

Lin Hong

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10× Hackathon Winner · AI/ML Engineer · Software Engineer

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, Machine Learning, Data Abstraction, Statistics

SKILLS

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

Technologies: **PyTorch**, **TensorFlow**, **scikit-learn**, FastAPI, Flask, Docker, PostgreSQL, MongoDB, Git, AWS

EXPERIENCE

Walnote AI

July 2025 – Present

Founding Engineer

Toronto, ON

- Built scalable software solutions using **Python** and FastAPI, implementing **AI**-powered video processing pipelines that reduced processing time by 5× through distributed computing.
- Collaborated with cross-functional teams to design and implement real-time data pipelines, integrating **machine learning** models for intelligent content processing and analytics.
- Applied software engineering best practices including code reviews, testing, and CI/CD automation to ensure product quality and reliability.

FTC Robotics

Sept 2022 – June 2025

Senior Software Lead

Toronto, ON

- Engineered telemetry pipelines processing encoder, IMU, and camera data using **object-oriented** design principles in **C++** and **Java** for real-time robot state estimation.
- Designed and implemented signal processing algorithms with validation logic, improving system reliability by 20% through iterative testing and refinement.

PROJECTS

Chess Bot | **PyTorch**, *Modal*, **Python**

June 2025

- Developed a **machine learning** model using **PyTorch** with a unified policy-value network trained via large-scale self-play reinforcement learning on A100/H100 GPUs.
- Implemented Monte Carlo Tree Search with neural priors, achieving ~1600 Elo strength through iterative model refinement and automated evaluation pipelines.

Spotifylike | *Flask*, **TensorFlow**, *DeepFace*

June 2025

- Created an **AI**-driven music discovery platform using **TensorFlow** and DeepFace for real-time emotion recognition, implementing **ML** models for personalized track recommendations.
- Built full-stack application with **Python** backend and Next.js frontend, processing large datasets and integrating Spotify API for emotion-aware music matching.

Flaim Brain | *Flask*, *LangChain*, *MongoDB*

Jan 2024

- Implemented an **AI** mentor platform using GPT-4 and Cloud Vision APIs, processing file uploads and generating personalized study guides through **machine learning**-powered semantic retrieval.
- Designed and deployed **AI** solution with MongoDB Atlas Vector Search, enabling intelligent content analysis and recommendation systems.

Inner Voice | *Next.js*, *Whisper*, *OpenAI TTS*

July 2023

- Built a multi-persona speech **AI** application using OpenAI Whisper for speech-to-text and TTS APIs, implementing **machine learning** models for natural language understanding and conversation generation.
- Developed full-stack application with Next.js, integrating **AI** APIs for persona generation and real-time conversation flows with intelligent response processing.