

# Hsin-Ling (Justin) Hsu

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## Education

### National Chengchi University (NCCU)

B.S. Double Major in MIS and Computer Science

Sep. 2023 – Expected Graduation: Jun. 2027

Taipei, Taiwan

- **Rank: 6 / 74** [~8%] | **GPA: 4.25 / 4.30**
- Honors: Beta Gamma Sigma Honor Society member (Top 10% of business students worldwide).
- **Related Courses:** Linear Algebra, Discrete Mathematics, Data Structure, Operating System, Computer Architecture and Organization, Computer Programming, Introduction to Computer Science, Calculus, Probability, Statistics(I), Database Management Systems, Human computer interaction, System Analysis and Design, Management Science, Applications of mathematics softwares, Information Systems Project, Python for Data Analysis 101, Introduction to Data Analysis and Programming, An Introduction to Game Theory (I)

## Research Interests

Natural Language Processing; AI for Healthcare; Information Retrieval; GenAI

## Publications & On-Going Work

Total citations: 19; h-index: 2; i10-index: 1 (Google Scholar, Sep. 2025)

[1] **Hsin-Ling Hsu\***, Cong-Tinh Dao\*, et al., "MedPlan: A Two-Stage RAG-Based System for Personalized Medical Plan Generation." *Proceedings of the 63rd Annual Meeting of the Association for Computational Linguistics (ACL 2025): Industry Track*, Vienna, Austria, 2025. (Citations: 12) ([paper link](#))

Notes: ~**25.6%** acceptance rate, Avg. Rating: 7.00 (Scores: 6, 7, 8).

[2] **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." *Proceedings of the FinTech in AI CUP Special Session, 18th NTCIR Conference*, Tokyo, Japan, 2025. ([paper link](#)) ([GitHub link](#))

Notes: One of the top 3 global IR evaluation conferences. **[Oral Presentation]** | Awarded the National Excellence Prize ("Qian Biao") at AI CUP 2024.

[3] **Hsin-Ling Hsu** and Jengnan Tzeng, "DAT: Dynamic Alpha Tuning for Hybrid Retrieval in Retrieval-Augmented Generation." *arXiv*, 2025. (Citations: 7) ([paper link](#))

[4] Chia-Hsuan Hsu, Jun-En Ding, **Hsin-Ling Hsu**, et al., "RPRO: Ranked Preference Reinforcement Optimization for Enhancing Medical QA and Diagnostic Reasoning." *NeurIPS 2025 Workshop on GenAI for Health*, San Diego, California, USA, 2025. ([paper link](#))

## Work Experience

### Undergraduate Researcher

Software Security Lab, MIS, NCCU (Advisor: Prof. Fang Yu)

Sep. 2025 – Present

Taipei, Taiwan

- Research on concolic-assisted model repair for neural networks, focusing on provable localized correction of natural adversarial errors. The approach integrates gradient- and SHAP-based attribution with symbolic reasoning (Z3 / PyCT) to identify and formally repair error clusters in LoRA adapters, achieving sample-efficient and verifiable robustness improvements.

### Research Assistant

AI Research Team, Far Eastern Memorial Hospital (Advisor: Dr. Fang-Ming Hung)

Dec. 2024 – Present

New Taipei, Taiwan

- [1] [4] Conduct research on explainable clinical decision support systems, focusing on disease prediction and medical plan generation through the integration of large language models, reinforcement learning, knowledge graphs, and retrieval.

### AI Intern

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

Sep. 2024 – Jun. 2025

Taipei, Taiwan

- Leveraged MLLM parallelization techniques to extract logistics data (e.g., MBL, invoices) via OCR and NLP, reducing processing time by ~**67%** (from 45s to 15s) while maintaining high accuracy in bounding box annotation and text-to-image mapping.
- Built LLM-based web parsers with up to **97%** accuracy, significantly reducing crawler maintenance for dynamic websites.
- Presented research on LLM Agents and business use cases to support AI strategy.

### AI Engineer (Part-Time)

ChainSea Information Group

Jul. 2023 – Sep. 2024

Taipei, Taiwan

- Core R&D contributor to LLM and Whisper projects, focused on transcription, inference acceleration, and LoRA-based model tuning.
- Built RAG pipelines to enhance knowledge retrieval; developed LLM Agent for addiction counseling using structured dialogue planning.

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**Program Committee**

- **NeurIPS** Workshop on GenAI for Health, 2025.
- **NeurIPS** Workshop on Efficient Reasoning, 2025.
- **WMW** (World Modeling Workshop), 2025.

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**Talks**

- 2025 “MedPlan: A Two-Stage RAG-Based System for Personalized Medical Plan Generation,” ACL 2025 Industry Track (online).
- 2025 “KAP: MLLM-assisted OCR Text Enhancement for Hybrid Retrieval in Chinese Non-Narrative Documents,” FinTech in AI CUP Special Session at NTCIR-18 Conference, Tokyo, Japan.
- 2023 “Google Cloud Study Jam: Generative AI,” Google Developer Group at NCCU, Taipei, Taiwan.
- 2023 “Introduction to Databases,” Google Developer Group at NCCU, Taipei, Taiwan.

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**Selected Competitions & Honors**
**Enterprise-Level Competitions**

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

2024

*AI Travel Itinerary Health Check. News Article | Certificate*

Taiwan

- Led system design and full-stack AI dev; won **NT\$250,000** prize.
- Tech: React.js, Hybrid RAG, Cross-Encoder, collaborative filtering.

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

2024

*AI dementia care platform. News Article | Certificate*

Taiwan

- Built backend, health tracking, and multilingual chatbot with LLMs.
- Tech: RAG, LINE Messaging API, data synthesis, auto-reporting.

**National-Level Awards**

**Finalist (Ongoing) in 22nd National Innovation Award**, Smart Healthcare Group

2025 – Present

*Project **MedPlan**: A Two-Stage RAG-Based System for Personalized Medical Plan Generation. Paper Link*

Taiwan

- Co-participating with Far Eastern Memorial Hospital (Vice President, Department Directors, PhD students).
- Inventor of a patent under review: “Electronic device for generating personalized assessment content and treatment plan”.
- Industry: MOU signed with clinics / system vendors.
- Deployment: in clinical trial/implementation phase at hospital.

**Competitive Programming**

**Collegiate Programming Examination (CPE) — Professional Level (A), Top 4.6% nationally** (Ranked 113/2481)

2025

*Organized by the Association of Taiwan Computer Programming Contest (formerly ACM-ICPC Taiwan Council)*

Taiwan

- Standardized programming exam inspired by ICPC-style problems, evaluating algorithmic reasoning, data structure design, and implementation efficiency.

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**Selected Projects**
**AutoMouser**

2025 – Present

*Received **300+** GitHub Stars and **30+** forks. | 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.
- Served as a **core contributor** (ranked #2 on the contribution leaderboard), driving new feature development, bug resolution, and architecture optimization across the codebase.

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**Skills**

Python, C/C++, PyTorch, Unsloth, Transformers, Flask, Langfuse, SQL, Linux, GCP, Docker, Git, HTML/CSS/JS