HSIAO-TZU HUNG

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Currently a first-year graduate student in computer science. Has two-year full-time experience in deep learning research, with two first-author publications. Currently supervised by Dr. Yi-Hsuan Yang and Dr. Jyh-Shing Roger Jang, doing research on automatic music generation using NLP techniques. An extremely communicative person, an independent researcher and also a team player.

EDUCATION

National Taiwan University *Start from March 2020*
M.S @ Computer Science
National Tsing Hua University *September 2010 – June 2014*
B.S @ Physics

PROGRAMMING SKILLS

Machine learning: Python, PyTorch, TensorFlow, Scikit-Learn
Engineering: Git, Linux, MongoDB, Docker, verilog, C++

WORK EXPERIENCE

Research Center for IT Innovation, Academia Sincia, Taiwan Start from March 2020
Part-time Machine Learning Research Assistant; supervised by Dr. Yi-Hsuan Yang

· Building an emotion-based automatic piano composition model using self-attention based Transformers, within a joint project with Dr. Juhan Nam's group at KAIST, South Korea.

Taiwan AI Labs, Taiwan Feb. 2019 – Feb. 2020
Full-time Machine Learning Research Internship

· Investigated means to speed up Transformer-based language models for music generation.
· Built RNN-based Jazz melody generation models; investigated two different transfer learning techniques for pretrain/fine-tuning for improving the diversity of the generated music; published a paper.
· Wrote a crawler and compiled a dataset with 200,000+ songs.
· Investigated various deep learning architectures to classify music by emotion automatically; learned to deal with data imbalanced issues in multi-label classification; published a paper.

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

· Acquired hands-on experience in automatic music generation using recurrent neural nets (RNNs).
· Acquired hands-on experiences in speech processing and natural language processing.
· Acquired general understanding about audio processing.

PUBLICATIONS

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.

Hsiao-Tzu Hung, Yu-Hua Chen, Maximilian Mayer,Michael Vötter, 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.