

Yun-Ning (Amy) Hung

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Current Status

Position

Jan 2024 – present

Lead Scientist @ Moises

Research Interest

Music Information Retrieval, Audio Separation

Education

Georgia Institute of Technology

Sep 2019 – Dec 2021

M.S. in Music Technology

Atlanta, GA, USA

Advisors: [Prof. Alexander Lerch](#)

National Cheng Kung University

Sep 2021 – Jun 2016

B.S. in Electrical Engineering

Tainan, Taiwan

University of Wisconsin-Madison

Sep 2015 – Dec 2015

UW-Madison Exchange Program

Madison, WI, USA

Professional Experience

TikTok Inc

Mar 2022 - Jan 2024

Research Engineer

San Jose, CA, USA

- Research and develop music information retrieval (MIR) systems, including beat tracking, chord recognition, structure analysis, transcription, and source separation.
- Conduct research on representation learning and weakly supervised methods for MIR applications.

TikTok Inc.

May 2021 - Aug 2021

Research Intern

Remote

Advisor: [Ju-Chiang Wang](#)

- Develop transformer-based architectures for music structure analysis and beat/downbeat detection.

Netflix

Aug 2020 - Dec 2020

Audio Algorithm Intern

Remote

Advisor: Aaron Hipple and [Chih-Wei Wu](#)

- Main contributor to a large-scale (~1600 hr) audio dataset for speech/music detection in production TV shows.
- Developed a robust speech/music detection system.

Georgia Institute of Technology

Aug 2019 - Dec 2021

Research Assistant

Atlanta, CA, USA

Advisor: [Prof. Alexander Lerch](#)

- Developed three novel deep learning models for automatic musical performance assessment.

Mitsubishi Electric Research Laboratories (MERL)

May 2020 - Sep 2020

Research Intern

Boston, MA, USA

Advisor: [Gordon Wichern](#), [Jonathan Le Roux](#)

- Proposed and developed novel source separation frameworks leveraging weak supervision.

Academia Sinica

June 2017 - June 2019

Research Assistant

Taipei, Taiwan

Advisor: [Prof. Yi-Hsuan Yang](#)

- Developed a frame-level instrument detection system and extended it to multi-instrument transcription and instrumentation style transfer.

- Analyzed large-scale music and lyrics data from a streaming platform to develop a music classification system.
- Developed style transfer systems to support controllable AI music generation tools.

Publications

🔗 [Google Scholar ID: 2BhJwLsAAAAJ](#)

Conference Papers

Yun-Ning Hung, Richard Vogl, Filip Korzeniowski, Igor Pereira, “Diff-VS: Efficient Audio-Aware Diffusion U-Net for Vocals Separation,” *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2026

Yun-Ning Hung, Igor Pereira, Filip Korzeniowski, “Moises-Light: Resource-efficient Band-split U-Net For Music Source Separation,” *IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA)*, 2025

Genís Plaja-Roglans, **Yun-Ning Hung**, Xavier Serra, Igor Pereira, “Efficient and fast generative-based singing voice separation using a latent diffusion model,” *International Joint Conference on Neural Networks (IJCNN)*, 2025

Genís Plaja-Roglans, **Yun-Ning Hung**, Xavier Serra, Igor Pereira, “Generating Separated Singing Vocals Using a Diffusion Model Conditioned on Music Mixtures,” *IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA)*, 2025

Minz Won, **Yun-Ning Hung**, Duc Le, “A foundation model for music informatics,” *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2024

Wei-Tsung Lu, Ju-Chiang Wang, Qiuqiang Kong, **Yun-Ning Hung**, “Music source separation with band-split rope transformer,” *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2024

Yun-Ning Hung, Chao-Han Huck Yang, Pin-Yu Chen, Alexander Lerch, “Low-resource music genre classification with cross-modal neural model reprogramming,” *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2023

Wei-Tsung Lu, Ju-Chiang Wang, **Yun-Ning Hung**, “Multitrack music transcription with a time-frequency perceiver,” *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2023

Yun-Ning Hung, Alexander Lerch, “Feature-informed Embedding Space Regularization For Audio Classification,” *European Signal Processing Conference (EUSIPCO)*, 2022

Yun-Ning Hung, Ju-Chiang Wang, Xuchen Song, Wei-Tsung Lu, Minz Won, “Modeling beats and downbeats with a time-frequency transformer,” *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2022

Ju-Chiang Wang, **Yun-Ning Hung**, Jordan BL Smith, “To catch a chorus, verse, intro, or anything else: Analyzing a song with structural functions,” *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2022

Yun-Ning Hung, Alexander Lerch, “Feature-informed Latent Space Regularization for Music Source Separation,” *International Conference on Digital Audio Effects (DAFx)*, 2022

Yun-Ning Hung, Gordon Wichern, Jonathan Le Roux, “Transcription is all you need: Learning to separate musical mixtures with score as supervision,” *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2021

Yun-Ning Hung, Alexander Lerch, “Multitask learning for instrument activation aware music source separation,” *International Society for Music Information Retrieval Conference (ISMIR)*, 2020 ,

Jiawen Huang, **Yun-Ning Hung**, Ashis Pati, Siddharth Kumar Gururani, Alexander Lerch, “Score-informed networks for music performance assessment,” *International Society for Music Information Retrieval Conference (ISMIR)*, 2020

Yun-Ning Hung, I Chiang, Yi-An Chen, Yi-Hsuan Yang, “Musical composition style transfer via disentangled timbre representations,” *International Joint Conferences on Artificial Intelligence (IJCAI)*, 2019

Yun-Ning Hung, Yi-An Chen, Yi-Hsuan Yang, “Multitask learning for frame-level instrument recognition,” *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2019

Yun-Ning Hung, Yi-Hsuan Yang, “Frame-level instrument recognition by timbre and pitch,” *International Society for Music Information Retrieval Conference (ISMIR)*, 2018

Journal Paper

Yun-Ning Hung, Chih-Wei Wu, Iro-ro Orife, Aaron Hipple, William Wolcott, Alexander Lerch, “A large TV dataset for speech and music activity detection,” *EURASIP Journal on Audio, Speech, and Music Processing*, 2022

Demo Papers

Karn Watcharasupat, Jo Chung, Yonghyun Kim, **Yun-Ning Hung**, Fabian-Robert Stöter, “The Secret Source: Supporting the Artists Whose Works Have Made Our Works Possible,” *ISMIR Late-Breaking Demos*, 2025

Tzu-Hung Huang, Yun-En Tsai, Chih-Wei Wu, I-Chieh Wei, Li Su, **Yun-Ning Hung**, “Timed text extraction from Taiwanese kua-á-hì TV series,” *ISMIR Late-Breaking Demos*, 2025

Martin Kukla, Minz Won, **Yun-Ning Hung**, Duc Le, “MusT3: Unified Multi-Task Model for Fine-Grained Music Understanding,” *NeurIPS Machine Learning for Audio Workshop*, 2023

Ju-Chiang Wang, Jordan BL Smith, **Yun-Ning Hung**, “MuSFA: Improving music structural function analysis with partially labeled data,” *ISMIR Late-Breaking Demos*, 2022

Yun-Ning Hung, Karn N Watcharasupat, Chih-Wei Wu, Iro-ro Orife, Kelian Li, Pavan Seshadri, Junyoung Lee, “AVASpeech-SMAD: A Strongly Labelled Speech and Music Activity Detection Dataset with Label Co-Occurrence,” *ISMIR Late-Breaking Demos*, 2021

Nonrefereed Papers

Yun-Ning Hung, Ju-Chiang Wang, Minz Won, Duc Le, “Scaling up music information retrieval training with semi-supervised learning,” *arXiv preprint arXiv:2310.01353*, 2023

Kin Wai Cheuk, Keunwoo Choi, Qiuqiang Kong, Bochen Li, Minz Won, **Yun-Ning Hung**, Ju-Chiang Wang, Dorien Herremans, “Jointist: Joint learning for multi-instrument transcription and its applications,” *arXiv preprint arXiv:2206.10805*, 2022

Yun-Ning Hung, Chao-Han Huck Yang, Pin-Yu Chen, Alexander Lerch, “Low-Resource Music Genre Classification with Advanced Neural Model Reprogramming,” *arXiv preprint arXiv:2211.01317*, 2022

Yun-Ning Hung, Yi-An Chen, Yi-Hsuan Yang, “Learning disentangled representations for timbre and pitch in music audio,” *arXiv preprint arXiv:1811.03271*, 2018

Lang-Chi Yu, Yi-Hsuan Yang, **Yun-Ning Hung**, Yi-An Chen, “Hit song prediction for pop music by siamese cnn with ranking loss,” *arXiv preprint arXiv:1710.10814*, 2017

Patent

Wei Tsung Lu, Ju-Chiang Wang, **Yun-Ning Hung**, “Implementing automatic music audio transcription,” , 2024

Yun-Ning Hung, Ju-Chiang Wang, Mojtaba Heydari, “Tracking beats and downbeats of voices in real time,” , 2024

Ju-Chiang Wang, **Yun-Ning Hung**, Jordan Smith, “Neural network model for audio track label generation,” , 2023

Invited Talks

- “Music Information Retrieval with Music.AI,” *University of Michigan PAT seminar*, 2024
- “Music Information Retrieval with Music.AI,” *University of Miami Music Engineering Forum*, 2024
- “Scaling up music information retrieval training with semi-supervised and self-supervised approaches,” *University of California San Diego Music AI Reading Group*, 2024
- “Scaling up music information retrieval training with semi-supervised and self-supervised approaches,” *BISHBash*, 2024
- “Multi-task learning model for multi-pitch streaming and music style transfer,” *6th Taiwanese Music and Audio Computing workshop*, 2019

Professional Services

- Late-Breaking/Demo Chairs:** [International Society for Music Information Retrieval \(ISMIR\)](#) 2025
- Diversity and Inclusion Chairs:** [IEEE Workshop on Applications of Signal Processing to Audio and Acoustics \(WASPAA\)](#) 2025
- Organizer:** [WIMIR/WiMIR Mentoring Program](#) 2023 - 2026
- Conference Reviewer:**
- IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2023
 - IEEE International Conference on Multimedia and Expo (ICME) 2022
 - International Society for Music Information Retrieval Conference (ISMIR) 2023-
 - INTERSPEECH 2024-
 - NeurIPS 2025 Workshop on AI for Music 2025
 - International Joint Conference on Neural Networks (IJCNN) 2023-2025
 - IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA) 2025-
- Journal Reviewer:**
- IEEE Transactions on Audio, Speech and Language Processing (TASLP) 2020-

Award

- Government Scholarship to Study Abroad**, Ministry of Education, Taiwan 2020-2021
- WIMIR Travel Grant**, International Society for Music Information Retrieval Conference 2018
- Study Abroad Scholarship**, Electrical Engineering Department, National Cheng Kung University 2015
- Academic Excellence Award**, (Top 10% students), National Cheng Kung University 2013 - 2014