

Jeng-Yue (Buffett) Liu

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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, Shell
Frameworks:	PyTorch, TensorFlow, Hugging Face, React, Next.js, FastAPI, Flask
Tools:	Docker, Kubernetes, Helm, PostgreSQL, Apache Spark, Airflow, Argo CD, LangChain, GitHub Actions, Linux, MCP
Domains:	Software Development, Generative Models, Music Information Retrieval, Diffusion, CI/CD Pipeline, NLP, LLM, RAG

EXPERIENCE

Academia Sinica	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 3.00 .	
• 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 Inc.	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 aligned with product requirements 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.	
• Refined the trend-prediction module with rigorous statistical criteria to capture volatile hashtags and filter persistent top ones, coordinating cross-team deployment of a trend-detection system that boosted TikTok hashtag capture by 18% .	

SELECTED PROJECTS

InsightLink: Empowering News Analysis with Graph RAG and LLM Integration	Remote
Capstone Project - NTU	Dec 2023 – Dec 2024
• Directed collaboration with <i>California State University, Bakersfield</i> 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 LDA and NMF to analyze shifts in public sentiment on the 2021 Atlanta spa shootings, supporting quantitative research.	
AgriTrade Optimizer++: Agriculture E-Commerce & Price Tracking Platform	Taipei, Taiwan
Software Development	Jun 2024 – Nov 2024
• Advanced to the IMV contest semifinals by leading a 3-person team to develop a digital transaction platform (TypeScript (React) , Node.js , MongoDB) and a Selenium crawler for real-time vegetable price tracking, improving fertilizer usage efficiency [GitHub].	

PUBLICATIONS

- **Jeng-Yue Liu**, et al., “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). [[arXiv](#).]
- **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. [[Bachelor’s Thesis](#)]