

Chao Hsuan Ho

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EDUCATION

Rice University | Houston, Texas Anticipated Dec 2026

Master of Computer Science

National Taiwan University | Taipei, Taiwan Jul 2021 - Jul 2025

B.A. in Economics GPA: 3.99/4.3 Academic Achievement Award (2024)

Relevant Coursework: Practical Data Structures & Algorithms, Computer Systems Architecture, Web App Development, Programming for Business Computing, Data Analysis and Machine Learning with Python

PROFESSIONAL EXPERIENCE

Software Engineer Intern, QuantaVision | Taipei, Taiwan Aug 2024 - Dec 2024

- Developed a Python-based Android application for a portable diagnostic device, integrating multiple hardware modules (printer, bio-lab, optical sensor) into a unified software workflow
- Implemented secure database storage with role-based access control and encryption for data in transit and at rest, ensuring integrity and compliance

Application Engineer Intern, Advantech | Taoyuan, Taiwan Jun 2024 - Aug 2024

- Designed and implemented an automated display calibration pipeline (Visual Basic, CA-210 SDK, Next.js) that processed sensor data and generated calibration matrices for consistent performance
- Integrated proprietary R&D protocols to enable automated calibration across devices
- Built a cross-platform Electron.js application with authentication, chat, device management, and data visualization, improving usability and integration

PROJECTS

AI Tutoring Platform — Spring Boot, LangChain4j, RAG Jun 2025 – Aug 2025

- Developed tutoring backend with Spring Boot and LangChain4j, implementing RAG for context-aware responses, Server-Sent Events (SSE) streaming for low-latency delivery, and conversational memory for interactive sessions
- Engineered a hybrid query router (semantic similarity + LLM intent classification) to support Q&A, tool execution, and web search, improving relevance and user experience

Multilingual AI Storybook Platform — DB Design, API, Cross-team Integration Sep 2024 – Dec 2024

- Designed a normalized database schema for multimedia content (audio, images, story data), ensuring efficient retrieval and scalability
- Coordinated technical integration across front-end and AI teams, establishing data contracts and API specifications for seamless feature deployment

Jigsaws Club Digital Management System — Full-stack (AWS, MySQL, NodeJS) Jul 2023 – Dec 2023

- Created a full-stack membership portal with rental tracking, access control, and image upload/tagging, deployed on AWS (RDS + S3). Implemented overdue notification scheduling with AWS CloudWatch and advanced search with SQL and OpenSearch, increasing active membership by 113% (15 → 32 members)

TECHNICAL SKILLS

Languages: C++, Python, Java, JavaScript/TypeScript, PHP

Cloud & Databases: MySQL, SQLite, Firebase, AWS (S3, RDS)

Machine Learning & AI: TensorFlow, PyTorch, Scikit-learn

Tools: Node.js, React, Next.js, Git, GitHub, Docker, Anaconda, SSE/WebSockets, REST APIs