

Lin Hong

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10× Hackathon Winner · Software Engineer · Full-Stack Developer

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 Abstraction, Software Engineering Principles, Systems Programming

SKILLS

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

Technologies: Docker, Git, FastAPI, Flask, PostgreSQL, MongoDB, **GitHub Actions**, Nginx, Redis, AWS

EXPERIENCE

Walnote AI

July 2025 – Present

Founding Engineer

Toronto, ON

- Built scalable REST APIs using **Python** and **FastAPI**, **Dockerized** services with asynchronous workers orchestrated through Redis for high-throughput processing.
- Implemented real-time data pipelines with WebSockets and Redis pub/sub, broadcasting events into a **PostgreSQL** database; deployed with **GitHub Actions** CI/CD automation.
- Optimized large-scale video rendering pipeline, reducing processing time by 5× through segment-based parallelization and backend optimizations.

FTC Robotics

Sept 2022 – June 2025

Senior Software Lead

Toronto, ON

- Engineered telemetry pipelines aggregating encoder, IMU, and camera data into unified robot state estimation with signal filtering and validation logic.
- Designed and implemented PID control algorithms, improving autonomous navigation accuracy by 70% through systematic testing and iterative refinement.

PROJECTS

HomeLab | Linux, Docker, Nginx, Cloudflare

May 2025 – Present

- Built a personal Linux server with SSH key-pair authentication and HTTPS reverse proxying using **Nginx**; deployed **Dockerized** Node.js applications with load balancing and CDN integration.
- Developed understanding of TCP/IP fundamentals, reverse proxy configurations, and distributed system architectures.

Skip the Walk | Terraform, Commander.js, Slack API

Sept 2024

- Built a CLI automation tool using **JavaScript** to automate Domino's pizza ordering and volunteer routing; integrated **Terraform** for infrastructure automation and Slack API for notifications.
- Won Best Use of Terraform at Hack the North 2024, demonstrating effective automation and workflow optimization.

Spotilike | Flask, Next.js, JavaScript, TensorFlow

June 2025

- Created an AI-driven music discovery platform using **Flask** REST APIs and **Next.js** frontend with **JavaScript**, integrating TensorFlow and Spotify API for emotion-aware recommendations.
- Designed **MongoDB** schemas linking emotion embeddings to music metadata, enabling efficient querying and personalized recommendations.

Lofied | Python, torchaudio, Docker

May 2025

- Developed a **Python** tool converting Spotify playlists to lo-fi tracks using DSP algorithms; deployed with **Docker**-based containerization and automated processing pipelines.
- Won Best Solo Hack & Top 6 Overall at JamHacks 2025, demonstrating full-stack development and deployment skills.