Jeng-Yue (Buffett) Liu

📞 (412) 284-3635 🏠 [Buffett's-Website](#) ✉ buffettl@andrew.cmu.edu 💼 Jeng-Yue Liu 🐙 buffett0323

EDUCATION

Carnegie Mellon University Pittsburgh, PA
Master of Science in Artificial Intelligence and Innovation May 2027

- Current Coursework: Introduction to Computer Systems, Introduction to Machine Learning, Generative AI for Music and Audio.

National Taiwan University (NTU) Taipei, Taiwan
Bachelor of Business Administration in Information Management Jun 2025
Bachelor of Science in Geography

- Awards: Phi Tau Phi (top 1% of the school), Bachelor Degree Thesis Award, Presidential Award, Dean's List (2x).

SKILLS

Languages:	Python, C, C++, Java, JavaScript, TypeScript, R, SQL
Frameworks:	PyTorch, TensorFlow, Hugging Face, React, Next.js, FastAPI, Flask
Tools:	Docker, Kubernetes, Helm, Apache Spark, Airflow, Argo, Azure ML, MLflow, GitHub Actions, Linux, MCP, n8n, uv
Domains:	Software Development, CI/CD Pipeline, Generative Models, Diffusion, Music Information Retrieval, NLP, LLM, RAG

EXPERIENCE

Academia Sinica, Music and Audio Computing Lab Taipei, Taiwan
Research Assistant (Advised by Prof. Yi-Hsuan Yang & Prof. Li Su) Jan 2024 – Aug 2025

- Proposed a novel end-to-end **factorized codec** learning framework for timbre/style transfer models with information perturbation and supervision, achieving enhanced timbre-content-ADSR **disentanglement** for controllable synthesizer preset conversion and surpassing state-of-the-art synthesizer timbre transfer baselines with a multi-resolution STFT loss from 5.69 to **2.22**.

- Developed an audio-query music **source separation** system using band-split **Mamba2** with hypernetwork conditioning, enhancing timbre conditioning and boosting instrument-specific SNR by 7%.

Quid (Pioneer in AI-Driven Insights) Taipei, Taiwan
Machine Learning Engineer Intern Dec 2024 – Jun 2025

- Optimized search result similarity ranking and match scoring by integrating **DSPy modules** with **Chain Of Thought**, cutting prediction MSE from 0.17 to **0.03** using **MIPROv2**, and designed an LLM-based assessment module to automate summary/title generation, minimizing manual prompt tuning.

- Built and maintained **Kubernetes**-native CI/CD workflows with **Helm**, **Argo**, and **GitHub Actions** for in-house LLM services; authored Helm charts to define CanalTask and WorkflowTemplate objects, streamlining workflow automation.

- Coordinated a cross-team initiative to refine and deploy a **trend detection** module for TTCM celebrity social media data, boosting capture rate of rapidly emerging TikTok hashtags by **18%**.

RESEARCH PROJECT

InsightLink: Empowering News Analysis with Graph RAG and LLM Integration Remote
Capstone Project - NTU (Advised by Prof. Tzu-Fen Chang & Prof. Chia-Yen Lee) Dec 2023 – Dec 2024

- Directed collaboration with *California State University, Bakersfield* and a team of 6 to design a **GraphRAG**-based news analysis tool, leveraging **LLMs** for article summarization, AI-powered theme coding with multi-source perspectives, and interactive dashboards, cutting manual effort in social science research by **97%** [*GitHub*].

- Applied **NLP** techniques (LDA, NMF) to analyze attitude shifts in public sentiment related to the 2021 Atlanta spa shootings.

PUBLICATIONS

- **Jeng-Yue Liu**, Ting-Chao Hsu, Yen-Tung Yeh, Li Su, Yi-Hsuan Yang. "SynthCloner: Synthesizer Preset Conversion via Factorized Codec with Disentangled Timbre and ADSR Control". *Proc. International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 2026 (Under Review).

- **Jeng-Yue Liu**, Tzai-Hung Wen. "Trip-Purpose-Based Methods for Predicting Human Mobility's Next Location". *Annual Conference of the Population Association of Taiwan*, 2024.