

# Hsin-Ling (Justin) Hsu

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## Education

**National Chengchi University** (Ranked 2nd business school in Taiwan)

Expected Graduation: Jun. 2027

*B.S. in Management Information Systems (MIS)*

*Taipei, Taiwan*

- **Rank: 2 / 38 | GPA: 4.3 / 4.3**
- Previously enrolled in Mathematical Sciences (Sept. 2023 – Aug. 2024), and have since continued collaborating with Prof. Jengnan Tzeng from the department on research projects [2] and [3].
- **Related Courses:** Calculus, Linear Algebra, Statistics(I), Statistics(II), Machine Learning, Operations Research/Management Science, Computer Programming, Data Structure, An Introduction to Game Theory (I), Database Management Systems, Introduction to Computer Science, Introduction to Data Analysis and Programming, Python for Data Analysis 101, AI and Society

## Research Interests

Information Retrieval; AI for Healthcare; Large Language Models; Natural Language Processing

## Publications

[1] **Hsin-Ling Hsu\***, Cong-Tinh Dao\*, Luning Wang, Zitao Shuai, Thao Nguyen Minh Phan, Jun-En Ding, Chun-Chieh Liao, Pengfei Hu, Xiaoxue Han, Chih-Ho Hsu, Dongsheng Luo, Wen-Chih Peng, Feng Liu, Fang-Ming Hung, and Chenwei Wu. *MedPlan: A Two-Stage RAG-Based System for Personalized Medical Plan Generation*. Under Review at ACL 2025 Industry Track.

[2] **Hsin-Ling Hsu** and Jengnan Tzeng. *DAT: Dynamic Alpha Tuning for Hybrid Retrieval in Retrieval-Augmented Generation*. Under Review at COLM 2025.

[3] **Hsin-Ling Hsu**, Ping-Sheng Lin, Jing-Di Lin, and Jengnan Tzeng. *KAP: MLLM-assisted OCR Text Enhancement for Hybrid Retrieval in Chinese Non-Narrative Documents*. Under Review at The 18th NTCIR, Tokyo, Japan.

## Work Experience

### Research Assistant

Dec. 2024 – Present

*Far Eastern Memorial Hospital*

*New Taipei, Taiwan*

- Advisor: Dr. Fang-Ming Hung
- [1] Research focuses on developing models for disease prediction and information synthesis using LLMs, machine learning models, and information retrieval techniques. These models leverage electronic health records (EHR) from outpatient, inpatient, and emergency departments, along with examination reports and SOAP notes.

### AI Intern

Sept. 2024 – Present

*GoFreight (The world's largest cloud-based freight forwarding software)*

*Taipei, Taiwan*

- Developed LLM-powered dynamic web parsing solutions to mitigate crawler disruptions caused by web changes, significantly reducing maintenance costs.
- Applied OCR, NLP, and computer vision techniques to extract and analyze logistics documents (e.g., Master Bill of Lading, Invoice), improving the accuracy and efficiency of automated document processing.

### Research Assistant

May 2024 – Present

*Institute of Information Science, Academia Sinica (The highest-level academic institution in Taiwan)*

*Taipei, Taiwan*

- Advisor: Prof. Ti-Rong Wu, Reinforcement Learning and Games Lab.
- Participated in a research project on General computer game solving based on Proof Cost Network (PCN).
- Responsible for designing and developing both frontend and backend components of computer games using WGo.js, C/C++.
- Designed a high-performance database for managing large-scale game records and AI-analyzed board states, optimizing system architecture to ensure stability, scalability, and efficient data access, supporting a high-performance gaming environment.

### Part-time Engineer

Jul. 2023 – Sept. 2024

*ChainSea Information Group*

*Taipei, Taiwan*

- AI Engineer | Core R&D Contributor to Open-Source LLM and Whisper Projects at ChainSea, specializing in real-time transcription, inference acceleration, dataset generation and augmentation (e.g., Taipower project under Selected Projects), and model training.
- Designed, developed, and optimized RAG architectures to improve knowledge base retrieval accuracy.
- Conducted research and development in cutting-edge AI technologies, including the design and implementation of LLM Agent architectures for marketing workflows and a generic framework for topic management.
- Technologies utilized: Python, SentenceTransformer, TensorFlow, PyTorch.

## Awards & Honors

<b>2nd Place in HOTAI MaaS Hackathon</b> , [2/233 teams; ~0.8%] <i>AI Intelligent Travel Checkup. News Article   Certificate</i> <ul style="list-style-type: none"><li>A nationwide competition open to all ages, hosted by two giant corporations, Hotai Motor and Microsoft.</li><li>By presenting an innovative forum and AI algorithm for intelligent itinerary check-ups and recommendations, we won second place nationwide and <b>received a prize of 250,000.</b></li><li>I was responsible for system architecture design, AI &amp; full-stack development, as well as delivering the technical presentation and demo.</li></ul>	2024 Taiwan
<b>3rd Place in LINE FRESH Campus Competition</b> , [3/165 teams; ~1.8%] <i>AI dementia care platform. News Article   Certificate</i> <ul style="list-style-type: none"><li>A nationwide competition hosted by LINE.</li><li>I was responsible for system architecture design, AI &amp; backend development.</li></ul>	2024 Taiwan
<b>2nd Place in AI Interdisciplinary Sustainability Innovation Competition</b> , [2/44 teams; ~4%] <i>Campus AI assistant AllPass Project Lead: AI &amp; backend development. News Article   Live Demo   Certificate</i>	2024 Taiwan

## Selected Projects

<b>AutoMouser (100+ stars)</b> <i>Open Source Contributor   Pull requests   Issues</i> <ul style="list-style-type: none"><li>AutoMouser leverages LLM-based technology to automatically generate browser automation code from your mouse movements, capturing every click, drag, and hover. This integration streamlines your workflow and enables the creation of robust, repeatable tests with enhanced precision and flexibility.</li><li>Contributing new features, bug fixes, and codebase architecture optimization.</li></ul>	2025 – Present
<b>NCCUPass APP</b> <i>Role: Head of AI</i> <ul style="list-style-type: none"><li>Led the AI team in the R&amp;D of the campus AI assistant AllPass and Campus Smart Lost and Found Matching FindPass. As of September 2024, <b>over 2,000 students</b> at National Chengchi University have registered and used the platform, and the project has received multiple accolades in startup competitions.</li></ul>	2024 – Present
<b>Taiwan Power Intelligent Robot Optimization Project</b> <i>ChainSea Information Group &amp; Taiwan Power (Taiwan's largest electric power company)</i> <ul style="list-style-type: none"><li>Served as a <b>core contributor</b> in leveraging LLMs to enhance and optimize training data for Taiwan Power's official website intelligent AI customer service system, "Dianbao," with the currently deployed version utilizing the improved data we developed.</li></ul>	2023

## Activities

<b>Lecturer</b> <i>Google Developer Group (GDG) - NCCU</i> <ul style="list-style-type: none"><li>Teaching Experience: Introduction to Databases, Generative AI (Course satisfaction rate as high as <b>90%</b>)</li></ul>	Sept. 2023 – Aug. 2024 Taipei, Taiwan
<b>Security Research</b> <i>HITCON ZeroDay Platform</i> <ul style="list-style-type: none"><li>Reported multiple security vulnerabilities, prompting rapid emergency patches from affected organizations.</li></ul>	2024 – Present Remote
<b>Freelancer</b> <i>Successfully completing 10+ software development and technical consulting projects.</i> <ul style="list-style-type: none"><li>Experienced in web scraping, LLM-based stock fundamental analysis data processing, ML stock price prediction project consulting, AI for board games, etc.</li></ul>	2023 – Present Remote