

# Hsin-Ling (Justin) Hsu

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## Research Interests

Information Retrieval; Natural Language Processing; Large Language Models; Machine Learning

## Education

### National Chengchi University (NCCU)

Bachelor's in Management Information Systems (MIS)

Expected Graduation: Jun. 2027

Taipei, Taiwan

- Enrolled in FinTech Program of Specialization (Jan. 2025 – Present)
- Previously enrolled in Mathematical Sciences (Sept. 2023 – Aug. 2024)
- Google Developer Group (GDG) - NCCU, Lecturer and Core Member

## Work Experience

### Research Assistant

Far Eastern Memorial Hospital

Dec. 2024 – Present

New Taipei, Taiwan

- Advisor: Dr. Fang-Ming Hung
- Research focuses on developing models for disease prediction and generation using LLM/RAG and other ML models, based on existing outpatient, inpatient, and emergency department electronic health records (EHR), examination reports, and SOAP notes.

### AI Intern

GoFreight

Sept. 2024 – Present

Taipei, Taiwan

- Developed AI-powered dynamic web parsing solutions to mitigate crawler disruptions caused by web changes, significantly reducing maintenance costs.
- Focused on CV (computer vision) and NLP recognition for logistics documents (e.g., Master Bill of Lading, Invoice), enhancing the accuracy and efficiency of automated document processing.
- Technologies utilized: Python, LangFuse, Claude Computer use, AWS S3 & Textract.

### Research Assistant

Institute of Information Science, Academia Sinica

May 2024 – Present

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

ChainSea Information Group

Jul. 2023 – Sept. 2024

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

### 2nd Place in HOTAI MaaS Hackathon, [2/233 teams; ~0.8%]

AI Intelligent Travel Checkup. News Article

2024

Taiwan

- A nationwide competition open to all ages, hosted by two giant corporations, Hotai Motor and Microsoft.
- By presenting an innovative forum and AI algorithm for intelligent itinerary check-ups and recommendations, we won second place nationwide and received a prize of 250,000.
- I was responsible for system architecture design, AI & full-stack development, as well as delivering the technical presentation and demo.

### 3rd Place in LINE FRESH Campus Competition, [3/165 teams; ~1.8%]

AI dementia care platform. News Article

2024

Taiwan

- A nationwide competition hosted by LINE.
- I was responsible for system architecture design, AI & backend development.

### 2nd Place in AI Interdisciplinary Sustainability Innovation Competition, [2/44 teams; ~4%]

Campus AI assistant AllPass Project Lead: AI & backend development. News Article | Certificate

2024

Taiwan

## Selected Projects

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### **AutoMouser (100+ stars)**

2025 – Present

*Open Source Contributor | Pull requests | Issues*

- AutoMouser automatically generates browser automation code from your mouse movements, capturing every click, drag, and hover to streamline your workflow and build robust, repeatable tests.
- Contributing new features, bug fixes, and codebase architecture optimization.

### **NCCUPass APP**

2024 – Present

*Role: Head of AI*

- Led the AI team in the R&D of the campus AI assistant AllPass and Campus Smart Lost and Found Matching FindPass. As of September 2024, over 2,000 students at National Chengchi University have registered and used the platform, and the project has received multiple accolades in startup competitions.

### **High-Accuracy RAG Retriever Template**

2024

*AI CUP 2024 E.SUN AI Open Competition*

- Won the 'Top Accuracy Nationwide Award' in the AI CUP 2024 E.SUN AI Open Competition - Application of RAG and LLM in Financial Q&A, ranking in the top 8% nationwide for overall accuracy.

### **Taiwan Power Intelligent Robot Optimization Project**

2023

*ChainSea Information Group*

- Participated in and completed the optimization of training data for Taiwan Power's official website intelligent AI customer service system "Dianbao" during my tenure at ChainSea.