

# Lin Hong

[linlin.hong1@gmail.com](mailto:linlin.hong1@gmail.com) | [github.com/LinHong149](https://github.com/LinHong149) | [linkedin.com/in/linhongdev](https://linkedin.com/in/linhongdev) | [linhong.dev](https://linhong.dev)

10× 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.