




Hsu, Chun-Yuan

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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 <i>Thesis:</i> Quantum Event Identification and Learning Procedures	Sep 2022–Jan 2025
BS in Civil Engineering , National Cheng Kung University – Tainan, Taiwan	Sep 2018–Jun 2022

Skills

Languages: Python, C++, Go, SQL, Bash

Developer Tools: Docker, Kubernetes, GitLab CI, NATS, Non-Relational Databases, Relational Databases, Message Queue

Experience

Internship, QNAP Jan 2025 – Jul 2025

- 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.