Hao Zhang

395 Dreese Laboratories
2015 Neil Avenue, The Ohio State University
Columbus, OH, 43210, USA
✆ (1)6146152261
✉ zhang.6720@buckeyemail.osu.edu

RESEARCH INTERESTS

Speech enhancement, speech separation, acoustic echo cancellation, active noise control, microphone array processing, and deep learning.

EDUCATION

2016 - now **Ph.D.**, Computer Science and Engineering
The Ohio State University (OSU), Columbus, OH, USA
Major: Artificial Intelligence
Advisor: Prof. DeLiang Wang

2009 - 2016 **B.E.** and **M.S.**, Information and Signal Processing
Northwestern Polytechnical University (NWPU), Xi'an, Shaanxi, China
Bachelor's thesis: *Study and Design of Small-Scale Broadband Microphone Arrays*
Master's thesis: *Study of Differential Microphone Arrays and Beamforming Algorithms*
Advisor: Prof. Jingdong Chen

PUBLICATIONS

[1] **Hao Zhang** and DeLiang Wang, "A Deep Learning Method to Multi-Channel Active Noise Control", *INTERSPEECH*, 2021.

[2] **Hao Zhang** and DeLiang Wang, ''A Deep Learning Approach to Multi-Channel and Multi-Microphone Acoustic Echo Cancellation", *INTERSPEECH*, 2021.

[3] **Hao Zhang** and DeLiang Wang, "Deep ANC: A deep learning approach to active noise control[J]", *Neural Networks*, 2021.

[4] **Hao Zhang** and DeLiang Wang, "Multi-Channel and Multi-Microphone Acoustic Echo Cancellation Using A Deep Learning Based Approach", *arXiv preprint arXiv:2103.02552*, 2021.

[5] **Hao Zhang** and DeLiang Wang, "A deep learning approach to active noise control", *INTERSPEECH*, 2020.

[6] **Hao Zhang**, Ke Tan, and DeLiang Wang, "Deep Learning for Joint Acoustic Echo and Noise Cancellation with Nonlinear Distortions", *INTERSPEECH*, 2019.

[7] **Hao Zhang** and DeLiang Wang, "Deep Learning for Acoustic Echo Cancellation in Noisy and Double-talk Scenarios", *INTERSPEECH*, 2018.

[8] **Hao Zhang**, Jingdong Chen, and Jacob Benesty, "Study of Nonuniform Linear Differential Microphone Arrays with the Minimum-Norm Filter [J]", *Applied Acoustics*, vol. 98, pp. 62-69, Nov. 2015.

PROFESSIONAL EXPERIENCE

2017 - now **Graduate Research Associate**

Perception and Neurodynamics Laboratory (PNL), OSU

- Supervised Speech Separation
- Deep Learning Based Acoustic Echo Cancellation

2016 - now **Graduate Teaching Associate**

Department of Computer Science and Engineering, OSU

- 2016 Fall: CSE 1223 - Introduction to Computer Programming In Java
- 2017 Spring - 2018 Fall : CSE 5526 - Introduction to Neural Networks

05/20- 08/20 **Research Intern**

Amazon, Sunnyvale, CA, the US

- Deep learning for low-latency speech enhancement

05/19- 08/19 **Research Intern**

Amazon, Sunnyvale, CA, the US

- Deep learning for music source separation
- Music upmixing

05/18- 08/18 **Research Intern**

Elevoc Technology Co., Ltd., Shenzhen, Guangdong, China

- Deep learning based acoustic echo cancellation
- Superdirective beamforming

Academic Services

- *Reviewer*, Neural Networks
- *Reviewer*, IEEE Journal of Selected Topics in Signal Processing

SKILLS

Programming
- *Proficient*: Java, Python, MATLAB, LATEX, R
- *Familiart*: C/C++, HTML, AutoCAD

Artificial Intelligence Related
- *Proficient*: Pytorch, TensorFlow, and other scientific computing libraries
- *Familiart*: Kaldi