# Hsin-Ling (Justin) Hsu

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## Research Interests

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

## Education

**National Chengchi University** (Ranked 2nd business school in Taiwan) Expected Graduation: Jun. 2027
*Bachelor's in **Management Information Systems (MIS)*** *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** Dec. 2024 – Present
*Far Eastern Memorial Hospital* *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** Sept. 2024 – Present
*GoFreight (The world's largest cloud-based freight forwarding software)* *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** 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

**2nd Place in HOTAI MaaS Hackathon**, [2/233 teams; ~0.8%] 2024
*AI Intelligent Travel Checkup. News Article* *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.

**3nd Place in LINE FRESH Campus Competition**, [3/165 teams; ~1.8%] 2024
*AI dementia care platform. News Article* *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%] 2024
*Campus AI assistant AllPass Project Lead: AI & backend development. News Article | Certificate* *Taiwan*

## Selected Projects

**AutoMouser (100+ stars)** 2025 – Present

*Open Source Contributor | Pull requests | Issues*

- 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.
- 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 & Taiwan Power (Taiwan’s largest electric power company)*

- 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.