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*

Accuracy Awards for Top Standards in AI CUP 2024 E.SUN AI Open Competition, [**~8%**, Leaderboard: ~18%]　　　　2024
Application of RAG and LLM in Financial Q&A.　　　　*Taiwan*
- A nationwide competition, open to all ages, hosted by E.SUN Commercial Bank and Ministry of Education of Taiwan.
- I was responsible for the architectural design and primary framework development of this High-Accuracy RAG system.

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

Ministry of Education of Taiwan & E.SUN Commercial Bank (One of the major commercial banks in Taiwan)

- #BM25 #Embedding #VectorSearch #Reranking #FineTuningLLM
- Developed and published a personal open-source project, General RAG Template, to facilitate the integration of RAG and LLM frameworks for a wide range of applications.
- Won the 'Accuracy Awards for Top Standards' 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.