

Yueh-Po Peng

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Experience

AI Engineer Gate.io	Oct 2024 – Present Taipei, Taiwan (Remote)
• Developed a fund flows anomaly detection system with LLMs and tree-based models, enhancing financial security. • Built a Text-to-SQL system to streamline internal data queries, improving query efficiency by 20%.	
Research Assistant Institute of Information Science, Academia Sinica MCLAB Supervisor: Dr. Li Su	Mar 2022 – Oct 2024 Taipei, Taiwan
Research Topics: Self-Supervised Learning, Medical Imaging • Proposed a Transformer-based self-supervised learning method for decoding brain signals (fMRI), achieving an 77% reduction in memory footprint. • Conducted distributed training experiments on high-resolution 4D medical images (fMRI) using TWCC HPC. • Proposed a whole-brain feature selection method for decoding musical pitch from fMRI [2].	
AI Engineer Intern Tomofun - World's leading pet technology company	Mar 2023 – Jul 2024 Taipei, Taiwan
Research Topics: Computer Vision, Large Language Models, Multimodal Learning • Developed an automatic short music video generation system for daily pet clips. • Fine-tuned visual language models (e.g., BLIP), achieving a 20.6% improvement in visual question answering. • Enhanced LLaVA image inference speed by 250% with only a 3% accuracy reduction. • Developed APIs for visual language models using llama.cpp/ollama for image-caption pair datasets.	

Education

National Taiwan University	Feb 2023 – Jun 2024 Taipei, Taiwan
• M.S. in Data Science • Thesis topic: Whole-Brain Feature Selection Methods for Decoding from fMRI Data	
National Taiwan University	Sep 2019 – Jan 2022 Taipei, Taiwan
• B.S. in Computer Science and Information Engineering (CSIE)	

Research & Projects

Guitar Effect Removal	Collaboration with Positive Grid ML Team
• Proposed a two-stage method to remove distortion effects from guitar recordings using Positive Grid VST plugins. • Achieved 20% higher audio quality than the best baseline, rated by 26 professional guitarists. • Published in DAFX 2024 [1].	
Whole Brain fMRI Feature Selection	
• Proposed a two-stage method to extract fMRI features and predict musical pitch. • Demonstrated 2-fold improvement over ROI-based feature selection in fMRI-music analysis. • Published in ICASSP 2023 [2].	

Publications

[1] Lee, Y. S.*, Peng, Y. P.*., Wu, J. T., Cheng, M., Su, L., & Yang, Y. H. "Distortion Recovery: A Two-Stage Method for Guitar Effect Removal," Proc. Int. Conf. Digital Audio Effects 2024 (DAFx'24). (* equally contributed) Paper Demo
[2] Cheung, V. K.*., Peng, Y. P.*., Lin, J. H., & Su, L. "Decoding Musical Pitch from Human Brain Activity with Automatic Voxel-Wise Whole-Brain fMRI Feature Selection," Proc. IEEE Int. Conf. on Acoustics, Speech, and Signal Processing 2023 (ICASSP'23). (* equally contributed) Paper

Skills

- Languages/Frameworks:** Python, PyTorch, TensorFlow, Pandas, Scikit-learn, Slurm, Go, HTML, JavaScript, C++, C, Linux.

- **Skillset:** Machine Learning, Self-Supervised Learning, Medical Imaging, Computer Vision, Music Information Research, Distributed Training.