Yueh-Po Peng

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Experience

Senior Machine Learning Engineer   **Jul 2025 – Present**
Gamania Digital Entertainment   **Taipei, Taiwan**

Visiting Researcher   **Jun 2025 – Oct 2025**
Sony Computer Science Laboratories (Sony CSL)   **Tokyo, Japan (Hybrid)**

AI Engineer   **Oct 2024 – May 2025**
Gate.io   **Taipei, Taiwan (Remote)**

- Developed a Text-to-SQL AI agent enabling non-technical teams to access internal data, boosting query efficiency by 20%.
- Developed a fund flows anomaly detection system with LLMs and tree-based models, enhancing financial security.

Research Assistant   **Mar 2022 – Oct 2024**
Institute of Information Science, Academia Sinica | **MCTLAB** | **Supervisor: Dr. Li Su**   **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 [5].

AI Engineer Intern   **Mar 2023 – Jul 2024**
Tomofun - **World's leading pet technology company**   **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**
- M.S. in Data Science   **Taipei, Taiwan**
- Thesis topic: Whole-Brain Feature Selection Methods for Decoding from fMRI Data

National Taiwan University   **Sep 2019 – Jan 2022**
- B.S. in Computer Science and Information Engineering (CSIE)   **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 [4].

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 [5].

Publications

[1] Wang, T. K.*, **Peng, Y. P.***, Su, L., & Cheung, V. K. M. "VioPTT: Violin Technique-Aware Transcription from Synthetic Data Augmentation," Proc. IEEE Int. Conf. on Acoustics, Speech, and Signal Processing 2026 (ICASSP'26). **(* equally contributed)** Paper

[2] **Peng, Y. P.***, Wang, T. K.*, Su, L., & Cheung, V. K. M. "Is Transfer Learning Necessary for Violin Transcription?," Int. Society for Music Information Retrieval Conf. 2025 (ISMIR'25) - Late Breaking/Demo. **(* equally contributed)** Paper

[3] **Peng, Y. P.**, Cheung, V. K. M., & Su, L. "Whole-Brain Transferable Representations from Large-Scale fMRI Data Improve Task-Evoked Brain Activity Decoding," arXiv preprint arXiv:2507.22378, 2025. **Paper**

[4] 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

[5] 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**: Self-Supervised Learning, Medical Imaging, Computer Vision, Music Information Research, Distributed Training.