Hsiao Wen Yi

s101062219@gmail.com Linkedin Github
Google Schalor

I am a research engineer in Audio/Music/CV/DSP with strong knowledge in AI/ML/DL.
I do **research (>1K citations)**, and love to code and share **(>2.5K stars on Github)**.

Expertise - Music Information Research (MIR): Generation, Synthesis, Separation, Transcription.
Expertise - Computer Vision (CV): Talking Photo Generation, Lipsync.

Work Experiences

2023.02 – Present **Research Engineer (Senior)**, Taiwan AILabs
2019.04 – 2023.02 **Research Engineer**, Taiwan AILabs

Education

2022 – 2023 **Ph.D. Communication Engineer, National Taiwan University**, stopped.
Advisor: Yi-Hsuan Yang

2016 – 2018 **M.Sc. Computer Science, National Tsing Hua University**.
Thesis: *Automatic Symbolic Music Generation Based on Convolutional GANs*.
Advisor: Yi-Hsuan Yang

2012 – 2016 **B.Sc. Computer Science, National Tsing Hua University**.

Publications

Conference Proceedings

1. Y. H. Lan, **W. Y. Hsiao**, and et al., "Musicongen: Rhythm and chord control for transformer-based text-to-music generation," in *Proceedings of International Society on Music Information Retrieval (ISMIR)*, 2024. URL: https://arxiv.org/html/2407.15060v1.
2. Y. T. Yeh, **W. Y. Hsiao**, and et al., "Hyper recurrent neural network: Condition mechanisms for black-box audio effect modeling," in *Proceedings of International Conference on Digital Audio Effects (DAFX)*, 2024.
3. Y. Chen, **W. Y. Hsiao**, and et al., "Towards automatic transcription of polyphonic electric guitar music: A new dataset and a multi-loss transformer model," in *Proceedings of E Int. Conf. Acoustics, Speech and Signal Processing (ICASSP)*, 2022. URL: https://arxiv.org/abs/2202.09907.
4. **W. Y. Hsiao**, D. Y. Wu, and et al., "DDSP-based singing vocoders: A new subtractive-based synthesizer and a comprehensive evaluation," in *Proceedings of International Society on Music Information Retrieval (ISMIR)*, 2022. URL: https://arxiv.org/abs/2208.04756.
5. C. Y. Chiu, J. Ching, **W. Y. Hsiao**, and et al., "Source separation-based data augmentation for improved joint beat and downbeat tracking," in *Proceedings of European Signal Processing Conference (EUSIPCO)*, 2021. URL: https://arxiv.org/abs/2106.08703.
6. **W. Y. Hsiao** and et al., "Compound word transformer: Learning to compose full-song music over dynamic directed hypergraphs," in *Proceedings of AAAI Conf. Artificial Intelligence (AAAI)*, 2021. URL: https://arxiv.org/abs/2101.02402.
7. Y. H. Chen, Y. S. Huang, **W. Y. Hsiao**, and et al., "Automatic composition of guitar tabs by transformers and groove modeling," in *Proceedings of International Society on Music Information Retrieval (ISMIR)*, 2020. URL: https://arxiv.org/pdf/2008.01431.

8. C. Y. Chiu, **W. Y. Hsiao**, and et al., "Mixing-specific data augmentation techniques for improved blind violin/piano source separation," in *IEEE Int. Workshop on Multimedia Signal Processing (MMSP)*, 2020. URL: https://arxiv.org/abs/2008.02480.

9. **W. Y. Hsiao**, H. W. Dong, and et al., "Musegan: Multi-track sequential generative adversarial networks for symbolic music generation and accompaniment," in *Proceedings of AAAI Conf. Artificial Intelligence (AAAI)*, 2018. URL: https://arxiv.org/abs/1709.06298.

Journal Articles

1. Y. C. Yeh, **W. Y. Hsiao**, and et al., "Automatic melody harmonization with triad chords: A comparative study," *Journal of New Music Research*, 2019. URL: https://arxiv.org/abs/2001.02360.

Skills

Languages	English, Chinese
Coding	Python: Pytorch, Tensorflow C++: JUCE, Eigen, Libtorch
System	Git, Docker, k8s

Miscellaneous Experience

Peer Review Experience

- 2018 Helping Paper Review@ACM Multimedia (ACMMM)
- Helping Paper Review@International Conference on Multimedia and Expo (IEEE ICME)
- Helping Journal Review@Neural Computing and Applications (NCAA)

Awards and Achievements

- 2022 **Performance**, Beethoven - Piano Concerto No.3
- 2021 **Performance**, Kapustin - Concert Etude Op.40 No.6
- 2018 **Silver Award**, 9th Merry Electronics Master Thesis Award
- 2014 **Vice Director of Piano Club**

Open Source Projects

- 1.8k stars **MuseGAN**, Official Repository for AAAI18 Paper
- 265 stars **Compound Word Transformer**, Official Repository for AAAI21 Paper
- 248 stars **DDSP Singing Vocoders**, Official Repository for ISMIR22 Paper
- 226 stars **Miditoolkit**, Popular Python Package (used by >300 projects) for Handling MIDI IO
- 128 stars **Symbolic Musical Datasets**, A Collection of Symbolic Music Dataset in Various Formats
- 108 stars **Lead Sheet Dataset**, A Collection of Lead Sheet Dataset in Various Formats
- 94 stars **ReaRender**, A Python Package for Automatic Rendering using REAPER
- 52 stars **SF Segmenter**, A Python Package for Structure Analysis

Products and Internal Projects

- AI Music Platform - **Yating Studio**
- AI Avatar - **Yating Virtual Anchor**