

Hao-yung Weng

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EDUCATION

Carnegie Mellon University, School of Computer Science

Master of Science in Machine Learning

Sep 2024 – Dec 2025 (Expected)

Pittsburgh, PA, United States

- **GPA:** 4.0/4.0, **Relevant Coursework:** Introduction to ML (PhD-level), Advanced Deep Learning, Generative AI

National Taiwan University

Bachelor of Science in Computer Science, Valedictorian, Summa Cum Laude (top 1%)

Sep 2019 – Jun 2023

Taipei, Taiwan

- **GPA:** 4.28/4.3, **Rank:** 1/177, **Awards:** Outstanding Youth of Taiwan, Presidential Award, Dean's List (4x), Best TA Award

SKILLS

Programming: Python, C, C++

Libraries & Tools: PyTorch, NumPy, Scikit-learn, Pandas, Hugging Face, Docker

Domains: LLM, Natural Language Processing, Speech Processing, Federated Learning, Parameter-Efficient Fine-Tuning

INDUSTRY EXPERIENCE

HeyGen

AI Research Intern

May 2025 – Present

Los Angeles, CA, United States

- Spearheaded launch of flagship product “Video Agent” as a founding team member, enabling multi-scene video generation from natural-language prompts and optional media by architecting a pipeline that fuses LLMs with multimodal generative models.
- Optimized product-image detection, lifting accuracy by 25% or halving latency at equivalent accuracy through a hierarchical level-classification pipeline and lightweight models.

WorldQuant

Quantitative Research Intern

Jan 2023 – Feb 2023

Taipei, Taiwan

- Developed “Alphas” models for equity market prediction, achieving a Sharpe ratio over 3.7 and turnover below 10% by leveraging diverse datasets (price, volume, options, analyst ratings) and decade-long fine-tuning on U.S. stock market data.

Google

Software Engineering Intern

Jun 2022 – Oct 2022

Taipei, Taiwan

- Reduced the time spent on addressing Joint Design Manufacturing (JDM)-related issues by 25% through designing and implementing an automated Python tool to locate bugs during collaboration.

ASUS Intelligent Cloud Services (AICS)

Software Engineering Intern

Mar 2022 – Jun 2022

Taipei, Taiwan

- Built a digital medical AI platform, adopted by two of Taiwan's top 10 hospitals to transition from paper-based systems.

RESEARCH EXPERIENCE

Auton Lab

Research Assistant, Advisor: Professor Artur Dubrawski

Feb 2025 – Present

Carnegie Mellon University

- Proposed a novel federated learning framework for foundation models that enhances fine-tuning efficiency and knowledge sharing across heterogeneous clients by leveraging knowledge distillation and adaptive personalization techniques.

Speech Processing & Machine Learning Laboratory

Research Assistant, Advisor: Professor Hung-yi Lee

Feb 2022 – Dec 2023

National Taiwan University

- Enhanced performance and efficiency by utilizing Neural Architecture Search (NAS) algorithms to optimize adapter selection, structure, and placement within self-supervised speech representation models.

Machine Intelligence & Understanding Laboratory

Research Assistant, Advisor: Professor Yun-Nung Chen

Sep 2021 – Jun 2023

National Taiwan University

- Devised a Transfer Learning framework to assess model suitability, achieving over 85% accuracy in selecting and sequencing intermediate tasks using the “Transferability” metric.

PUBLICATION

PEFT for Speech: Unveiling Optimal Placement, Merging Strategies, and Ensemble Techniques

Tzu-Han Lin[†], How-Shing Wang[†], **Hao-Yung Weng[‡]**, Kuang-Chen Peng[‡], Zih-Ching Chen^{*}, Hung-yi Lee^{*} ICASSP SASB 2024

EXTRACURRICULAR ACTIVITIES

National Taiwan University, CS Student Council

Director of Academic Section

Sep 2021 – Jun 2022

National Taiwan University

- Enhanced diversity and equity in Taiwan's computer science education by leading a six-day camp with 50+ college volunteers, reaching 120+ high school students, delivering Git and Linux lectures, and providing free passes for underrepresented groups.