

Hsu, Chun-Yuan

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

About Me

As a Master of Data Science student at the University of Michigan, I leverage a diverse academic background with a Master's in Computer Science and a Bachelor's in Civil Engineering. My internship at QNAP solidified my practical skills in software development, database applications, distributed systems, and AI applications. Passionate about staying current with tech trends, I actively build side projects to enhance my abilities for complex problem-solving and practical project implementation.

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, Bash Script, Verilog
- Developer Tools:** Docker, Kubernetes, GitLab CI/CD, NATS, AWS, Jira, Sprint/Scrum
- System:** Linux(Debian, Arch), Mac, Windows
- Database:** MongoDB, Couchbase, ChromaDB

Experience

Internship, QNAP	Jan 2025 – Jul 2025
<ul style="list-style-type: none">Developed a semantic search service for Jira issues using text embeddings (ChromaDB) and integrated AWS Bedrock LLM to generate resolution suggestions.Engineered an MCP server for the Jira search service, enabling developers to query issues information via coding IDE.Migrated the Konnyaku translation management website from Python 2 to Python 3 and deployed it on Kubernetes.Migrated the Device Avatar APIs service from Python to Go for improved performance 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 for data-intensive applications.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

Jira-Issue-Search	 Jira-Issue-Search
Issue-Search-MCP	 Issue-Search-MCP
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.	
Advanced-Compiler [Course Work]	 Advanced-Compiler
Developed a series of compiler projects for an advanced compilers course, implementing features such as data-flow analysis and optimizations using the LLVM framework.	