Harold Ng

AI Engineer · Hong Kong
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AI engineer working on speech recognition, AI agents, and desktop software for construction and BIM/CAD workflows. Background in data analytics and applied mathematics.

EXPERIENCE

Yau Lee Holdings Limited — A.I. Engineer

Hong Kong · January 2026–present

- Fine-tuned Whisper Large V3 for Cantonese/English construction-site speech using LoRA, synthetic training data, and Azure TTS augmentation. Reduced character error rate from 9.00% to 4.00% on 48 held-out domain utterances covering 162 construction terms.
- Built a BIM-AI desktop editor with a LangGraph plan-to-apply agent, Azure OpenAI, FastAPI, a Blender/Bonsai add-on, and guarded IFC mutations through natural-language chat.
- Co-developed a BIM authoring platform using Electron, React, TypeScript, WebGPU, and Rust/WASM, including IFC rendering, authoring, undo/redo, and snapping infrastructure.

CooperVision — Data Analytics Intern

San Ramon, California · June–November 2024

- Built a Python data-cleaning pipeline to remove seasonality from more than 1.2 million sales records for sales-trend analysis.
- Applied sentiment analysis to more than 10,000 customer-feedback entries to support sales representatives' decisions.

SELECTED TECHNICAL WORK

- Developed Node.js/Electron integrations for native CAD conversion and isolated plugin processes, including IPC, bounded queues, timeouts, cancellation, and output validation.
- Integrated upstream IFC retrieval tools into an MCP server and implemented structured LangGraph workflows with validation and bounded repair loops.
- Led a six-person analytical project studying a Microsoft knowledge-base transition using generalized linear models and more than 60,000 support cases.

EDUCATION

University of California, Irvine

MS, Data Science · September 2023–December 2024 · GPA 3.92

University of California, Los Angeles

BS, Applied Mathematics, specialization in Computing · September 2021–June 2023 · summa cum laude

SKILLS

Python, SQL, JavaScript, TypeScript, Rust · React, Node.js, Electron, FastAPI · PyTorch, Hugging Face, Whisper, LoRA/QLoRA · LangGraph, RAG, MCP · Azure, Docker, GitHub Actions