

FEI-YUEH CHEN

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EDUCATION

University of Rochester

New York, USA

M.S. in Electrical Engineering

Aug 2025 - expected May 2026

M.S. in Computational Linguistics (Dual Master)

Aug 2024 - expected May 2026

National Taiwan University

Taipei, Taiwan

B.A. in Economics, minor in Mathematics

Sep 2017 - Jun 2022

Dean's List Award (2019)

SKILLS

Technical: Python, PyTorch, HuggingFace Transformers, Librosa, Miditok

Languages: Mandarin (native), English (fluent)

PUBLICATIONS AND WORKING PAPERS

Chen, F.-Y.*, Adeleke, L.*, & Downey, C. M. (2026). Linguistically informed evaluation of multilingual ASR for African languages. In *Proceedings of the 5th Workshop on African Natural Language Processing (AfricaNLP), EACL 2026*.

Tsai, F.-D., Lai, Y.-A., **Chen, F.-Y.**, Fu, H.-W., Chai, L., Lee, W.-J., Cheng, H.-C., & Yang, Y.-H. (2026). MIDI-Informed singing accompaniment generation in a compositional song pipeline. *arXiv preprint arXiv:2602.22029*.

Zang, Y., Manchester, C., Young, D., Ivanov, I., Lufkin, J., Vladimirov, M., Solomon, P. J., Kepchelev, S., **Chen, F.-Y.**, Cai, D., Naydenov, T., & Leistikow, R. (2025). Smule Renaissance Small: Efficient general-purpose vocal restoration. *arXiv preprint arXiv:2510.21659*.

Huang, J., Yang, Q., **Chen, F.-Y.**, McAuley, J., Leistikow, R., & Zang, Y. (2025). StylePitcher: Generating style-following and expressive pitch curves for versatile singing tasks. In *NeurIPS 2025 Workshop on AI for Music*. (**Best Paper Award**)

Salganik, R., Tu, T., **Chen, F.-Y.**, Liu, X., Lu, K., Luvisia, E., ... & Kang, J. (2025). MusicSem: A Semantically Rich Language-Audio Dataset of Organic Musical Discourse. In *NeurIPS 2025 Workshop on AI for Music*.

WORKING AND RESEARCH EXPERIENCE

Smule Inc.

Remote, USA

Research Intern

May 2025 - Dec 2025

- Advisor: Mr. Yongyi Zang
- Contributed to the dataset and evaluation pipeline for Smule Renaissance Small (SRS), a 10.4M-parameter vocal restoration model achieving $10.5\times$ real-time inference on iPhone 12 CPU at 48 kHz; open-sourced under MIT License.
- Contributed to StylePitcher, a rectified flow matching-based pitch curve generator for singing voice synthesis and conversion, enabling style-aware F0 prediction as a plug-and-play module (**NeurIPS Workshop Best Paper Award**).
- Trained self-supervised content encoders (HuBERT-based) and designed distilled ConvNeXt-based speech encoders for on-device singing voice applications.

AIR Lab, Department of ECE, University of Rochester

New York, USA

Graduate Research Student

Aug 2024 - Present

- Advisor: Dr. Zhiyao Duan

- Co-developed MusicSem, a 32,493-pair language–audio dataset derived from Reddit for semantics-aware multi-modal music representation learning; proposed a 5-category semantic taxonomy and benchmarked retrieval/generation models (NeurIPS 2025 Workshop).
- Developing a hierarchical method for symbolic music generation combining autoregressive and diffusion models.
- Collaborated with Prof. C. M. Downey on evaluating multilingual ASR for Yoruba and Uneme; extended Feature Error Rate with tone-aware dimensions (TER) (EACL 2026 AfricaNLP).

CCL Lab, Department of Economics, National Taiwan University

Research Intern

Taipei, Taiwan

Jun 2024 - Aug 2024

- Advisor: Dr. Kuan-Ming Chen, Dr. Patrick Chung-Chia Huang
- Built an LLM-based pipeline for structured feature extraction and summarization from Mandarin court verdicts using prompt engineering, enabling large-scale empirical legal analysis.

Natural Language Processing and Sentiment Analysis Lab, IIS, Academia Sinica

Research Assistant

Taipei, Taiwan

Sep 2022 - Jun 2024

- Advisor: Dr. Lun-Wei Ku
- Led development of [Omiyage](#), an LLM-powered interactive art system combining multimodal deep learning models for personalized visual art experiences; winner of [Taiwan Future Tech Award 2023](#).
- Deployed Omiyage across 4 public exhibitions (museums, bookstores, book fairs), adapting the LLM pipeline for domain-specific conversational agents (e.g., emulating historical artifacts and research scientists).

Music and Artificial Intelligence Lab, IIS, Academia Sinica

Research Assistant

Taipei, Taiwan

Sep 2021 - Aug 2022

- Advisor: Dr. Yi-Hsuan Yang
- Proposed a novel MIDI tokenization method for transformer-based symbolic music generation, enabling joint lyrics-melody generation in a single autoregressive pass.
- Improved lyric rhyming fluency via a 2-stage generation approach with phoneme-level constraints incorporating tone and vowel features.

PROFESSIONAL PROJECTS

“The Age of AI Has Begun? Now Loading...” Special Exhibition at the Taipei International Book Exhibition (2024). Modified Omiyage to emulate research scientists, demonstrated their research techniques and engaged with the audience by answering their questions, creating an interactive and educational environment. Omiyage was one of the listed techniques.

“An Elegant Day: Yua Mikami’s Fantasy World.” at Tsutaya Bookstore (2024) Organized art exhibition and media event with Yua Mikami and Tsutaya Bookstore, showcasing her transition from idol to artist and her creative talents. Omiyage was used to create a virtual character to introduce her arts and interact with online users.

“Omiyage”, an Interactive Art System (2023). Developed and implemented the award-winning “Omiyage Immersive Visual Arts Interaction System,” combining deep learning multimodal models to create personalized and interactive art experiences, earning the Future Technology Award at the 2023 Taiwan Innovation Expo.

“Chatting up Cultural Relics” at Museum of Institute of History and Philology, Taiwan (2023). Developed an interactive system that enabled visitors to engage directly with national treasure exhibits, specifically the Niu Fang-ting (Bronze Square Cauldron with an Ox Emblem) and the Lu Fang-ting (Bronze Square Cauldron with a Deer Emblem), facilitating an interactive experience to learn about their cultural backgrounds.

TEACHING ASSISTANT EXPERIENCE

Capstone Project for Data Science and Social Inquiry, National Taiwan University

Spring 2022

Data Science and Social Inquiry, National Taiwan University

Fall 2021

Instructor: Dr. Ming-Jen Lin and Dr. Ji-Lung Hsieh. Programming Language: R (Tidyverse, dplyr).