

Ri Hong

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10× Hackathon Winner · Backend Engineer · Financial Technology · Python

EDUCATION

University of Waterloo

2022 – 2027

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

SKILLS

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

Technologies: Flask, SQLAlchemy, PostgreSQL, Celery, Temporal, AWS, Kubernetes, Terraform, gRPC, Docker, Linux

EXPERIENCE

Base Power

Jan 2025 – Apr 2025

Software Engineering Intern

Austin, TX

- Improved trading simulation reliability and scale by transitioning to cloud-native execution using **Temporal** Cloud, enabling 1000s of auto-retriable workflows and eliminating single-node failure risks in a Series B (\$850M) energy startup.
- Implemented **Protobuf** and **gRPC** to enable seamless communication between **Python** algorithm services and **Go** microservices, ensuring type safety and reducing serialization overhead by 20%.
- Discovered and resolved a performance bug in real-time market data transformation logic, reducing complexity from $O(n^2)$ to $O(n \log n)$ and optimized async publishing using **Go** routines, achieving a 32% speedup.

Walnote.ai

Aug 2025 – Present

Founder & CTO

Toronto, ON

- Launched an AI platform combining GPT-5 with Manim to auto-generate explainer videos; processed 1,000+ animations with a **Celery** + **FastAPI** pipeline, reducing render latency from 12s to 2s.
- Scaled secure rendering and delivery with **Docker**, FFmpeg, Cloudflare R2, **PostgreSQL**, and **SQLAlchemy**; raised \$20k pre-seed and led product strategy from prototype to production.

Groq

Sept 2025 – Dec 2025

Software Engineering Intern

Toronto, ON

- Engineered multi-region infrastructure with **Terraform**, **Kubernetes**, Kustomize, and Flux on GCP and Groq hardware, enabling horizontally scalable AI/ML workloads and cutting deployment time by 24%.
- Designed and launched an observability platform to measure engineering productivity and AI coding tool adoption, providing actionable insights for 400+ engineers.

Trend Micro

May 2024 – Aug 2024

Software Engineering Intern

Ottawa, ON

- Upgraded the legacy Deep Security Manager from JDK 8 to JDK 11, modernizing the codebase and enhancing compatibility for over 250 million global customers.
- Refactored monolithic codebases into microservices, cutting deployment errors by 30% and improving scalability for future development.

PROJECTS

FlaimBrain | LangChain, GPT-4, MongoDB, Flask

Oct 2023

- Engineered an AI study assistant using **GPT-4** for personalized learning tools like summaries and flashcards from user-uploaded notes.
- Led the RAG process architecture, integrating **GPT-4** with **MongoDB** Vector Search and **Flask** for the backend; achieved 4th place at Hack the Valley 8 among 80 teams.

DistilBERT Sentiment Analysis | PyTorch, GCP, Kubernetes, Terraform

Sept 2025

- Engineered a production-grade sentiment analysis service achieving 92.5% accuracy using DistilBERT, deployed on GKE with **Terraform** and optimized training with mixed precision, reducing training time by 40%.