Lin Hong

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10× Hackathon Winner · 2× Founding Engineer · Systems & Full-Stack Developer

EDUCATION

University of Waterloo — Sept 2025 – Apr 2029

Bachelor of Computer Science (Co-op)

- President's Scholarship of Distinction, Ted Rogers Future Leaders Scholarship for Women
- Relevant coursework: Intro to CS, Algorithm Design, Data Abstraction, Calculus 1 & 2

SKILLS

Languages: Python, Go, Java, C++, JavaScript, TypeScript, Bash, PHP, HTML/CSS, Tailwind
Technologies: Git, Next.js, React, Flask, FastAPI, Docker, AWS, PostgreSQL, Redis, Nginx, Cloudflare R2
Systems: TCP/IP & DNS fundamentals, reverse proxying, RESTful API design, microservices orchestration

EXPERIENCE

Walnote AI — July 2025 – Present

Founding Engineer — *Toronto, ON*

- Cut rendering latency 5× by chunking video jobs across Celery workers with **Redis** queues, parallel **ffmpeg** stages, and resilient retries.
- Delivered real-time collaboration via Clerk, WebSockets, and **Redis** pub/sub writing through to Neon **PostgreSQL** with caching safeguards.
- Shipped containerized **FastAPI** services with health checks, rate limits, structured logging, and **OpenTelemetry** tracing, deploying via **Docker** to Render/**Vercel** with assets on **Cloudflare** R2 and CI/CD in GitHub Actions.

FTC Robotics — Sept 2022 – June 2025

Senior Software Lead — *Toronto, ON*

- Built low-latency telemetry pipelines merging encoder, IMU, and camera data with bounded buffers and watchdogs in **C++** for reliable control loops.
- Authored filtering and validation logic to suppress noisy sensor data, boosting reliability by 20% and doubling control response speed.

Linovation Design — Summer 2024

Full Stack Developer — *Toronto, ON*

- Shipped 8 production websites with Next.js/**TypeScript** and Tailwind, coordinating Figma designs with CI previews to accelerate feedback.
- Built **Flask** APIs with JWT auth, database integrations, and **Docker** deployment across Vercel and MongoDB to harden releases.

PROJECTS

HomeLab | *Linux, Docker, Nginx, Cloudflare* — May 2025 – Present

- Provisioned a Linux server with SSH keys, TLS termination, and **Nginx** reverse proxying routed through **Cloudflare** DNS/proxy for secure access.
- Run containerized services with **Docker** and PM2, adding health checks and centralized logs for quick rollback.

Spotilike | *Flask, Next.js, TensorFlow, DeepFace* — June 2025

- Built an AI-driven music discovery app linking emotion embeddings to tracks with **TensorFlow** and **DeepFace** inference.
- Served recommendations through **Flask** APIs and a **Next.js** frontend integrating Spotify for real-time playback, tuned with batched inference to keep responses snappy.

Inner Voice | *Next.js, Whisper, OpenAI TTS* — July 2023

- Built a multi-persona speech AI app with full STT/TTS accessibility in **Next.js**, streaming audio through **Whisper** for low-latency responses.
- Orchestrated OpenAI persona generation and conversation flows with rate-limit aware queueing to keep dialogs fluid.