

# Yi-Hsuan Yang (楊奕軒)

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Head of Music and Audio Computing (MAC) Laboratory,  
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## EXPERTISE

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- Music information research; Artificial intelligence; Multimedia; Affective computing; Machine learning

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## EDUCATION

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

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## WORK EXPERIENCES

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- **Associate Research Fellow**, Research Center for IT Innovation, Academia Sinica **since 2015/11**
- Joint-Appointment Associate Professor, CSIE, National Cheng Kung University since 2017/01
- Adjunct Associate Professor, CSIE, National Tsing-Hua University 2016
- **Assistant Research Fellow**, 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, Spain 2011
- Second Lieutenant (one year), Communications, Electronics and Information, ROC Army 2010-2011

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## AWARDS & HONORS

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- 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

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## SELECTED RECENT PUBLICATIONS

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- “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.

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## ACADEMIC SERVICES

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- **Associate Editor** of
  - IEEE Transactions on Multimedia 2016/9-2020/9
  - IEEE Transactions on Affective Computing 2016/11-2018/11
- **IEEE Senior Member** since 2017
- **Program Chair** of
  - Int. Society for Music Information Retrieval Conference (ISMIR) 2014
- **Guest Editor** of
  - ACM Transactions on Intelligent Systems and Technology 2015
  - IEEE Transactions on Affective Computing 2014
- **10K Award Committee Member** of
  - IEEE International Conference on Multimedia and Expo. (ICME) 2016–2018
- **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
- **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
- **Affiliated member** of
  - IEEE Multimedia Systems and Applications Technical Committee (MSA TC) of CAS since 2013

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## PROJECTS (that serve as the PI, not co-PI)

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- GenMusic Project: Industrial AI-Powered Music Composition Platform MOST 2018-2020
- Open DJ Project: AI for Automatic and Personalized DJing MOST 2018-2020
- 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
- Mobile Music Recommendation using Brain-Computer Interfaces MOST 2015-2018
- Automatic Music Recommendation and Retrieval MOST 2013-2016
- Dictionary-based Multipitch Estimation of Polyphonic Music NSC 2012-2013
- Large-scale Music Emotion Recognition System using Social Media NSC 2011-2012

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## TUTORIAL

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- X. Hu and **Y.-H. Yang**, "Music Affect Recognition: The State-of-the-art and Lessons Learned," *Int. Society of Music Information Retrieval Conference (ISMIR)*, 2012.

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## PUBLICATIONS (including number of citations indicated in Google Scholar [link](#))

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*Total citations: 3155; citations of most-cited paper: 387; h-index: 29; i10-index: 68*

- **Book**

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

- **Book Chapters**

- [2] J.-C. Wang, **Y.-H. Yang** and H.-M. Wang, "Affective music information retrieval," In *Emotions and Personality in Personalized Services*, M. Tkalčič *et al.* Eds., Springer, 2016.
- [3] **Y.-H. Yang**, J.-C. Wang, Y.-A. Chen, and H. H. Chen, "Model Adaptation for Personalized Music Emotion Recognition," In *Handbook of Pattern Recognition and Computer Vision*, C.-H. Chen Eds., World Scientific Publishing, Feb. 2016.

- **Journal Papers**

- [4] 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)*, accepted for publication.
- [5] J.-Y. Liu, **Y.-H. Yang**, and S.-K. Jeng, "Weakly-supervised visual instrument-playing action detection in videos," *IEEE Transactions on Multimedia (TMM)*, accepted for publication.
- [6] 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)*, accepted for publication.

- [7] 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..
- [8] 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.
- [9] 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.
- [10] 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.
- [11] 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)*, accepted for publication.
- [12] 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.
- [13] 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]
- [14] 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.
- [15] 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.
- [16] 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.
- [17] 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.
- [18] 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.
- [19] 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.
- [20] 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.
- [21] 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.
- [22] 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.
- [23] **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.

- [24] 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.
- [25] 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.
- [26] 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.
- [27] 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.
- [28] 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.
- [29] **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.
- [30] 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.
- [31] 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.
- [32] **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.
- [33] 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.
- [34] **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.
- [35] **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.
- [36] 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.
- [37] **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.
- [38] **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

- [39] Bryan Wang and **Yi-Hsuan Yang**, “PerformanceNet: Score-to-audio music generation with multi-band convolutional residual network,” in *Proc. AAAI Conf. Artificial Intelligence (AAAI)*, 2019 (acceptance rate 16%).
- [40] J.-Y. Liu and **Y.-H. Yang**, “Denoising auto-encoder with recurrent skip connections and residual regression for music source separation,” in *Proc. IEEE Int. Conf. Machine Learning and Applications (ICMLA)*, 2018.
- [41] H.-M. Liu and **Y.-H. Yang**, “Lead sheet generation and arrangement by conditional generative adversarial network,” in *Proc. IEEE Int. Conf. Machine Learning and Applications (ICMLA)*, 2018.
- [42] Y.-W. Chen, **Y.-H. Yang**, and H. H. Chen, “Cross-cultural music emotion recognition by adversarial discriminative domain adaptation,” in *Proc. IEEE Int. Conf. Machine Learning and Applications (ICMLA)*, 2018.
- [43] C.-A. Yu, C.-L. Tai, T.-S. Chan and **Y.-H. Yang**, “Modeling multi-way relations with hypergraph embedding,” in *Proc. ACM Int. Conf. Information and Knowledge Management (CIKM)*, 2018.
- [44] H.-W. Dong and **Y.-H. Yang**, “Convolutional generative adversarial networks with binary neurons for polyphonic music generation,” in *Proc. Int. Society of Music Information Retrieval Conf. (ISMIR)*, 2018.
- [45] Y.-N. Hung and **Y.-H. Yang**, “Frame-level instrument recognition by timbre and pitch,” in *Proc. Int. Society of Music Information Retrieval Conf. (ISMIR)*, 2018.
- [46] S.-Y. Chou, J.-S. R. Jang, and **Y.-H. Yang**, “Learning to recognize transient sound events using attentional supervision,” in *Proc. Int. Joint Conf. Artificial Intelligence (IJCAI)*, 2018.
- [47] C.-W. Wu, J.-Y. Liu, **Y.-H. Yang**, J.-S. R. Jang, “Singing style transfer using cycle-consistent boundary equilibrium generative adversarial networks,” in *Proc. Joint Workshop on Machine Learning for Music*, extended abstract, 2018.
- [48] A. Poddar, E. Zangerle, and **Y.-H. Yang**, “#nowplaying-RS: A new benchmark dataset for building context-aware music recommender systems,” in *Proc. Sound and Music Computing Conf. (SMC)*, 2018.
- [49] W.-L. Wei, J.-C. Lin, T.-L. Liu, **Y.-H. Yang**, H.-M. Wang, H.-R. Tyan, and H.-Y. M. Liao, “SeetheVoice: Learning from music to visual storytelling of shots,” *Proc. IEEE Int. Conf. Multimedia and Expo. (ICME)*, 2018.
- [50] H.-W. Dong, W.-Y. Hsiao, L.-C. Yang and **Y.-H. Yang**, “MuseGAN: Multi-track sequential generative adversarial networks for symbolic music generation and accompaniment,” in *Proc. AAAI Conf. Artificial Intelligence (AAAI)*, 2018 (acceptance rate 25%).
- [51] Y.-S. Huang, S.-Y. Chou and **Y.-H. Yang**, “Generating music medleys via playing music puzzle games,” in *Proc. AAAI Conf. Artificial Intelligence (AAAI)*, 2018 (acceptance rate 25%).
- [52] Y.-S. Huang, S.-Y. Chou and **Y.-H. Yang**, “Music thumbnailing via neural attention modeling of music emotion,” in *Proc. Asia Pacific Signal and Information Processing Association Annual Summit and Conf. (APSIPAASC)*, 2017.
- [53] C.-A. Yu, T.-S. Chan and **Y.-H. Yang**, “Low-rank matrix completion over finite Abelian group algebras for context-aware recommendation,” in *Proc. ACM Int. Conf. Information and Knowledge Management (CIKM)*, 2017.
- [54] L.-C. Yang, S.-Y. Chou, **Y.-H. Yang**, “MidiNet: A convolutional generative adversarial network for symbolic-domain music generation,” in *Proc. Int. Society of Music Information Retrieval Conf. (ISMIR)*,

2017.

- [55] C.-C. Shih, P.-C. Li, Y.-J. Lin, A. W. Y. Su, L. Su and **Y.-H. Yang**, "Analysis and synthesis of the violin playing styles of Heifetz and Oistrakh," in *Proc. Int. Conf. Digital Audio Effects (DAFx)*, 2017.
- [56] S.-Y. Chou, L.-C. Yang, **Y.-H. Yang**, and J.-S. Jang, "Conditional preference nets for user and item cold start problems in music recommendation," *Proc. IEEE Int. Conf. Multimedia and Expo. (ICME)*, 2017, pp. 1147-1152.
- [57] Z.-C. Fan, T.-S. T. Chan, **Y.-H. Yang**, and J.-S. R. Jang, "Music signal processing using vector product neural networks," *Proc. International Workshop on Deep Learning for Music (DLM)*, 2017.
- [58] L.-C. Yang, S.-Y. Chou, J.-Y. Liu, **Y.-H. Yang**, and Yi-An Chen, "Revisiting the problem of audio-based hit song prediction using convolutional neural networks," in *Proc. IEEE Int. Conf. Acoustics, Speech and Signal Processing (ICASSP)*, pp. 621-625, 2017.
- [59] T.-W. Su, J.-Y. Liu, and **Y.-H. Yang**, "Weakly-supervised audio event detection using event-specific Gaussian filters and fully convolutional networks," in *Proc. IEEE Int. Conf. Acoustics, Speech and Signal Processing (ICASSP)*, pp. 791-795, 2017.
- [60] S.-Y. Su, C.-K. Chiu, L. Su, and **Y.-H. Yang**, "Automatic conversion of pop music into chiptunes for 8-bit pixel art," in *Proc. IEEE Int. Conf. Acoustics, Speech and Signal Processing (ICASSP)*, pp. 411-415, 2017.
- [61] L. Gao, L. Su, **Y.-H. Yang**, and T. Lee, "Polyphonic piano note transcription with non-negative matrix factorization of differential spectrogram," in *Proc. IEEE Int. Conf. Acoustics, Speech and Signal Processing (ICASSP)*, pp. 291-295, 2017.
- [62] W.-L. Wei, J.-C. Lin, T.-L. Liu, **Y.-H. Yang**, H.-M. Wang, H.-R. Tyan, H.-Y. M. Liao, "Deep-net fusion to classify shots in concert videos," in *Proc. IEEE Int. Conf. Acoustics, Speech and Signal Processing (ICASSP)*, pp. 1383-1387, 2017.
- [63] M.-H. Yang, L. Su and **Y.-H. Yang**, "Highlighting root notes in chord recognition using cepstral features and multi-task learning," in *Proc. Asia Pacific Signal and Information Processing Association Annual Summit and Conf. (APSIPA ASC)*, 2016.
- [64] J.-Y. Liu and **Y.-H. Yang**, "Event localization in music auto-tagging," in *Proc. ACM Multimedia (MM)*, full paper (acceptance rate 20%), pp. 1048-1057, 2016.
- [65] S.-Y. Chou, **Y.-H. Yang**, J.-S. Jang and Y.-C. Lin, "Addressing cold start for next-song recommendation," in *Proc. ACM Recommender Systems (RecSys)*, short paper, pp. 115-118, 2016.
- [66] C.-M. Chen, M.-F. Tsai, Y.-C. Lin and **Y.-H. Yang**, "Query-based music recommendations via preference embedding," in *Proc. ACM Recommender Systems (RecSys)*, short paper, pp. 79-82, 2016.
- [67] C.-H. Yang, P.-C. Li, A. W. Y. Su, L. Su, and **Y.-H. Yang**, "Automatic violin synthesis using expressive musical term features," in *Proc. Int. Conf. Digital Audio Effects (DAFx)*, 2016.
- [68] L. Su, T.-Y. Chuang and **Y.-H. Yang**, "Exploiting frequency, periodicity and harmonicity using advanced time-frequency concentration techniques for multipitch estimation of choir and symphony," in *Proc. Int. Society of Music Information Retrieval Conf. (ISMIR)*, pp. 393-399, 2016.
- [69] Y.-P. Chen, L. Su and **Y.-H. Yang**, "Electric guitar playing technique detection in real-world recording based on F0 sequence pattern recognition," in *Proc. Int. Society of Music Information Retrieval Conf. (ISMIR)*, pp. 708-714, 2015.

- [70] C.-Y. Liang, L. Su, H.-M. Lin and **Y.-H. Yang**, "Musical offset detection of pitched instruments: the case of violin," in *Proc. Int. Society of Music Information Retrieval Conf. (ISMIR)*, pp. 281-287, 2015.
- [71] P.-C. Li, L. Su, **Y.-H. Yang** and A. W. Y. Su, "Analysis of expressive musical terms in violin using score-informed and expression-based audio features," in *Proc. Int. Society of Music Information Retrieval Conf. (ISMIR)*, pp. 809-815, 2015.
- [72] Y.-J. Luo, L. Su, **Y.-H. Yang** and T.-S. Chi, "Detection of common mistakes in novice violin playing," in *Proc. Int. Society of Music Information Retrieval Conf. (ISMIR)*, pp. 316-322, 2015.
- [73] A. Aljanaki, **Y.-H. Yang**, and M. Soleymani, "Emotion in Music Task at MediaEval 2015," in *Proc. MediaEval Workshop*, extended abstract, 2015.
- [74] P.-K. Jao, Y.-P. Lin, **Y.-H. Yang**, and T.-P. Jung, "Using robust principal component analysis to alleviate day-to-day variability in EEG based emotion classification," in *Proc. Annual Int. Conf. IEEE Engineering in Medicine and Biology Society (EMBC)*, pp. 570-573, 2015.
- [75] C.-M. Chen, P.-C. Chien, M.-F. Tsai, **Y.-H. Yang** and Y.-C. Lin, "Exploiting latent social listening representations for music recommendations," in *Proc. ACM Recommender Systems (RecSys)*, poster paper, 2-page poster paper, 2015.
- [76] P.-K. Jao, P.-I. Chen, and **Y.-H. Yang**, "Disk Jockey in Brain - A prototype for volume control of tracked instrument during playback," in *Proc. Int. Works. Brain-Computer Music Interfacing (BCMI)*, 2015.
- [77] L. Su and **Y.-H. Yang**, "Escaping from the abyss of manual annotation: New methodology of building polyphonic datasets for automatic music transcription," in *Proc. Int. Symp. Computer Music Multidisciplinary Research (CMMR)*, 2015.
- [78] P.-I. Chen, J.-Y. Liu, and **Y.-H. Yang**, "Personal factors in music preference and similarity: User study on the role of personality traits," in *Proc. Int. Symp. Computer Music Multidisciplinary Research (CMMR)*, 2015.
- [79] S.-Y. Chou, **Y.-H. Yang**, and Y.-C. Lin, "Evaluating music recommendation in a real-world setting: On data splitting and evaluation metrics," in *Proc. IEEE Int. Conf. Multimedia and Expo. (ICME)*, 2015.
- [80] P.-K. Jao, **Y.-H. Yang**, and B. Wohlberg, "Informed monaural source separation of music based on convolutional sparse coding," in *Proc. IEEE Int. Conf. Acoustics, Speech and Signal Processing (ICASSP)*, 2015.
- [81] T.-S. Chan, T.-C. Yeh, Z.-C. Fan, H.-W. Chen, L. Su, **Y.-H. Yang**, and J.-S. Jang, "Vocal activity informed singing voice separation with the IKALA dataset," in *Proc. IEEE Int. Conf. Acoustics, Speech and Signal Processing (ICASSP)*, 2015.
- [82] Y.-A. Chen, **Y.-H. Yang**, J.-C. Wang, H. H. Chen, "The AMG1608 dataset for music emotion recognition," in *Proc. IEEE Int. Conf. Acoustics, Speech and Signal Processing (ICASSP)*, 2015.
- [83] C.-H. Yeh, **Y.-H. Yang**, M.-H. Chang, and H.-Y. M. Liao, "Music driven human motion manipulation for characters in a video," in *Proc. IEEE Int. Symp. Multimedia (ISM)*, 2014.
- [84] C.-M. Chen, H.-P. Chen, M.-F. Tsai, and **Y.-H. Yang**, "Leverage item popularity and recommendation quality via cost-sensitive factorization machines," in *Proc. IEEE Int. Conf. Data Mining (ICDM)*, Ph.D. forum paper, 2014.
- [85] C.-C. M. Yeh, P.-K. Jao, and **Y.-H. Yang**, "AWtoolbox: Characterizing audio information using audio words," in *Proc. ACM Multimedia (MM)*, short paper, 2014.
- [86] M. Soleymani, A. Aljanaki, **Y.-H. Yang**, M. N. Caro, F. Eyben, K. Markov, B. Schuller, R. Veltkamp, F.



- Weninger, and F. Wiering, "Emotional analysis of music: A comparison of methods," in *Proc. ACM Multimedia (MM)*, short paper, 2014.
- [87] A. Aljanaki, **Y.-H. Yang**, and M. Soleymani, "Emotion in Music Task at MediaEval 2014," in *Proc. MediaEval Workshop*, extended abstract, 2014.
- [88] L. Su, L.-F. Yu, and **Y.-H. Yang**, "Sparse cepstral and phase codes for guitar playing technique classification," in *Proc. Int. Society of Music Information Retrieval Conf. (ISMIR)*, 2014.
- [89] J.-C. Wang, M.-C. Yan, **Y.-H. Yang** and H.-M. Wang, "Automatic set list identification and song segmentation of full-length concert videos," in *Proc. Int. Society of Music Information Retrieval Conf. (ISMIR)*, 2014.
- [90] L. Su and **Y.-H. Yang**, "Power-scaled spectral flux and peak-valley group-delay methods for robust musical onset detection," in *Proc. Sound and Music Computing Conf. (SMC)*, 2014.
- [91] L. Su, L.-F. Yu, **Y.-H. Yang**, and Hsin-Yu Lai, "Resolving octave ambiguities: A cross-dataset Investigation," in *Proc. Sound and Music Computing Conf. (SMC)*, 2014.
- [92] X. Hu and **Y.-H. Yang**, "A study on cross-cultural and cross-dataset generalizability of music mood regression models," in *Proc. Sound and Music Computing Conf. (SMC)*, pp. 1149–1155, 2014.
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## COMPETITION

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- 9th Prize, KDD Cup (among 821 participants) 2015
- 2nd Prize, ISMIR Grand Challenge on User eXperience (among 3 finalists) 2014
- 1st Prize, ACM Multimedia Grand Challenge (among 17 finalist teams) 2012

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## TECHNOLOGY TRANSFERS

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- Automatic Fine-Granularity Music Genre Classification KKBOX Inc., 2013
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