HSIAO-TZU HUNG

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EDUCATION

National Taiwan University	*March 2020 - Feb. 2022*

M.S @ Computer Science (Focus: DL) | Advisor: Dr. Yi-Hsuan Yang & Prof. Roger Jang

National Tsing Hua University	*September 2010 – June 2014*

B.S @ Physics

COURSES AND PROGRAMMING SKILLS

Engineering: Python, Git, Linux Shell Script, C++, Perl
AI/ML: PyTorch, TensorFlow, Scikit-learn
Data Visualization: Matplotlib, seaborn
User Interface: PyQt5
Fullstack : Flask, HTML, Docker, MongoDB
Course: Algorithm Design and Analysis, Operating System, Computer Architecture, Machine Learning, Deep Learning for Computer Vision

WORK EXPERIENCE

MediaTek, Taiwan	**Aug 2022 - current**
Machine Learning Develop Engineer	*Skill: Python, PyTorch, Perl*

· Collaborate with the hardware design verification team to optimize the IC design flow with machine learning techniques. The deployed ML-based model saved **20%** simulation time.

Amazon Ring, Taiwan	**June 2021 - Aug. 2021**
Acoustic Engineering Intern	*Skill: PyTorch, Audio Signal Processing, C++, PyQt5*

· Implemented a Deep CNN-Self-Attention Model for automatic audio quality assessment

Research Center for IT Innovation, Academia Sinica, Taiwan	**March 2020 - Feb. 2022**
Part-time Machine Learning Research Assistant	

Proposed EMOPIA, an emotion-controlled piano music generation model based on a Transformer framework, published in ISMIR 2021[1](acceptance rate: 40% - 50%), incorporated with the team in KAIST, Korea

Taiwan AI Labs, Taiwan	**Feb. 2019 – Feb. 2020**
Full-time Machine Learning Research Internship	*Skill: Python, Docker, MongoDB*

· Crafted RNN-based VAE Jazz melody generation models; Investigated Multi-tasking and Fine-tuning techniques to deal with small-sized dataset[2]
· Applies the VQ-VAE model to the music emotion recognition task[3]
· Created and maintained a dataset with **200,000+** songs.

Institute of Information Science, Academia Sinica, Taiwan	**July 2018 – July 2019**
Full-time Research Assistant; supervised by Dr. Hsin-Min Wang	

· Acquired hands-on experiences in speech processing and natural language processing

PUBLICATIONS

1. Hsiao-Tzu Hung, Joann Ching, Seungheon Doh, Nabin Kim, Juhan Nam and Yi-Hsuan Yang, EMOPIA: A Multi-Modal Pop Piano Dataset For Emotion Recognition and Emotion-based Music Generation, in *Proc. International Society for Music Information Retrieval* (ISMIR), 2021.

2. Hsiao-Tzu Hung, Chung-Yang Wang, Yi-Hsuan Yang, Hsin-Min Wang, "Improving automatic Jazz melody generation by transfer learning techniques," in *Proc. Asia Pacific Signal and Information Processing Association Annual Summit and Conference* (APSIPA ASC), 2019.

3. Hsiao-Tzu Hung, Yu-Hua Chen, Maximilian Mayer,Michael Vtter, Eva Zangerle, Yi-Hsuan Yang "MediaEval 2019 Emotion and Theme Recognition task: A VQ-VAE based approach", in *Proc. MediaEval Benchmarking Initiative for Multimedia Evaluation* (MediaEval), 2019.

SOFT SKILL

Ownership. I consider myself to be a good team player and have being part of diverse projects with a variety of people.(See Publications [1,3])

Good communication skills. Developed through my teaching career. Students think I am a good lecturer that deliver concepts that are easy to understand.

Bias for Action and Adaptability. Specially strengthened when I switch my career to computer science.