

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

- **Research Interests:** Large Language Models, Natural Language Processing, Parameter-Efficient Fine-Tuning

National Taiwan University

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

Sep. 2019 – Jun. 2023

Taipei, Taiwan

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

WORK EXPERIENCE

WorldQuant

Quantitative Research Intern

Jan. 2023 – Feb. 2023

Taipei, Taiwan

- Implemented "Alphas," mathematical models for profitable equity market prediction, by utilizing diverse datasets including price, volume, option, analyst, and fundamental data on internal platforms.
- Achieved a highly profitable trading strategy with a Sharpe ratio over 3.7 and a turnover rate below 10% by fine-tuning and testing it on a decade of U.S. stock market data.

Google

Software Engineering Intern, gBMC Team

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.
- Automated the once manual process of discovering regressions by developing an additional tool and integrating it with the internal database to analyze historical data.

ASUS Intelligent Cloud Services (AICS)

Software Engineering Intern

Mar. 2022 – Jun. 2022

Taipei, Taiwan

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

RESEARCH EXPERIENCE

Speech Processing & Machine Learning Laboratory

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.
- Developed methods to ensemble various smaller adapters within the same layer of pre-trained models, which improved performance while maintaining a constant overall number of parameters.

Machine Intelligence & Understanding Laboratory

Advisor: Professor Yun-Nung Chen

Sep. 2021 – Jun. 2023

National Taiwan University

- Proposed a framework for optimizing the selection of the most suitable intermediate tasks by establishing and defining "Transferability," a metric to assess model suitability for Transfer Learning.
- Demonstrated an over 85% success rate in accurately selecting and sequencing intermediate tasks by utilizing the newly defined "Transferability" metric across various possibilities.

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

- Promoted diversity and equity in Taiwan's Computer Science education by leading a six-day camp for over 120 high school students with a team of over 50 college students, providing free passes for underrepresented groups.
- Bridged the resource gap between freshmen from public and private high schools by creating lectures on widely used tools, including Git and Linux, to ensure equal technical preparation.