Lin Hong

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10× Hackathon Winner · Software Engineer · Product Development

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, MongoDB, Nginx, Pytorch

EXPERIENCE

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 using **C++** and **Java**.
- Designed signal filtering and validation logic to eliminate noisy sensor readings, improving reliability by 20% and doubling response speed through collaborative problem-solving with hardware engineers.
- Implemented PID tuning and autonomous navigation systems, improving accuracy by 70% through iterative design, build, and quality testing cycles.

Linovation Design   Summer 2024
Full Stack Developer   *Toronto, ON*
- Designed and launched 8 production websites using **Next.js**, **React**, **TypeScript**, and Tailwind, coordinating with designers to evaluate requirements and implement features.
- Built **Flask** APIs with JWT authentication and database integrations; deployed using **Docker**, Vercel, and MongoDB, following product development best practices.

PROJECTS

Spotilike | *Flask, Next.js, Tailwind, TensorFlow, DeepFace*   June 2025
- Created an AI-driven music discovery platform that matches songs to user emotions in real time using **Python**, **TensorFlow**, and **DeepFace** for emotion recognition.
- Integrated **Flask** backend with **Next.js** frontend, **Spotify API**, and MongoDB schemas linking emotion embeddings to music metadata for personalized recommendations.

Lofied | *Python, torchaudio, Pedalboard*   May 2025
- Developed a **Python** tool converting Spotify playlists to lo-fi tracks using DSP and Spotify API, implementing Basic Pitch for audio-to-sheet-music conversion.
- Won Best Solo Hack & Top 6 Overall at JamHacks 2025, demonstrating end-to-end product development from design to deployment.

Flaim Brain | *Flask, LangChain, MongoDB*   Jan 2024
- Implemented an AI mentor enabling file uploads, note summarization, and personalized study guides using **Python**, GPT-4, Cloud Vision, and MongoDB Atlas Vector Search.
- Placed 4th at Hack the Valley 8 among 80 teams, showcasing collaborative problem-solving and rapid prototyping skills.

HomeLab | *Linux, Docker, Nginx, Cloudflare*   May 2025 – Present
- Built a personal Linux server secured with SSH key-pair authentication and HTTPS reverse proxying using **Nginx** for secure access.
- Deployed **Dockerized** Node.js applications with PM2 process management and Cloudflare DNS/routing, demonstrating infrastructure and deployment expertise.