Jeng-Yue (Buffett) Liu

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EDUCATION

Carnegie Mellon University (CMU)   *Aug. 2025 – Present*
M.S. in Artificial Intelligence and Innovation   *Pittsburgh, PA, United States*

- Courses: Introduction to Computer Systems, Introduction to Machine Learning, Generative AI for Music and Audio

National Taiwan University (NTU)   *Sep. 2020 – Jun. 2025*
Dual Degree: B.B.A. in Information Management & B.S. in Geography   *Taipei, Taiwan*

- Awards: Phi Tau Phi (**Top 1%** of the school), Bachelor Degree Thesis Award, Presidential Award, Dean's List (2x)
- GPA: 3.95/4.3, Teaching Assistant: Machine Learning (2x), Computer Programming

TECHNICAL SKILLS

Languages:	Python, C, C++, JavaScript, TypeScript
Tools:	PyTorch, Hugging Face, Docker, GitHub Action, Kubernetes, Argo Workflow, MCP, uv, n8n
General:	Software Development, Generative Models, Diffusion, Style Transfer, Disentanglement, LLM, NLP

EXPERIENCE

Academia Sinica, Music and Audio Computing Lab   *Jan. 2024 – Present*
Research Assistant (Advised by Prof. Yi-Hsuan Yang & Prof. Li Su)   Taipei, Taiwan

- Proposed an end-to-end synthesizer **preset/style transfer** framework with timbre–ADSR disentanglement, achieving a 23% reduction in MSTFT loss over baseline models.
- Developed an audio-query music **source separation** system leveraging **Band-Split Mamba2** with hypernetwork conditioning, improving instrument-specific separation and increasing SNR by 7%.

Quid   *Dec. 2024 – Jun. 2025*
Machine Learning Engineer Intern   Taipei, Taiwan

- Designed **DSPy modules** and **LLM-based evaluation metrics** to enhance search result similarity ranking and match scoring, cutting MSE from 0.17 to 0.03 with MiproV2, and built an assessment module to refine prompts for robust, customer-focused **summary and title generation**.
- Developed a trend detection module to analyze TTCM backend data and predict the top 200 emerging TikTok hashtags.

California State University, Bakersfield   *Dec. 2023 - Dec. 2024*
Data Scientist (Advised by Prof. Tzu-Fen Chang & Prof. Chia-Yen Lee)   Remote

- Collaborated with a team of 6 to develop a **GraphRAG**-based news content analysis tool, using **LLMs** for insight extraction from large datasets and reducing manual effort in social science research. [*GitHub*]
- Applied **NLP** techniques such as LDA and NMF to analyze attitude shifts surrounding the 2021 Atlanta spa shootings.

NTU, Geospatial Computing Lab   *Feb. 2022 – Jun. 2024*
Research Assistant (Advised by Prof. Tzai-Hung Wen)   Taipei, Taiwan

- Developed **multimodal spatio-temporal** models with a trip-purpose approach, achieving **80% accuracy**, and designed a data pipeline to integrate mobility data, Google Maps polygons, and remote sensing datasets for spatial analysis.
- Reached IMV contest semifinals by building a digital transaction platform with **TypeScript (React)**, **Node.js**, and **MongoDB**, and developing a **Selenium** web crawler for real-time vegetable prices to optimize fertilizer use. [*GitHub*]

PUBLICATIONS

Disentangling Envelope and Timbre for Audio Synthesizer Preset Conversion	*Under review*
Jeng-Yue Liu, Ting-Chao Hsu, Yen-Tung Yeh, Li Su, Yi-Hsuan Yang	ICASSP 2026
Trip-Purpose-Based Methods for Predicting Human Mobility's Next Location	*B.S. Thesis*
Jeng-Yue Liu, Tzai-Hung Wen	ACPAT 2024

EXTRACURRICULAR ACTIVITIES & LEADERSHIP

Co-Manager & Resident DJ, Rumeng Bar, Taipei	*Jan. 2023 – Jun. 2025*
President, Department of Geography Student Association, NTU	*Sep. 2021 – Aug. 2022*