminating single-node failure risks.
- Resolved performance bug reducing complexity from $O(n^2)$ to $O(n \log n)$; implemented async publishing using **Go** routines and **Protobuf/gRPC** for **Python-Go microservices** communication, achieving 32% speedup and 20% serialization overhead reduction.

Trend Micro

May 2024 – Aug 2024

Software Engineering Intern

Ottawa, ON

- Upgraded legacy system from JDK 8 to JDK 11 using **Java**, modernizing codebase for 250M+ customers; revamped **Jenkins** CI/CD pipeline, achieving 35% increase in **automation** efficiency.
- Resolved 40+ installation and deployment issues through **debugging** on **Linux AWS** EC2 instances; refactored monolithic codebases into **microservices**, cutting deployment errors by 30%.

Walnote.ai

Aug 2025 – Present

Founder & CTO

Toronto, ON

- Launched AI platform combining GPT-5 with Manim for auto-generated explainer videos; accelerated generation using **distributed systems GPU computing** rendering, reducing latency from 12s to 2s; scaled with **Docker**, FFmpeg, and PostgreSQL.

PROJECTS

Neural Style Transfer Engine | *PyTorch, CUDA, FastAPI, Docker*

Sept 2025

- Engineered high-performance **deep learning** Neural Style Transfer system with custom **CUDA** kernels, achieving 8x faster style transfer through **GPU computing**; built scalable REST API with FastAPI, containerized with **Docker**, delivering production-quality results in under 30 seconds using **accelerated computing**.

DistilBERT Sentiment Analysis | *PyTorch, GCP, Kubernetes, Terraform*

Sept 2025

- Engineered production-grade sentiment analysis service achieving 92.5% accuracy using **deep learning** DistilBERT, deployed on GKE with Terraform; optimized with mixed precision and **distributed systems GPU computing** training on **Kubernetes**, reducing training time by 40%.

HomeLab | *Linux, Proxmox, Ansible, Kubernetes*

Apr 2025

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