

Kuan-Cheng (James) Ku

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Education

National Taiwan University *Bachelor in Information Management (GPA: 3.88)* 2021 – 2025

- Key Courses: Data Structures, Algorithms, Database, Web Programming, Deep Learning, Information Retrieval & Text Mining, Cloud Native Application, Systems Analysis & Design, Management of Hi-tech Company
- Teaching Assistant: Served 500+ students across 5 courses, including Web Programming, Data Structures, Systems Analysis & Design, Calculus and Marketing Management.

National Taiwan University *Master in Information Management* 2025 – 2027

- Research Assistant @ Prof. Hsin-Min Lu's BAEIR Lab, focusing on LLMs applications in job-resume matching.
- Research Assistant @ NTU Hospital Peritoneal Dialysis Smart Healthcare and 1111 resume-job matching project.

Experience

Research Development Intern, Microsoft *TSMC OnePlatform Team, ISD* Apr 2025 – Present

- Led unit and e2e testing by designing and executing comprehensive test plans with 400+ test cases on ADO.
- Opened and helped resolve 150+ ADO bugs, built POC experiments for frontend bug analysis, and organized interlock meetings with MS, ASUS, and ADV to accelerate cross-vendor bug resolution.
- Produced LaTeX-based user manuals, integrating materials from ASUS and ADV, and hosted training sessions for TSMC users, reducing onboarding friction and helping drive the project from development into the validation phase.

Full-Stack Developer, National Chung Hsing University Apr 2025 – Sep 2025

- Contracted as sole freelance developer to design, architect and build a comprehensive student management dashboard using Next.js, Supabase, and Google Cloud API for National Chung Hsing University's Buddy Program.
- Developed core features including task management, configurable dynamic forms, real-time analytics dashboard, automated email notifications, and Google Drive integration with role-based access control for complete data isolation.
- Delivered production-ready platform serving 300+ monthly active users, completed client acceptance review, and concluded project with final payment settlement.

Achievements

TSMC IT CareerHack 2024: 2nd Place 🏆 📄 deVopSCode Feb 2025

- Developed an AI maintenance toolkit with web and VSCode interfaces using Vertex AI, FastAPI, and LangChain
- Rapidly prototyped and deployed the full-stack solution with GitHub integration on GCE and GKE within 2 days.
- Selected as one of 24 finalists from 168 teams and achieved second place at the 2024 TSMC Campus Hackathon.

Taiwan Digital Innovation Awards 2025: Honorable Mention 🏆 📄 RenderResume Jun 2025 - Oct 2025

- Envisioned entering the competitive job matching market by leveraging useful resume tools as a strategic entry point, achieving 300+ users and 3,000+ resume analyses during Beta phase to validate product-market fit.
- Developed an AI-powered resume tool featuring intelligent evaluation, STAR-format restructuring, and context-aware chat agent with editing ability using OpenAI API, Next.js, and Supabase.
- Selected as one of 14 finalists from 200+ competing teams nationally and awarded Honorable Mention (Top 7) at the Taiwan Digital Innovation Awards 2025.

Projects

One-Click Outfit 📄 📄 rmmfj/outfit-recommendation-app Jan 2024 – Jan 2025

- Led fullstack architecture and development of an AI-powered personalized fashion recommendation platform, implementing Next.js and Flask to deliver intelligent styling suggestions.
- Enhanced system performance by 2.4x through strategic migration from Supabase to local PostgreSQL server with vector indexing, and established Docker-based deployment infrastructure on VPS.
- Successfully launched the platform and acquired 300+ active users within 2 weeks of release.

SARS: Social Advertising Recommendation System 📄 Nov 2023 – Jan 2024

- Built an advertisement recommendation retrieval system by computing comment trustworthiness with a BERT-based model, constructing user subgraphs via Dijkstra's algorithm, and integrating parameters optimized through backtesting.

Customized IT Solution for ShiJiou Cafe

Mar 2023 – May 2023

- Designed and developed an integrated digital system for a local coffee shop based in Banqiao, addressing long wait times and manual queue inefficiencies through automated customer flow management.
- Built a custom online menu, LINE chatbot queue system, and unified real-time backend using React.js, Express.js, Firebase, and LINE Messaging API to streamline ordering, waiting, and table management operations.

StreamBench Agent: Continuous Improvement of LLM

Oct 2024 – Dec 2024

- Engineered NeurIPS 2024 StreamBench-inspired prompt optimization pipeline for medical diagnosis, boosting accuracy from 50.17% to 73.64% via clinical framing, structured reasoning, and negative example learning.

Leadership and Activities

Lecturer, Taipei Municipal Datong High School *Information Research Club*

Sep 2022 – Present

Lecturer, Taipei Municipal Zhongshan Girls High School *Information Research Club*

Feb 2024 – Present

Lecturer, NTU CSIE Sprout Program 

Dec 2021 – Jun 2024

- Designed and delivered C++ programming courses to foster pre-univ students' interest in computer science, build foundations for APCS preparation, and guide career exploration in CS fields.
- Innovatively launched capstone project fostering teamwork and enabling students to showcase programming skills.

Director, NTU Information Management Student Association *IT Department*

Jun 2022 – Jan 2024

- Administered Linux workstation systems and Google Workspace for the department, supporting 300+ students.
- Developed a faculty interview platform to support students' bachelor project advisor selection.

Co-founder, NTUIM Competitive Programming Team

Jan 2022 – Jun 2023

- Co-founded the team, recruited 2 lecturers and 36 members, and raised sponsorship of NT\$100K worth of rental space.
- Co-developed materials and delivered sessions on data structures and algorithms for competitive programming.
- Regularly organized in-person, team-based ICPC-format contests on Codeforces for hands-on practice.

Chief Organizer, 2023 NTUIM Programming Contest: PDAO

Dec 2022 – May 2023

- Led organization of a nation-wide ICPC-format programming competition with cash flow exceeding NT\$100K.
- Innovatively opened and coordinated synchronization of two off- and one on-campus venues to provide better experience.
- Successfully recruited 81 teams comprising 226 participants, including 10+ professional competitive programming teams.
- Achieved a post-competition satisfaction rating of 4.21/5, demonstrating strong participant engagement.

Deputy Organizer, 2024 NTUIM Camp: Information Fog

Jun 2023 – Jan 2024

- Revived a 5-day camp from 4-year pandemic suspension by recruiting 60+ staff with cash flow exceeding NT\$800K.
- Oversaw marketing and design, a cross-functional department of 10, comprising art, publicity and photography teams.
- Led merchandise development, multi-channel event promotion, brand establishment, and comprehensive documentation, gaining 1K+ followers and 500K+ impressions on social media within 6 months, contributing to 200+ registrations.


Dev Lead & Event Planner, NTU Art Festival 2024 *Riddle City Team*  Website

Jan 2024 – Jun 2024

- Led a dev team of 3 to build a fullstack treasure hunt game using Next.js and Supabase which seamlessly integrated web interfaces with physical campus riddles, creating a highly immersive experience across three college-life storylines.
- Bridged planning, design, and development teams through structured coordination and tracking, iterating to deliver a high-quality launch that engaged 200+ users with 600+ hours of gameplay.
- Co-designed with planning team the Academic Life storyline, one of three thematic routes.

Member, NTU Photography Club *Exhibitions Department*

Jul 2023 – Dec 2023

- Organized promotion booth and biannual exhibitions providing members with platforms to showcase their works.
- Developed [an online exhibition website](#)  using React.js and Firebase to expand exhibition reach and accessibility.

Skills and Languages

Languages: Python, C/C++, HTML5, CSS3, JavaScript, TypeScript, SQL

Frameworks: Express, React, Next, Tailwind, LangChain, Flask, FastAPI, Pytorch

Database: PostgreSQL, Supabase, Cloudflare D1 & R2, MongoDB, Firebase

Tools: Git, Docker, GCP, Vercel, Cloudflare, Azure DevOps, Playwright

Chinese: Native

English: Fluent

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