

Mengfan Zhang

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EDUCATION

- Stanford University - Stanford, CA, USA** Sep. 2018 – Apr. 2021
M.A. in Music Science and Technology, Center for Computer Research in Music and Acoustics (CCRMA)
Advisors: **Doug L. James** and **Julius O. Smith**
- Peking University - Beijing, China** Sep. 2015 – Jul. 2018
M.S. (Recommended for Admission) in Computer Science and Technology
Advisors: **Tianshu Qu** and **Xihong Wu**
- Hebei University of Technology - Tianjin, China** Sep. 2011 – Jun. 2015
B.Eng in Communication Engineering (Rank, top 3%)

PUBLICATIONS

- M. Zhang**, S. Hersek, S. Yuan, R. Dalton, R. Nongpiur, "3D Printed Subject Models for Measurement of Head-related Transfer Function (HRTF)", Technical Disclosure Commons, (May 08, 2024)
- Y. Chen, **M. Zhang**, Z. Jia, Q. Yang, Z. Chen *Active speaker detection for videoconferencing*, U.S. Patent No.1396779, Sep.2023.
- M. Zhang**, Z. Jia, A. Liu, *Spatial Audio in Virtual Conference Mingling*, U.S. Patent No.1344794, Oct.2022.
- M. Zhang**, Z. Jia, A. Liu, K. Zhu, *Music Collaboration using Virtual Conferencing*, U.S. Patent No.1344793, Oct.2022.
- M. Zhang**, Z. Jia, A. Liu, B. Li, *Providing Spatial Audio in Virtual Conferences*, U.S. Patent No.1331308, Jun.2022.
- T. Qu, X. Wu, **M. Zhang**, *Modeling of Individual HRTFs based on Deep Neural Networks*, China Patent CN ZL201810182617.8, Nov.9, 2021.
- M. Zhang**, T. Guan, L. Chen, T. Fu, D. Su, T. Qu, *Individualized HRTF based Binaural Renderer for Higher-Order Ambisonics*, in 150th Audio Engineering Society International Convention (AES), 2021, p.10454.
- M. Zhang**, J. Wang, D. James, *Personalized HRTF modeling using DNN-augmented BEM*, in IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Toronto, Canada, 2021, pp.451-455.
- M. Zhang**, X. Wu, T. Qu, *Individual Distance-Dependent HRTFs Modeling Through a Few Anthropometric Measurements*, in IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Barcelona, Spain, 2020, pp.401-405.
- M. Zhang**, Z. Ge, T. Liu, X. Wu, T. Qu, *Modeling of Individual HRTFs based on Spatial Principal Component Analysis*, IEEE Transactions on Audio, Speech and Language Processing (TASLP), vol.28, pp.785-797, 2020.
- M. Zhang**, Y. Qiao, X. Wu, T. Qu, *Distance-Dependent Modeling of Head-Related Transfer Functions*, in IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Brighton, UK, 2019, pp.276-280.
- M. Zhang**, F. Zhu, T. Qu, X. Wu, *An asynchronous HRTF measurement method based on phase alignment*, in Proceedings of the 22nd International Congress on Acoustics (ICA), Buenos Aires, Argentina, 2016, p.342.
- T. Qu, X. Wu, **M. Zhang**, F. Zhu, *An asynchronous HRTF measurement method based on phase alignment*, China Patent CN ZL201610243270.4, Oct.16, 2018.

WORK EXPERIENCE

- Google - Mountain View, CA** Oct. 2023 – Present
Audio Algorithm Engineer
Spatial audio projects, including HRTF measurements, developing personalized HRTF models, etc.
- Zoom - San Jose, CA** Nov. 2021 – Oct. 2023
Audio AI Engineer
Research on audio, speech, and music related projects. Built the spatial audio system for Zoom video-conferencing platform.
- Amazon - Cambridge, MA** Jan. 2021 – Jul. 2021
Applied Scientist Intern
Built a convolutional neural network (CNN) to improve the acoustic echo cancellation (AEC) performance as well as Alexa's wake word detection. The proposed algorithm reduces false rejection rate (FRR) by 11% compared with the baseline model.
- Adobe - Seattle, WA** Jun. 2020 – Jan. 2021
Creative Intelligence Lab Intern
Built a real-time spatial audio generation system based on audio-visual feature recognition. Designed algorithms using OpenCV.
- HARMAN International - Mountain View, CA** Jun. 2019 – Sep. 2019
Engineering R&D Intern
Developed machine learning (ML) algorithms to predict HRTFs using individual features extracted by over-ear headphones

SELECTED HONORS & AWARDS

- 2023 *The Third Place* of Zoom AI Hackathon
- 2015-2018 *Fellowship* of Peking University
- 2017 *YOFC Scholarship* of Peking University
- 2017 *Special Academic Scholarship* of Peking University
- 2016-2017 *Merit Student* of Peking University
- 2014 *Honorable Mention* in COMAP's Mathematical Contest in Modeling (MCM)
- 2013 *The Second Prize of the National* in China Undergraduate Mathematical Contest in Modeling (CUMCM)