

Junqi Deng (邓俊祺)

Work

- Alibaba Music, Senior Algorithm Engineer (2017.12 - Now)
- Kugou Music, Algorithm Engineer (2016.10 - 2017.12)

Education

- Ph.D., Computer Engineering, The University of Hong Kong (2012 - 2016)
- M.E., Integrated Circuit Engineering, Sun Yat-sen University (2010 - 2012)
- B.E., Microelectronics, Sun Yat-sen University (2006 - 2010)

Publications

- Deng, J., Kwok, Y. K., Large Vocabulary Automatic Chord Estimation Using Bidirectional Long Short-Term Memory Recurrent Neural Network with Even Chance Training, Journal of New Music Research, Volume 47, Issue 1, 2018
- Deng, J., Kwok, Y. K., Large Vocabulary Automatic Chord Estimation Using Deep Neural Nets: Design Framework, System Variations and Limitations, arXiv preprint arXiv:1709.07153.
- Deng, J., Kwok, Y. K., Large Vocabulary Automatic Chord Estimation with an Even Chance Training Scheme, In Proceedings of the 18th International Society for Music Information Retrieval Conference, Suzhou, China, 2017 (ISMIR 2017)
- Deng, J., Large Vocabulary Automatic Chord Estimation from Audio Using Deep Learning Approaches. PhD thesis, Department of Electrical and Electronic Engineering, The University of Hong Kong, 2016
- Deng, J., Kwok, Y. K., A Hybrid Gaussian-HMM-Deep Learning Approach For SeventhsBass Automatic Chord Estimation, The 17th International Society for Music Information Retrieval Conference, 2016 (ISMIR 2016)
- Deng, J., Kwok, Y. K., A Chord-scale Approach to Automatic Jazz Improvisation, Late-breaking Demo, The 17th International Society for Music Information Retrieval Conference, 2016 (ISMIR 2016)
- Deng, J., Kwok, Y. K., Automatic Chord Estimation on SeventhsBass Chord Vocabulary Using Deep Neural Network, The 41st International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2016)
- Krishnan, A. S., Hu, X., Deng, J., Wang R.,... & Kwok, Y. K. A Novel Cloud-Based Crowd Sensing Approach to Context-Aware Music Mood-Mapping for Drivers, The 7th IEEE International Conference on Cloud Computing Technology and Science (Cloudcom 2015)
- Krishnan, A. S., Hu, X., Deng, J., Zhou, L., Ngai, E. C. H., Li, X., ... & Kwok, Y. K. (2015, November). Towards In Time Music Mood-Mapping for Drivers: A Novel Approach. In Proceedings of the 5th ACM Symposium on Development and Analysis of Intelligent Vehicular Networks and Applications(pp. 59-66). ACM.
- Hu, X., Deng, J., Zhao, J., Hu, W., Ngai, E. C. H., Wang, R., ... & Kwok, Y. K. (2015). SAfeDJ: A Crowd-Cloud Codesign Approach to Situation-Aware Music Delivery for Drivers. ACM

- Transactions on Multimedia Computing, Communications, and Applications (TOMM), 12(1s), 21.
- Hu, W., Hu, X., Deng, J., Zhu, C., Fotopoulos, G., Ngai, E. C. H., & Leung, V. (2014, December). Mood-fatigue analyzer: towards context-aware mobile sensing applications for safe driving. In Proceedings of the 1st ACM Workshop on Middleware for Context-Aware Applications in the IoT (pp. 19-24). ACM.
- Hu, X., Deng, J., Hu, W., Fotopoulos, G., Ngai, E. C. H., Sheng, Z., ... & Fels, S. (2014, September). Poster--SAFeDJ community: situation-aware in-car music delivery for safe driving. In Proceedings of the 20th annual international conference on Mobile computing and networking (pp. 363-366). ACM.
- Deng, J., Lau, F. C. M., & Kwok, Y. K. (2014). ArmKeyBoard: A Mobile Keyboard Instrument Based on Chord-Scale System and Tonal Hierarchy. In Proceedings of 40th International Computer Music Conference, Athens, Greece.
- Deng, J., Lau, F. C. M., Ng, H. C., Kwok, Y. K., Chen, H. K., & Liu, Y. H. (2014). WIJAM: A Mobile Collaborative Improvisation Platform under Master-Players Paradigm. In Proceedings of the 2014 International Conference on New Interfaces for Musical Expression, London, UK.

Reviewer

- IEEE Transactions on Audio, Speech and Language Processing (2016)
- Journal of Audio Engineering Society (Special Issue on Intelligence Audio Processing, Semantics and Interaction, 2016)
- International Society for Music Information Retrieval Conference (2016, 2017, 2018)

Projects

- Deep Learning Approaches For Large Vocabulary Automatic Chord Estimation (PhD)
- SAFeDJ (Android) - A music recommendation app for drivers. Take into account the context. Driving alone? Driving with friends? Mood. Maybe others. App contest finalist, the 20th Annual International Conference on Mobile Computing and Networking (MOBICOM 2014)
- WIJAM (iOS) - An application for people to constitute an ad-hoc group and jam along with a music master, whose job is to provide a backing music track and direct the musical flow, App contest finalist, the 19th Annual International Conference on Mobile Computing and Networking (MOBICOM 2013)
- Adding a Prefetching Pass to LLVM Polly – Generating Load-balanced and Coarse-grain Loop Pipeline Code for More Parallelism and Data Locality, Google Summer of Code 2012
- Shang - A High-Level-Synthesis Compiler based on LLVM (optimization modules for auto parallelization and data locality), Master Thesis, 2012
- FPGA based Audio Effect Unit (Reverb, Delay and Distortion) - Course Project 2011
- DSP based Audio Effect Unit (Reverb, Delay and Distortion) - Bachelor Thesis, 2010

Teaching Assistant

- Digital Signal Processing Advanced Experiment (SYSU, 2010)
- Electronic Device and Circuit Theory (SYSU, 2010)
- ELEC2401 (Computer Architecture, HKU, 2013)
- CCST9003 (Everyday Computing and the Internet, HKU, 2013, 2014, 2015)

- CCST9015 (Electronic Technologies in Everyday Life, HKU, 2014, 2015)

Skills

- Programming: Objective-C, Java, C, C++, Python, Matlab, Verilog, Labview, Html5, PHP, SQL
- Musical: Guitar, Piano (Keyboard), Songwriting, Music Arrangement, Music Production