

# Yueh-Po Peng



## Experience

### AI Engineer

Gate.io

Oct 2024 – Present  
Taipei, Taiwan (Remote)

### Research Assistant

Institute of Information Science, Academia Sinica | MCTLAB | Supervisor: Dr. Li Su

Mar 2022 – Oct 2024  
Taipei, Taiwan

#### Research Topics: Self-Supervised Learning, Medical Imaging

- Surveyed end-to-end self-supervised learning methods for decoding mental states from fMRI data.
- 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

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

- M.S. in Data Science
- Thesis topic: Whole-Brain Feature Selection Methods for Decoding from fMRI Data

Feb 2023 – Jun 2024  
Taipei, Taiwan

### National Taiwan University

- B.S. in Computer Science and Information Engineering (CSIE)

Sep 2019 – Jan 2022  
Taipei, Taiwan

## 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, Flask, HTML, JavaScript, C++, C, Linux.
- **Skillset:** Machine Learning, Self-Supervised Learning, Medical Imaging, Music Information Research, Distributed Training.