

## Ashutosh Pandey

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### RESEARCH INTERESTS

Speech enhancement, speaker separation, automatic speech recognition

### EDUCATION

**Ph.D. student**, Computer Science and Engineering August 2016 - Present  
The Ohio State University (OSU), Columbus, OH, USA  
Advisor: Prof. DeLiang Wang  
GPA: 4.0/4.0

**B.Tech**, Electronics and Communication Engineering August 2011 - June 2015  
Indian Institute of Technology Guwahati, Guwahati, Assam, India  
Thesis: Significance of Glottal Activity Detection for Speaker Verification in Degraded and Limited Data Condition  
Advisor: Prof. S.R.M. Prasanna  
GPA: 8.92/10.0

### PUBLICATIONS

- [12] **Ashutosh Pandey** and DeLiang Wang, “Dense CNN with Self-Attention for Time-Domain Speech Enhancement”, in *IEEE/ACM Transactions on Audio, Speech, and Language Processing*, vol. 29, pp. 1270-1279, 2021.
- [11] **Ashutosh Pandey**, Chunxi Liu, Yun Wang, and Yatharth Saraf, “Dual Application of Speech Enhancement for Automatic Speech Recognition”, in *Workshop on Spoken Language Technology*, 2021, pp. 223-228.
- [10] **Ashutosh Pandey** and DeLiang Wang, “Learning Complex Spectral Mapping for Speech Enhancement with Improved Cross-corpus Generalization”, in *proceedings of INTERSPEECH*, 2020, pp. 4511-4515.
- [9] **Ashutosh Pandey** and DeLiang Wang, “Dual-path Self-Attention RNN for Real-Time Speech Enhancement”, *arXiv:2010.12713*, 2020.
- [8] **Ashutosh Pandey** and DeLiang Wang, “On Cross-Corpus Generalization of Deep Learning Based Speech Enhancement”, in *IEEE/ACM Transactions on Audio, Speech, and Language Processing*, vol. 28, pp. 2489-2499, 2020.
- [7] **Ashutosh Pandey** and DeLiang Wang, “Densely Connected Neural Network with Dilated Convolutions for Real-Time Speech Enhancement in the Time Domain”, in *proceedings of ICASSP*, 2020, pp. 6629-6633.
- [6] **Ashutosh Pandey** and DeLiang Wang, “Exploring Deep Complex Networks for Complex Spectrogram Enhancement”, in *proceedings of ICASSP*, 2019, pp. 6885-6889.
- [5] **Ashutosh Pandey** and DeLiang Wang, “TCNN: Temporal Convolutional Neural Network for Real-Time Speech Enhancement in the Time Domain”, in *proceedings of ICASSP*, 2019, pp. 6875-6879.

- [4] **Ashutosh Pandey** and DeLiang Wang, “A New Framework for CNN Based Speech Enhancement in the Time Domain”, in *IEEE/ACM Transactions on Audio, Speech, and Language Processing*, vol. 27, no. 7, pp. 1179-1188, 2019.
- [3] **Ashutosh Pandey** and DeLiang Wang, “A New Framework for Supervised Speech Enhancement in the Time Domain”, in *proceedings of INTERSPEECH*, 2018, pp. 1136-1140.
- [2] **Ashutosh Pandey** and DeLiang Wang, “On Adversarial Training and Loss Functions for Speech Enhancement”, in *proceedings of ICASSP*, 2018, pp. 5414-5418.
- [1] **Ashutosh Pandey**, Rohan Kumar Das, Nagraj Adiga, Naresh Gupta and S R Mahadeva Prasanna, “Significance of Glottal Activity Detection for Speaker Verification in Degraded and Limited Data Condition”, in *proceedings of TENCON*, 2015, pp. 1-6.

## RESEARCH EXPERIENCES

- Reserach Internship* May 2020 - August 2020  
Video ASR, Facebook Inc., Menlo Park, California, USA
- Speech enhancement for robust automatic speech recognition
- Reserach Internship* May 2019 - August 2019  
Siri Understanding, Apple Inc., Cupertino, California, USA
- Acoustic modeling for automatic speech recognition
- Graduate Research Associate* August 2017 - present  
Perception and Neurodynamics Laboratory (PNL), The Ohio State University, Columbus, OH, USA
- Speech Enhancement
  - Speech Dereverberation
  - Speaker Separation
- Research Engineer* June 2015 - June 2016  
Aspiring Minds Assessment Pvt Limited
- Natural Language Processing
  - Machine Learning
- Research Intern* May 2014 - July 2014  
University of Alberta, Edmonton, Alberta, Canada
- Hardware simulation of gene regulatory networks (GRNs)
  - Simulink and Modelsim
- B.Tech Thesis August 2014 - April 2015  
Indian Institute of Technology Guwahati, Assam, India
- Speaker verification

**SKILLS&TOOLS** Python, C++, TensorFlow, PyTorch, Keras, MATLAB

**AWARDS** *Presidential Fellowship* 2021  
The Ohio State University

## **SERVICES**

Reviewer:

- *IEEE/ACM Transactions on Audio, Speech, and Language Processing*
- *AAAI Conference on Artificial Intelligence*