

Hsu, Chun-Yuan

 My Portfolio |  chyhsu@umich.edu |  Chyhsu |  Chun-Yuan Hsu

Professional Summary

Aspiring Backend Engineer with experience in software development and databases, strengthened by a Master's in Computer Science and an internship at QNAP. Improved API performance by 30% through Go migration. Currently pursuing a Master's in Data Science at the University of Michigan and contributing to Lilac, a project using LLMs and symbolic methods to automate Infrastructure-as-Code lifting across cloud platforms.

Education

Master of Data Science , University of Michigan – Ann Arbor, MI, USA	Sep 2025–Present
MS in Computer Science , National Tsing Hua University – Hsinchu, Taiwan	Sep 2022–Jan 2025
<i>Thesis:</i> Quantum Event Identification and Learning Procedures	
BS in Civil Engineering , National Cheng Kung University – Tainan, Taiwan	Sep 2018–Jun 2022






Skills

- Languages:** Python, C++, Go, SQL, TypeScript, Bash Script, Verilog
- Frameworks:** Node.js, React
- Cloud Platform:** Google Cloud Platform, AWS
- Developer Tools:** Docker, Docker Compose, Kubernetes, GitLab CI/CD, NATS, Jira, Git, Sprint/Scrum
- System:** Linux(Debian, Arch), Mac, Windows
- Database:** MongoDB, Couchbase, ChromaDB, SQLite, PostgreSQL

Experience

Backend R&D Internship, QNAP, Taiwan	Jan 2025 – Jul 2025
<ul style="list-style-type: none">Developed a semantic Jira issue search service using text embeddings (ChromaDB) and integrated AWS Bedrock LLM to generate resolution suggestions, enhancing developer productivity by 50%.Engineered an Jira search MCP server, enabling developers to query issues information via coding IDE.Migrated the Device Avatar APIs service from Python to Go for improved performance by 30% and deployed it on Kubernetes; implemented token-based authentication and unit tests.Contributed to database benchmark tests comparing MongoDB and Couchbase to inform technology selection.Diagnosed and resolved a DDNS worker failure issue during RabbitMQ scaling period.Pointed out and resolved a memory leak issue in cloud product by first inspecting Grafana metric and then tracing code.Resolved NATS message production failures during AWS spot instance scaling by reconfiguring NATS server replicas.	

Projects

Lilac	
Contributing to a research project that uses LLMs and symbolic methods to automate Infrastructure-as-Code lifting across cloud platforms.	
VizThinker	 VizThinker
Built and deployed a desktop AI chatbot on GCP using ReactFlow that integrates LLM API to visualize conversations as dynamic, node-linked graph structures for idea exploration.	
File-Translator	 file-translator
Developed a tool using LLM API to translate English PDF documents into Traditional Chinese, preserving the original format.	
AZtec-Image-Comparison	 AZtec-image-comparison
Developed a tool to compare pole figure images from AZtec software, analyzing overlapping patterns in crystallographic orientations.	
MIPS-CPU-Architecture [Course Work]	 MIPS-CPU-Architecture
Constructed a MIPS CPU architecture from the ground up using Verilog.	
OS-Nachos [Course Work]	 OS-Nachos
Implemented and documented core OS concepts including system calls, multiprogramming, virtual memory, and file systems using the Nachos instructional OS.	