Hsuan-Hao "Howard" Lin

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EDUCATION

Carnegie Mellon University — Pittsburgh, PA
Master of Science in Intelligent Information Systems — Expected Dec 2026

National Taiwan University — Taipei, Taiwan
Bachelor of Science in Electrical Engineering — Graduated Jun 2024
Dean's List Award: Fall 2020, Fall 2022, Fall 2023
GPA: 4.17/4.3

SKILLS

Programming languages: Python, C/C++, TypeScript, JavaScript, SQL

Frameworks & Libraries: PyTorch, TensorFlow, LangChain, Scikit-learn, Matplotlib, Next.js, tRPC, Sequelize

Tools: Git, Hugging Face, Docker

PROFESSIONAL EXPERIENCE

U-MEDIA Communications Inc. — Hsinchu, Taiwan
Part-time Software Engineer — Sep 2022 – Jul 2025

- Built an in-house payroll system in a 4-member team, automating salary processing for 200+ employees and reducing manual workload
- Designed an intuitive dashboard for payroll management and reporting, optimizing user experience based on feedback received from senior management
- Fulfilled data synchronization between HR and payroll systems, eliminating manual reconciliation and ensuring real-time data consistency

PROJECTS

AI Debate Workshop with RAG & LangChain — Hsinchu, Taiwan
Wu Ta-You Science Camp 2024 – Educational AI application. — Jul 2024 – Aug 2024

- Architected a multi-agent AI debate system using LangChain and RAG, demonstrating practical LLM workflows
- Hosted an AI debate workshop for 100+ participants, mentoring teams through step-by-step system deployment and tailored goals
- Organized an interactive AI debate competition, fostering collaboration and enhancing learning outcomes

Dyanmic-SUPERB (ICLR 2025) — Taipei, Taiwan
National Taiwan University – Research Project — Apr 2024 – Jul 2024

- Proposed and applied an event-frequency–weighted sampling strategy to construct a 360-clip DESED subset, maximizing rare event and retained information under limited computational resources
- Implemented F1-score metric, enabling performance comparison for sound event detection tasks
- Integrated DESED task into 180+ tasks benchmark, expanding its evaluation scope for audio event analysis

Audio Captioning Using Text-Only Data — Taipei, Taiwan
National Taiwan University – Research Project — Jan 2024 – May 2024

- Devised a text-only training approach leveraging the CLAP model to align audio and text in a shared representation space, reducing dependence on paired datasets
- Evaluated model performance, achieving a BLEU-1 score of 39 vs. 43.7 with paired data, validating the feasibility of single-modality learning for cross-modal tasks

AV-SUPERB: Audio-Visual Multi-Task Benchmark (ICASSP 2024) — Taipei, Taiwan
National Taiwan University – Research Project — Jan 2023 – Sep 2023

- Developed Audio Event Classification pipeline in 5 tasks benchmark, including dataset preprocessing and model evaluation, contributed key results to benchmark-wide performance report
- Engineered mAP metric with scikit-learn to ensure consistent performance metrics across multi-label classification tasks