

## 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

- [11] **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*, in press, 2021.
- [10] **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, in press.
- [9] **Ashutosh Pandey** and DeLiang Wang, “Learning Complex Spectral Mapping for Speech Enhancement with Improved Cross-corpus Generalization”, in *proceedings of INTERSPEECH*, 2020, in press.
- [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

## SERVICES

Reviewer:

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