

# Jeng-Yue (Buffett) Liu

(412) 284-3635 | buffettl@andrew.cmu.edu | buffett0323-github-io.vercel.app | linkedin.com/in/buffettliu | github.com/buffett0323

## EDUCATION

<b>Carnegie Mellon University</b>	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.	
<b>National Taiwan University (NTU)</b>	Taipei, Taiwan
Bachelor of Business Administration in Information Management	Jun 2025
Bachelor of Science in Geography	
• Awards: Phi Tau Phi ( <b>top 1%</b> of the school), Bachelor Degree Thesis Award, Presidential Award, Dean's List (2x).	
<b>SKILLS</b>	
<b>Languages:</b>	Python, C, C++, Java, JavaScript, TypeScript, R, SQL, Shell
<b>Frameworks:</b>	PyTorch, TensorFlow, Hugging Face, React, Next.js, FastAPI, Flask
<b>Tools:</b>	Docker, Kubernetes, Helm, PostgreSQL, Apache Spark, Airflow, Argo CD, LangChain, GitHub Actions, Linux, MCP
<b>Domains:</b>	Software Development, Generative Models, Music Information Retrieval, Diffusion, CI/CD Pipeline, NLP, LLM, RAG

## EXPERIENCE

<b>Academia Sinica</b>	Taipei, Taiwan
Research Assistant (Advised by Prof. Yi-Hsuan Yang & Prof. Li Su)	Jan 2024 – Aug 2025
• Proposed a novel end-to-end <b>factorized codec</b> learning framework for timbre/style transfer models with information perturbation and supervision, achieving enhanced timbre-content-ADSR <b>disentanglement</b> for controllable synthesizer preset conversion and surpassing state-of-the-art synthesizer timbre transfer baselines with a multi-resolution STFT loss from <b>5.69</b> to <b>3.00</b> .	
• Developed an audio-query music <b>source separation</b> system using band-split <b>Mamba2</b> with hypernetwork conditioning, enhancing timbre conditioning and boosting instrument-specific SNR by <b>7%</b> .	
<b>Quid Inc.</b>	Taipei, Taiwan
Machine Learning Engineer Intern	Dec 2024 – Jun 2025
• Optimized search result similarity ranking and match scoring by integrating <b>DSPy modules</b> with <b>Chain Of Thought</b> , cutting prediction MSE from <b>0.17</b> to <b>0.03</b> using <b>MIPROv2</b> , and designed an LLM-based assessment module aligned with product requirements to automate <b>summary/title generation</b> , minimizing manual prompt tuning.	
• Built and maintained <b>Kubernetes-native CI/CD workflows</b> with <b>Helm</b> , <b>Argo</b> , and <b>GitHub Actions</b> 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 <b>trend-detection</b> system that boosted TikTok hashtag capture by <b>18%</b> .	

## SELECTED PROJECTS

<b>InsightLink: Empowering News Analysis with Graph RAG and LLM Integration</b>	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 <b>GraphRAG</b> -based news analysis tool, leveraging <b>LLMs</b> for article summarization, AI-powered theme coding with multi-source perspectives, and interactive dashboards, cutting manual effort in social science research by <b>97%</b> [ <a href="#">GitHub</a> ].	
• Applied <b>LDA</b> and <b>NMF</b> to analyze shifts in public sentiment on the 2021 Atlanta spa shootings, supporting quantitative research.	
<b>AgriTrade Optimizer++: Agriculture E-Commerce &amp; Price Tracking Platform</b>	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 ( <b>TypeScript (React)</b> , <b>Node.js</b> , <b>MongoDB</b> ) and a <b>Selenium</b> crawler for real-time vegetable price tracking, improving fertilizer usage efficiency [ <a href="#">GitHub</a> ].	

## PUBLICATIONS

• <b>Jeng-Yue Liu</b> , et al., “SynthCloner: Synthesizer Preset Conversion via Factorized Codec with Disentangled Timbre and ADSR Control”. <i>Proc. International Conference on Acoustics, Speech, and Signal Processing (ICASSP)</i> , 2026 (Under Review). [ <a href="#">arXiv</a> .]
• <b>Jeng-Yue Liu</b> , Tzai-Hung Wen, “Trip-Purpose-Based Methods for Predicting Human Mobility’s Next Location”. <i>Annual Conference of the Population Association of Taiwan</i> , 2024. [ <a href="#">Bachelor’s Thesis</a> ]