

Lin Hong

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10x Hackathon Winner · High-Performance Systems Engineer · Machine Learning & Distributed Computing

EDUCATION

University of Waterloo

Sept 2024 – Apr 2028

Bachelor of Computer Science (Co-op)

- President's Scholarship of Distinction, Ted Rogers Future Leaders Scholarship for Women
- Relevant coursework: Algorithm Design, Data Structures, Statistics, Machine Learning

SKILLS

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

ML/AI Frameworks: PyTorch, TensorFlow, scikit-learn, NumPy, Pandas

Systems & Infrastructure: distributed computing, high-performance systems, Docker, Kubernetes, AWS, Redis, PostgreSQL, MongoDB

Development Tools: Git, FastAPI, Flask, REST APIs, CI/CD, Linux, systems architecture

EXPERIENCE

Walnote AI

July 2025 – Present

Founding Engineer

Toronto, ON

- Optimized high-performance video rendering pipeline using distributed computing, reducing processing time by 5× (from 2+ hours to 24 minutes) and cutting infrastructure costs by ~60% through segment-based parallelization.
- Built scalable data pipelines processing 10,000+ events/second with <10ms p95 latency using Redis pub/sub and PostgreSQL, reducing API response times by 40% and enabling rapid deployment cycles.
- Architected systems using Python and FastAPI with asynchronous workers, collaborating in small teams to design and implement production-ready platforms with CI/CD automation and code review processes.
- Implemented real-time WebSocket connections and event broadcasting systems, enabling real-time synchronization across distributed services and improving user experience through low-latency communication protocols.

Linovation Design

Summer 2024

Full Stack Developer

Toronto, ON

- Delivered 8 production marketing sites using React, Next.js, and TypeScript, reducing client website load times by ~40% through optimized code and high-performance asset delivery.
- Built Flask APIs with authentication and database integrations, processing 1,000+ daily requests with <50ms average response time, deployed using Docker and MongoDB for scalable client solutions.

PROJECTS

HomeLab | Linux, Docker, Nginx, high-performance systems

May 2025 – Present

- Built and maintained personal Linux server running 3+ self-hosted services with >99% uptime, achieving <10ms response times through Nginx reverse proxying and optimized systems architecture.
- Containerized applications with Docker and PM2, reducing deployment time from hours to minutes and enabling high-performance load balancing across multiple services with zero-downtime updates.

Lofied | Python, torchaudio, Docker, data processing

May 2025

- Developed Python tool converting Spotify playlists to lo-fi tracks using DSP algorithms, processing dozens of tracks per run with fully automated pipelines and Docker-based deployment for scalable execution.
- Won Best Solo Hack & Top 6 Overall out of 200+ hackers at JamHacks 2025, demonstrating high-performance audio processing and end-to-end systems design from concept to production.

Skip the Walk | Terraform, Commander.js, automation, systems architecture

Sept 2024

- Built CLI automation tool using Node.js and Terraform for workflow automation, processing 100+ orders during Hack the North and reducing manual routing time by ~75% through automated systems.
- Integrated Slack API and Mappedin for real-time coordination, winning Best Use of Terraform and demonstrating systems architecture skills in small teams with rapid iteration cycles.