

# Yueh-Po Peng



## Experience

<b>AI Engineer</b> <b>Gate.io</b>	<b>Oct 2024 – Present</b> <b>Taipei, Taiwan (Remote)</b>
<ul style="list-style-type: none"><li>Developed a Text-to-SQL AI agent enabling non-technical teams to access internal data, boosting query efficiency by 20%.</li><li>Developed a fund flows anomaly detection system with LLMs and tree-based models, enhancing financial security.</li></ul>	
<b>Research Assistant</b> <b>Institute of Information Science, Academia Sinica   MCTLAB   Supervisor: Dr. Li Su</b>	<b>Mar 2022 – Oct 2024</b> <b>Taipei, Taiwan</b>
<b>Research Topics: Self-Supervised Learning, Medical Imaging</b> <ul style="list-style-type: none"><li>Proposed a Transformer-based self-supervised learning method for decoding brain signals (fMRI), achieving an 77% reduction in memory footprint.</li><li>Conducted distributed training experiments on high-resolution 4D medical images (fMRI) using TWCC HPC.</li><li>Proposed a whole-brain feature selection method for decoding musical pitch from fMRI [2].</li></ul>	
<b>AI Engineer Intern</b> <b>Tomofun - World's leading pet technology company</b>	<b>Mar 2023 – Jul 2024</b> <b>Taipei, Taiwan</b>
<b>Research Topics: Computer Vision, Large Language Models, Multimodal Learning</b> <ul style="list-style-type: none"><li>Developed an automatic short music video generation system for daily pet clips.</li><li>Fine-tuned visual language models (e.g., BLIP), achieving a 20.6% improvement in visual question answering.</li><li>Enhanced LLaVA image inference speed by 250% with only a 3% accuracy reduction.</li><li>Developed APIs for visual language models using llama.cpp/ollama for image-caption pair datasets.</li></ul>	

## Education

<b>National Taiwan University</b> <ul style="list-style-type: none"><li>M.S. in Data Science</li><li>Thesis topic: Whole-Brain Feature Selection Methods for Decoding from fMRI Data</li></ul>	<b>Feb 2023 – Jun 2024</b> <b>Taipei, Taiwan</b>
<b>National Taiwan University</b> <ul style="list-style-type: none"><li>B.S. in Computer Science and Information Engineering (CSIE)</li></ul>	<b>Sep 2019 – Jan 2022</b> <b>Taipei, Taiwan</b>

## Research & Projects

<b>Guitar Effect Removal</b> <ul style="list-style-type: none"><li>Proposed a two-stage method to remove distortion effects from guitar recordings using Positive Grid VST plugins.</li><li>Achieved 20% higher audio quality than the best baseline, rated by 26 professional guitarists.</li><li>Published in DAFx 2024 [1].</li></ul>	<b>Collaboration with Positive Grid ML Team</b>
<b>Whole Brain fMRI Feature Selection</b> <ul style="list-style-type: none"><li>Proposed a two-stage method to extract fMRI features and predict musical pitch.</li><li>Demonstrated 2-fold improvement over ROI-based feature selection in fMRI-music analysis.</li><li>Published in ICASSP 2023 [2].</li></ul>	

## Publications

<b>[1]</b> Lee, Y. S.*, <b>Peng, Y. P.*</b> , 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). (* <b>equally contributed</b> ) <b>Paper</b>   <b>Demo</b>	
<b>[2]</b> Cheung, V. K.*, <b>Peng, Y. P.*</b> , 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). (* <b>equally contributed</b> ) <b>Paper</b>	

## Skills

- Languages/Frameworks:** Python, PyTorch, TensorFlow, Pandas, Scikit-learn, Slurm, Go, HTML, JavaScript, C++, C, Linux.
- Skillset:** Self-Supervised Learning, Medical Imaging, Computer Vision, Music Information Research, Distributed Training.