Yi-Hsuan Yang (楊奕軒)^{1,2}

- 1 Professor Department of Electrical Engineering National Taiwan University
- 2 Joint-Appointed Research Fellow Research Center for Information Technology Innovation (CITI), Academia Sinica

EE2-337, Department of Electrical Engineering, National Taiwan University, Taipei 106, Taiwan https://affige.github.io/ https://scholar.google.com/citations?user=OL-XGxcAAAAJ&hl=zh-TW affige@gmail.com

EXPERTISE

Music information research; Artificial intelligence; Machine learning; Music generation

EDUCATION

 Ph.D., Communication Engineering, National Taiwan University, Taiwan 	2010
 B.S., Electrical Engineering, National Taiwan University, Taiwan 	2006

WORK EXPERIENCES

Full Professor, Dept. Electrical Engineering, National Taiwan University s	ince 2023/02
Joint-Appointment Researcher, Research Center for IT Innovation, Academia Sinica	ince 2023/08
Chief Music Scientist, Taiwan Al Labs	2019-2023
Associate Research Professor, Research Center for IT Innovation, Academia Sinica	2015-2023
 Joint-Appointment Associate Professor, CSIE, National Cheng Kung University 	2017-2019
 Adjunct Associate Professor, CSIE, National Tsing-Hua University 	2016
Assistant Research Professor, Research Center for IT Innovation, Academia Sinica	2011-2015
 Visiting Scholar (three months), Columbia University, USA 	2013
• Visiting Scholar (three months), Music Technology Group, Universitat Pompeu Fabra, Spair	n 2011
• Second Lieutenant (one year), Communications, Electronics and Information, ROC Army	2010-2011

AWARDS & HONORS

NTU-Fubon Distinguished Chair Professorship Award	2023
Multimedia Rising Stars Award, IEEE International Conference on Multimedia Expo. (ICME)	2019
 Best Associate Editor Service Award, IEEE Transactions on Multimedia 	2018
• Best Conference Paper Award, IEEE Multimedia Communications Technical Committee (MMTC)	2015
 Best Paper Award, IEEE International Conference on Multimedia Expo. (ICME) 	2015
• Young Scholars' Creativity Award, Foundations for the Advancement of Outstanding Scholarship	2015

 Ta-You Wu Memorial Research Award, Ministry of Science and Technology 	2014
 Best Poster Award, IEEE/ACM Joint Conference on Digital Libraries 	2014
 Project for Excellent Junior Research Investigators, National Science Council 	2013-2016
Career Development Award, Academia Sinica	2013-2017
Pan Wen Yuan Research Exploration Award	2013
First Prize, ACM Multimedia Grand Challenge	2012
 IEEE SPS Young Author Best Paper Award, IEEE Signal Processing Society 	2011
Best Ph.D. Dissertation Award, Graduate Institute of Communication Engineering, NTU	2010
Best Ph.D. Dissertation Award, TAAI (Taiwanese Association for Artificial Intelligence)	2010
MediaTek Fellowship	2009
Microsoft Research Asia (MSRA) Fellowship	2008

SELECTED RECENT PUBLICATIONS

- "MuseMorphose: Full-song and fine-grained piano music style transfer with just one Transformer VAE," *TASLP* 2023.
- "Relative positional encoding for Transformers with linear complexity," ICML 2021.
- "Compound Word Transformer: Learning to compose full-song music over dynamic directed hypergraphs," *AAAI* 2021.
- "Pop Music Transformer: Beat-based modeling and generation of expressive Pop piano compositions," *ACM Multimedia* 2020.
- "Dilated convolution with dilated GRU for music source separation," IJCAI 2019.
- "Musical composition style transfer via disentangled timbre representations," IJCAI 2019.
- "Score-to-audio music generation with multi-band convolutional residual network," AAAI 2019.
- "Learning to recognize transient sound events using attentional supervision," IJCAI 2018.
- "MuseGAN: Multi-track sequential GAN for symbolic music generation and accompaniment," AAAI 2018.
- "Generating music medleys via playing music puzzle games," AAAI 2018
- "MidiNet: A convolutional GAN for symbolic-domain music generation," ISMIR 2017
- Music Emotion Recognition, CRC Taylor & Francis Books, Feb. 2011.

ACADEMIC SERVICES

2016/9-2019/2
2016/11-2019/2
since 2017
2014
2015

IEEE Transactions on Affective Computing	2014
10K Award Committee Member of	
IEEE International Conference on Multimedia and Expo. (ICME)	2016-2018
Tutorial Chair of	
Int. Society for Music Information Retrieval Conference (ISMIR)	2021
Unconference Chair of	
Int. Society for Music Information Retrieval Conference (ISMIR)	2017
External PhD thesis committee member of	
Hong Kong University of Science and Technology	2015
Senior PC Member (Meta-reviewer) of	
AAAI 2022, ISMIR 2021,etc	
Organizer of	
Int. Workshop on Affect and Sentiment in Multimedia, in conjunction with ACM MM	2015
MediaEval Affect Task: Music in Emotion	2013-2015
MIREX Singing Voice Separation Task	2014-2015
Int. Workshop on Affective Analysis in Multimedia, in conjunction with IEEE ICME	2013
Taiwanese Workshop on Music Information Retrieval	2012-2014

PROJECTS

 Controllable and Playable Music Generation 	Google Gift 2024
• Human-level and Open-Source Mandarin Pop Music Melody and Singing G	Generation by AI
	MOST 2023-2025
 Open DJ Project (II): Automatic EDM Generation 	MOST 2020-2022
GenMusic Project: Industrial AI-Powered Music Composition Platform	MOST 2018-2020
 Open DJ Project: AI for Automatic and Personalized DJing 	MOST 2018-2020
 A Unified Framework for Processing and Understanding Heterogeneous Da Recommendation (co-PI) 	ata for Intelligent MOST 2017-2020
 Product Recommendation and Customer Status Prediction 	Cathay 2017-2018
Online Guitar Transcription: Melody, Chord and Playing Techniques Recog	nition MOST 2016-2018
Mobile Music Recommendation using Brain-Computer Interfaces	MOST 2015-2018
User-centered Intelligent Music Streaming and Recommendation Platform	(III) KKBOX Inc., 2017-2019
User-centered Intelligent Music Streaming and Recommendation Platform	(II) KKBOX Inc., 2015-2017
User-centered Intelligent Music Streaming and Recommendation Platform	KKBOX Inc., 2013-2015
User Preference Modeling from Listening History & Artist Similarity	KKBOX Inc., 2012-2013
 Music Recommendation based on Listening Context 	HTC Inc., 2012
 Dictionary-based Music Signal Analysis, Understanding, and Retrieval 	Academia Sinica, 2013-2017
 Automatic Music Recommendation and Retrieval 	MOST 2013-2016

Dictionary-based Multipitch Estimation of Polyphonic Music

• Large-scale Music Emotion Recognition System using Social Media

TUTORIALS

- Hao-Wen Dong and Yi-Hsuan Yang, "Generating Music with GANs: An Overview and Case Studies," Int. Society for Music Information Retrieval Conference (ISMIR), 2019 (link).
- Xiao Hu and **Yi-Hsuan Yang**, "Music Affect Recognition: The State-of-the-art and Lessons Learned," Int. Society for Music Information Retrieval Conference (ISMIR), 2012.

STUDENT AWARDS

 Yi-Jen Shih, 1st Prize, Bachelor Thesis Award, Dept. of EE, NTU 	2022
• Shih-Lun Wu, Ssu-Nien Fu's Award (1st Prize), Best Bachelor's Thesis, National Taiwan Univers	ity 2021
 Shih-Lun Wu, 1st Prize, Bachelor Thesis Award, Dept. of CSIE, NTU 	2021
 Yi-Hui Chou, 2ne Prize, Bachelor Thesis Award, Dept. of EE, NTU 	2021
 Shih-Lun Wu, 1st Prize, Bachelor Thesis Award, Dept. of CSIE, NTU 	2020
● Ching-Yu Chiu, Jury's Recommendation Award, 美律電聲論文獎	2021
● Yu-Hsiang Huang, Special Award, 美律電聲論文獎	2020
● Wen-Yi Hsiao, 2ne Prize, 美律電聲論文獎	2018

PUBLICATIONS

Total citations: 10760; citations of most-cited paper. 735; h-index: 52; i10-index: 172

Book

[1] Y.-H. Yang and H. H. Chen, *Music Emotion Recognition*, CRC Taylor & Francis Books, Feb. 2011.

• Proceedings (Edited)

- [2] Meinard Müller, Emilia Gómez, and Yi-Hsuan Yang, "Computational methods for melody and voice processing in music recordings," Report from Dagstuhl Seminar 19052, 2019.
- [3] Hsin-Min Wang, Yi-Hsuan Yang, and Jin Ha Lee, International Society for Music Information Retrieval Conference, Proceedings, ISMIR, Taipei, Taiwan, 2014.

Journal Papers

- [4] Gaël Richard, Vincent Lostanlen, Yi-Hsuan Yang, and Meinard Müller, "Model-based deep learning for music information research," *IEEE Signal Processing Magazine*, accepted for publication, 2024.
- [5] Yi-Hui Chou, I-Chun Chen, Chin-Jui Chang, Joann Ching, and Yi-Hsuan Yang, "MidiBERT-Piano: BERT-like pre-training for symbolic piano music classification tasks," *Journal of Creative Music Systems* (JCMS), vol. 8, no. 1, 2024.
- [6] Ching-Yu Chiu, Meinard Müller, Matthew E. P. Davies, Alvin Wen-Yu Su, and Yi-Hsuan Yang, "Local periodicity-based beat tracking for expressive classical piano music," *IEEE/ACM Transactions on*

Audio, Speech, and Language Processing (TASLP), vol. 31, pp. 2824-2835, July 2023.

- [7] Shih-Lun Wu and Yi-Hsuan Yang, "MuseMorphose: Full-song and fine-grained piano music style transfer with just one Transformer VAE," *IEEE/ACM Transactions on Audio*, Speech, and Language Processing (TASLP), vol. 31, pp. 1953-1967, May 2023.
- [8] Ching-Yu Chiu, Meinard Müller, Matthew E. P. Davies, Alvin Wen-Yu Su, and Yi-Hsuan Yang, "An analysis method for metric-level switching in beat tracking," *IEEE Signal Processing Letters* (SPL), vol. 29, 2153-2157, Oct. 2022.
- [9] Yi-Jen Shih, Shih-Lun Wu, Frank Zalkow, Meinard Müller, and Yi-Hsuan Yang, "Theme Transformer: Symbolic music generation with theme-conditioned Transformer," *IEEE Transections on Multimedia* (TMM), vol. 25, pp. 3495-3508, March 2022.
- [10] Juan Sebastián Gomez-Cañón, Estefanía Cano, Tuomas Eerola, Perfecto Herrera, Xiao Hu, Yi-Hsuan Yang, and Emilia Gómez, "Music Emotion Recognition: Towards new robust standards in personalized and context-sensitive applications," *IEEE Signal Processing Magazine*, vol. 38, no. 6, pp. 106-114, Nov. 2021.
- [11] Ching-Yu Chiu, Alvin Wen-Yu Su, and Yi-Hsuan Yang, "Drum-aware ensemble architecture for improved joint musical beat and downbeat tracking," *IEEE Signal Processing Letters* (SPL), vol. 28, pp. 1100-1104, May 2021.
- [12] Yin-Cheng Yeh, Wen-Yi Hsiao, Satoru Fukayama, Tetsuro Kitahara, Benjamin Genchel, Hao-Min Liu, Hao-Wen Dong, Yian Chen, Terence Leong, and Yi-Hsuan Yang, "Automatic melody harmonization with triad chords: A comparative study," *Journal of New Music Research*, vol. 50, no. 1, pp. 37-51, 2021.
- [13] E. Zangerle, C.-M. Chen, M.-F. Tsai and Y.-H. Yang, "Leveraging affective hashtags for ranking music recommendations," *IEEE Transactions on Affective Computing* (TAC), vol. 12, no. 1, pp. 78-91, 2021.
- [14] Zhe-Cheng Fan, Tak-Shing T. Chan, Yi-Hsuan Yang, and Jyh-Shing R. Jang, "Backpropagation with N-D vector-valued neurons using arbitrary bilinear products," *IEEE Transactions on Neural Networks* and Learning Systems (TNNLS), vol. 31, no. 7, pp. 2638-2652, 2020.
- [15] T.-W. Su, Y.-P. Chen, L. Su, and Y.-H. Yang, "TENT: Technique-embedded note tracking for real-world guitar solo recordings," *Transactions of the International Society for Music Information Retrieval* (TISMIR), vol. 2, no. 1, pp. 15-28, 2019.
- [16] S.-Y. Chou, J.-S. R. Jang, and Y.-H. Yang, "Fast tensor factorization for large-scale context-aware recommendation from implicit feedback," *IEEE Trans. Big Data* (TBD), vol. 6, no. 1, pp. 201-208, Mar. 2020.
- [17] J.-Y. Liu, Y.-H. Yang, and S.-K. Jeng, "Weakly-supervised visual instrument-playing action detection in videos," *IEEE Transactions on Multimedia* (TMM), vol. 21, no. 4, pp. 887-901, Apr. 2019.
- [18] J. Nam, K. Choi, J. Lee, S.-Y. Chou, and Y.-H. Yang, "Deep learning for audio-based music classification and tagging," *IEEE Signal Processing Magazine* (SPM), vol. 36, no. 1, pp. 41-51, Jan. 2019.
- [19] J.-C. Lin, W.-L. Wei, T.-L. Liu, Y.-H. Yang, H.-M. Wang, H.-R. Tyan, and H.-Y. M. Liao, "Coherent deep-net fusion to classify shots in concert videos," *IEEE Transactions on Multimedia* (TMM), vol. 20, no. 11, pp. 3123-3136, Nov. 2018.
- [20] Y.-H. Chin, J.-C. Wang, J.-C. Wang and Y.-H. Yang, "Predicting the probability density function of music emotion using emotion space mapping," *IEEE Transactions on Affective Computing* (TAC), vol.

9, no. 4, pp. 541-549, Oct.-Dec. 2018.

- [21] Y.-S. Huang, S.-Y. Chou, and Y.-H. Yang, "Pop music highlighter: Marking the emotion keypoints," *Transactions of the International Society for Music Information Retrieval* (TISMIR), vol. 1, no. 1, pp. 68-78, Sep. 2018.
- [22] Y.-P. Lin, P.-K. Jao, and Y.-H. Yang, "Improving cross-day EEG-based emotion classification using robust principal component analysis," *Frontiers in Computational Neuroscience*, Jul. 2017.
- [23] A. Aljanaki, Y.-H. Yang, and M. Soleymani, "Developing a benchmark for emotional analysis of music," PLOS ONE, vol. 12, no. 3, e0173392.doi:10.1371/journal.pone.0173392, Mar. 2017.
- [24] X. Hu and Y.-H. Yang, "The mood of Chinese pop music: Representation and recognition," *Journal of the Association for Information Science and Technology* (JAIST), doi:10.1002/asi.23813, Jun. 2017.
- [25] Y.-A. Chen, J.-C. Wang, Y.-H. Yang, H. H. Chen, "Component tying for mixture model adaptation in personalization of music emotion recognition," *IEEE/ACM Transactions on Audio, Speech, and Language Processing* (TASLP), vo. 25, no. 7, pp. 1409-1420, Jul. 2017. [cover page of the issue]
- [26] X. Hu and Y.-H. Yang, "Cross-dataset and cross-cultural music mood prediction: A case on Western and Chinese pop songs," *IEEE Transactions on Affective Computing* (TAC), vol. 8, no. 2, pp. 228-240, Apr. 2017.
- [27] T.-S. Chan and Y.-H. Yang, "Informed group-sparse representation for singing voice separation," IEEE Signal Processing Letters (SPL), vol. 24, no. 2, pp. 156-160, Feb. 2017.
- [28] T.-S. Chan and Y.-H. Yang, "Polar *n*-complex and *n*-bicomplex singular value decomposition and principal component pursuit," *IEEE Transactions on Signal Processing* (TSP), vol. 64, no. 24, pp. 6533-6544, Dec. 2016.
- [29] M. Schedl, Y.-H. Yang, and P. Herrera, "Introduction to intelligent music systems and applications," ACM Transactions on Intelligent Systems and Technology (TIST), vol. 8, no. 2, article 17, Oct. 2016.
- [30] P.-K. Jao, L. Su, Y.-H. Yang and B. Wohlberg, "Monaural music source separation using convolutional sparse coding," *IEEE/ACM Transactions on Audio*, Speech, and Language Processing (TASLP), vol. 24, no. 11, pp. 2158-2170, Nov. 2016.
- [31] T.-S. Chan and Y.-H. Yang, "Complex and quaternionic principal component pursuit and its application to audio separation," *IEEE Signal Processing Letters* (SPL), vol. 23, no. 2, pp. 287-291, Feb. 2016.
- [32] C.-Y. Liang, L. Su and Y.-H. Yang, "Musical onset detection using constrained linear reconstruction," IEEE Signal Processing Letters (SPL), vol. 22, no. 11, pp. 2142-2146, Nov. 2015.
- [33] L. Su and Y.-H. Yang, "Combining spectral and temporal representations for multipitch estimation of polyphonic music," *IEEE/ACM Transactions on Audio, Speech, and Language Processing* (TASLP), vol. 23, no. 10, pp. 1600-1612, Oct. 2015.
- [34] P.-K. Jao and Y.-H. Yang, "Music annotation and retrieval using unlabeled exemplars: correlation and sparse codes," *IEEE Signal Processing Letters* (SPL), vol. 22, no. 10, pp. 1771-1775, Oct. 2015.
- [35] Y.-H. Yang and Y.-C. Teng, "Quantitative study of music listening behavior in a smartphone context," ACM Transactions on Interactive Intelligent Systems (TiiS), vol. 5, no. 3, article 14, Aug. 2015.
- [36] M. Soleymani, Y.-H. Yang, G. Irie, and A. Hanjalic, "Challenges and perspectives for affective analysis in multimedia," *IEEE Transactions on Affective Computing* (TAC), vol. 6, no. 3, pp. 206-208, 2015.
- [37] J.-C. Wang, Y.-H. Yang, H.-M. Wang, and S.-K. Jeng, "Modeling the affective content of music with a Gaussian mixture model," *IEEE Transactions on Affective Computing* (TAC), vol. 6, no. 1, pp. 56-68,

Feb. 2015.

- [38] L. Su, H.-M. Lin, and Y.-H. Yang, "Sparse modeling of magnitude and phase-derived spectra for playing technique classification," *IEEE Transactions on Audio, Speech, and Language Processing* (TASLP), vol. 22, no. 12, pp. 2122-2132, Dec. 2014.
- [39] L. Su, C.-C. Yeh, J.-Y. Liu, J.-C. Wang, and Y.-H. Yang, "A systematic evaluation of the bag-of-frames representation for music information retrieval," *IEEE Transactions on Multimedia* (TMM), vol. 16, no. 5, pp. 1188-1200, Aug. 2014.
- [40] Y.-P. Lin, Y.-H. Yang, and T.-P. Jung, "Fusion of Electroencephalogram dynamics and musical contents for estimating emotional responses in music listening," *Frontiers in Neuroscience*, vol. 8, no. 94, pp. 1-14, May 2014.
- [41] Y.-H. Yang and J.-Y. Liu, "Quantitative study of music listening behavior in a social and affective context," *IEEE Transactions on Multimedia* (TMM), vol. 15, no. 6, pp. 1304-1315, Oct. 2013.
- [42] K.-S. Lin, A. Lee, Y.-H. Yang, C.-T. Lee, and H. H. Chen, "Automatic highlights extraction for drama video using music emotion and human face features," *Neurocomputing*, vol. 119, pp. 111–117, Nov. 2013.
- [43] C.-T. Lee, Y.-H. Yang and H. H. Chen, "Multipitch estimation of piano music by exemplar-based sparse representation," *IEEE Transactions on Multimedia* (TMM), vol. 14, no. 3, pp. 608–618, Jun. 2012.
- [44] Y.-H. Yang and H. H. Chen, "Machine recognition of music emotion: a review," ACM Transactions on Intelligent Systems and Technology (TIST), vol. 3, no. 3, article 40, May 2012.
- [45] Y.-C. Lin, Y.-H. Yang, and H. H. Chen, "Exploiting online tags for music emotion classification," ACM Transactions on Multimedia Computing, Communications, and Applications (TOMCCAP), vol. 7s, no. 1, article 26, Oct. 2011.
- [46] Y.-H. Yang and H. H. Chen, "Prediction of the distribution of perceived music emotions using discrete samples," *IEEE Transactions on Audio, Speech, and Language Processing* (TASLP), vol. 19, no. 7, pp. 2184 -2196, Sep. 2011.
- [47] Y.-H. Yang and H. H. Chen, "Ranking-based emotion recognition for music organization and retrieval," *IEEE Transactions on Audio, Speech, and Language Processing* (TASLP), vol. 19, no. 4, pp. 762-774, May 2011.
- [48] Y.-F. Su, Y.-H. Yang, M.-T. Lu, and H. H. Chen, "Smooth control of adaptive media playout for video streaming," *IEEE Transactions on Multimedia* (TMM), vol. 11, no. 7, pp. 1331–1339, Nov. 2009.
- [49] Y.-H. Yang, W.-H. Hsu, and H. H. Chen, "Online reranking via ordinal informative concepts for context fusion in concept detection and video search," *IEEE Transactions on Circuits and Systems for Video Technology* (TCSVT), vol. 19, no. 12, pp. 1880–1890, Dec. 2009.
- [50] Y.-H. Yang, Y.-C. Lin, Y.-F Su, and H. H. Chen, "A regression approach to music emotion recognition," *IEEE Transactions on Audio, Speech, and Language Processing* (TASLP), vol. 16, no. 2, pp. 448–457, Feb. 2008.

Conference Papers

- [51] Chon In Leong, I-Ling Chung, Kin Fong Chao, Jun-You Wang, Yi-Hsuan Yang, and Jyh-Shing Roger Jan, "Music2Fail: Transfer music to failed recorder style," in *Proc. Asia Pacific Signal and Information Processing Association Annual Summit and Conf.* (APSIPA ASC), 2024.
- [52] Jingyue Huang, Ke Chen, and Yi-Hsuan Yang, "Emotion-driven piano music generation via two-stage

disentanglement and functional representation," in *Proc. Int. Society for Music Information Retrieval Conf.* (ISMIR), 2024.

- [53] Yun-Han Lan, Wen-Yi Hsiao, Hao-Chung Cheng, Yi-Hsuan Yang, "MusiConGen: Rhythm and chord control for Transformer-based text-to-music generation," in *Proc. Int. Society for Music Information Retrieval Conf.* (ISMIR), 2024.
- [54] Fang-Duo Tsai, Shih-Lun Wu, Haven Kim, Bo-Yu Chen, Hao-Chung Cheng, and Yi-Hsuan Yang, "Audio Prompt Adapter: Unleashing music editing abilities for text-to-music with lightweight finetuning," in Proc. Int. Society for Music Information Retrieval Conf. (ISMIR), 2024.
- [55] Chih-Pin Tan, Hsin Ai, Yi-Hsin Chang, Shuen-Huei Guan, and Yi-Hsuan Yang, "PiCoGen2: Piano cover generation with transfer learning approach and weakly aligned data," in *Proc. Int. Society for Music Information Retrieval Conf.* (ISMIR), 2024.
- [56] Yu-Hua Chen, Yen-Tung Yeh, Yuan-Chiao Cheng, Jui-Te Wu, Yu-Hsiang Ho, Jyh-Shing Roger Jang, and Yi-Hsuan Yang, "Towards zero-shot amplifier modeling: One-to-many amplifier modeling via tone embedding control," in *Proc. Int. Society for Music Information Retrieval Conf.* (ISMIR), 2024.
- [57] Yen-Tung Yeh, Wen-Yi Hsiao and Yi-Hsuan Yang, "Hyper recurrent neural network: Condition mechanisms for black-box audio effect modeling," *in Proc. Int. Conf. Digital Audio Effects* (DAFx), 2024.
- [58] Yu-Hua Chen, Woosung Choi, Wei-Hsiang Liao, Marco Martínez-Ramírez, Kin Wai Cheuk, Yuki Mitsufuji, Jyh-Shing Roger Jang and Yi-Hsuan Yang, "Improving unsupervised clean-to-rendered guitar tone transformation using GANs and integrated unaligned clean data," *in Proc. Int. Conf. Digital Audio Effects* (DAFx), 2024.
- [59] Ying-Shuo Lee, Yueh-Po Peng, Jui-Te Wu, Ming Cheng, Li Su and Yi-Hsuan Yang, "Distortion recovery: A two-stage method for guitar effect removal," *in Proc. Int. Conf. Digital Audio Effects* (DAFx), 2024.
- [60] Chih-Pin Tan, Shuen-Huei Guan, Yi-Hsuan Yang, "PiCoGen: Generate piano covers with a two-stage approach," in *Proc. ACM Int. Conf. Multimedia Retrieval* (ICMR), 2024.
- [61] Shih-Lun Wu and Yi-Hsuan Yang, "Compose & Embellish: Well-structured piano performance generation via a two-stage approach," in *Proc. IEEE Int. Conf. Acoustics, Speech and Signal Processing* (ICASSP), 2023.
- [62] Yen-Tung Yeh, Bo-Yu Chen, and Yi-Hsuan Yang, "Exploiting pre-trained feature networks for generative adversarial networks in audio-domain loop generation," in *Proc. Int. Society for Music Information Retrieval* Conf. (ISMIR), 2022.
- [63] Yueh-Kao Wu, Ching-Yu Chiu, and Yi-Hsuan Yang, "Conditional beat-aware drum accompaniment generation in the audio domain using Transformer VQ-VAE," in *Proc. Int. Society for Music Information Retrieval Conf.* (ISMIR), 2022.
- [64] Chih-Pin Tan, Wen-Yu Su, and Yi-Hsuan Yang, "Melody infilling with user-provided structural context," in *Proc. Int. Society for Music Information Retrieval Conf.* (ISMIR), 2022.
- [65] Da-Yi Wu, Wen-Yi Hsiao, Fu-Rong Yang, Oscar Friedman, Warren Jackson, Scott Bruzenak, Yi-Wen Liu, and Yi-Hsuan Yang, "SawSing: A DDSP-based singing vocoder via subtractive sawtooth waveform synthesis," in *Proc. Int. Society for Music Information Retrieval Conf.* (ISMIR), 2022.
- [66] Taejun Kim, Yi-Hsuan Yang, and Juhan Nam, "Joint estimation of fader and equalizer gains of DJ mixers using convex optimization," *in Proc. Int. Conf. Digital Audio Effects* (DAFx), 2022.
- [67] Yu-Chih Tsai, Tse-Yu Pan, Ting-Yang Kao, Yi-Hsuan Yang, and Min-Chun Hu, "EMVGAN:

Emotion-aware music-video common representation learning via generative adversarial networks," in *Proc. Int. Joint Workshop on Multimedia Artworks Analysis and Attractiveness Computing in Multimedia*, in conjunction with ACM ICMR, 2022.

- [68] Chien-Feng Liao, Jen-Yu Liu, and Yi-Hsuan Yang, "KaraSinger: Score-free singing voice synthesis with VQ-VAE using Mel-spectrograms," in Proc. IEEE Int. Conf. Acoustics, Speech and Signal Processing (ICASSP), 2022.
- [69] Bo-Yu Chen, Wei-Han Hsu, Wei-Hsiang Liao, Marco A. Martínez Ramírez, Yuki Mitsufuji, and Yi-Hsuan Yang, "Automatic DJ transitions with differentiable audio effects and generative adversarial networks," in *Proc. IEEE Int. Conf. Acoustics, Speech and Signal Processing* (ICASSP), 2022.
- [70] Yu-Hua Chen, Wen-Yi Hsiao, Tsu-Kuang Hsieh, Jyh-Shing Roger Jang, and Yi-Hsuan Yang, "Towards automatic transcription of polyphonic electric guitar music: A new dataset and a multi-loss transformer model," in *Proc. IEEE Int. Conf. Acoustics, Speech and Signal Processing* (ICASSP), 2022.
- [71] Fu-Rong Yang, Yin-Ping Cho, Da-Yi Wu, Yi-Hsuan Yang, Shan-Hung Wu, and Yi-Wen Liu, "Mandarin singing voice synthesis with a phonology-based duration model," in *Proc. Asia Pacific Signal and Information Processing Association Annual Summit and Conf.* (APSIPA ASC), 2021.
- [72] Chin-Jui Chang, Chun-Yi Lee, and Yi-Hsuan Yang, "Variable-length music score infilling via XLNet and musically specialized positional encoding," in *Proc. Int. Society for Music Information Retrieval Conf.* (ISMIR), 2021.
- [73] Tun-Min Hung, Bo-Yu Chen, Yen-Tung Yeh, and Yi-Hsuan Yang, "A benchmarking initiative for audio-domain music generation using the FreeSound Loop Dataset," in *Proc. Int. Society for Music Information Retrieval Conf.* (ISMIR), 2021.
- [74] 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. Int. Society for Music Information Retrieval Conf.* (ISMIR), 2021.
- [75] Juan Gómez-Cañón, Estefania Cano, Yi-Hsuan Yang, Perfecto Herrera, and Emilia Gomez, "Let's agree to disagree: Consensus entropy active learning for personalized music emotion recognition," in Proc. Int. Society for Music Information Retrieval Conf. (ISMIR), 2021.
- [76] Pedro Sarmento, Adarsh Kumar, C. J. Carr, Zack Zukowski, Mathieu Barthet, and Yi-Hsuan Yang, "DadaGP: A dataset of tokenized GuitarPro songs for sequence models," in *Proc. Int. Society for Music Information Retrieval Conf.* (ISMIR), 2021.
- [77] Antoine Liutkus, Ondřej Cífka, Shih-Lun Wu, Umut Simsekli, Yi-Hsuan Yang, and Gael Richard, "Relative positional encoding for Transformers with linear complexity," in *Proc. International Conference on Machine Learning* (ICML), 2021.
- [78] Ching-Yu Chiu, Joann Ching, Wen-Yi Hsiao, Yu-Hua Chen, Alvin Wen-Yu Su, Yi-Hsuan Yang, "Source separation-based data augmentation for improved joint beat and downbeat tracking," in *Proc. European Signal Processing Conference* (EUSIPCO), 2021.
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