Hao-Yung (Tim) Weng

+1-212-931-0309 | haoyungweng@gmail.com | haoyungweng.me | linkedin.com/in/haoyungweng

Education

Carnegie Mellon University, School of Computer Science *Sep. 2024 – Dec. 2025 (Expected)*
Master of Science in Machine Learning *Pittsburgh, PA, United States*

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

National Taiwan University *Sep. 2019 – Jun. 2023*
Bachelor of Science in Computer Science, Valedictorian, Summa Cum Laude (top 1%) *Taipei, Taiwan*

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

Skills

Programming: Python, C, C++ **Libraries & Tools:** PyTorch, NumPy, Scikit-learn, Pandas, Hugging Face, Docker
Domains: LLMs, LLM Personalization, NLP, Speech Processing, Parameter-Efficient Fine-Tuning

Industry Experience

WorldQuant *Jan. 2023 – Feb. 2023*
Research Intern *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 *Jun. 2022 – Oct. 2022*
Software Engineering Intern *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.
- Automated regression discovery by developing a tool integrated with the internal database for historical data analysis.

ASUS Intelligent Cloud Services (AICS) *Mar. 2022 – Jun. 2022*
Software Engineering Intern *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 *Feb. 2024 – Current*
Research Assistant, Advisor: Professor Artur Dubrawski *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 *Feb. 2022 – Dec. 2023*
Research Assistant, Advisor: Professor Hung-yi Lee *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 *Sep. 2021 – Jun. 2023*
Research Assistant, Advisor: Professor Yun-Nung Chen *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 *Sep. 2021 – Jun. 2022*
Director of Academic Section *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.