HSIAO-TZU HUNG

✉ hsiaotzuhung@gmail.com | 📱 0934457497 | in HSIAO-TZU HUNG | 🖥 Personal page

WORK EXPERIENCE

MediaTek   **Aug 2022 - May 2024**
Deep Learning Engineer (Machine Learning Engineer Equivalent)   Hsinchu, Taiwan
- Developed and maintained a scalable in-house fine-tuning API for Large Language Models (LLM), tailored to the organization's unique requirements. This tool was effectively utilized for over 3 code-related and language-understanding fine-tuning tasks, optimizing performance and integration within existing systems.
- Collaborated with the in-house hardware R&D team to streamline workflows using deep learning methods, including Graph Neural Networks for classification and anomaly detection. These implementations are projected to enhance work efficiency by at least 20%.

Amazon Ring   **June 2021 - Aug. 2021**
Acoustic Engineering Internship   Taipei, Taiwan
- Accelerated acoustic component development by creating an application with a user interface, a deep learning-based Model for automatic audio quality assessment, and a root-cause classification model. This innovation reduced the verification process time from 1 day to 10 minutes.

Research Center for IT Innovation, Academia Sinica   **March 2020 - Feb. 2022**
Machine Learning Research Assistant   Taipei, Taiwan
- Led a team in collaboration with a team from KAIST, Korea, to curate a multi-modal piano music dataset with emotion labels, resulting in 51 citations and 1k downloads by October 2023.

Taiwan AI Labs   **Feb. 2019 - Feb. 2020**
Full-time Machine Learning Research Internship   Taipei, Taiwan
- Developed advanced artificial intelligence techniques, including investigating the multi-tasking and fine-tuning methods, to enhance the Jazz piano music generation with small datasets.

SKILLS

AI/ML PyTorch, TensorFlow, DeepSpeed, Hugging Face, Matplotlib, Scikit-learn, MLflow

Engineering Python, pytest, Git, Docker, Linux Shell Script, bsub, C++

EDUCATION

National Taiwan University | *Master of Computer Science*   **Feb. 2022**
- Advised by Prof. Yi-Hsuan Yang & Prof. Jyh-Shing Roger Jang
- Master's Thesis: Emotion-Conditioned Piano Music Generation Using Compound Word Transformer. Abstract: An emotion-conditioned piano music generation model using Transformer with customized data representation, showcased at the international conference ISMIR 2021 with 17% emotion control accuracy and 13% overall quality enhancement.
- Courses:
  Foundation: Algorithm Design and Analysis, Operating System, Computer Architecture
  AI/ML: Deep Learning for Computer Vision, Machine Learning, Advanced Topics in Multimedia Analysis and Indexing

National Tsing Hua University | *Bachelor of Physics*   **June 2014**

PUBLICATIONS

- **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.
- **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.