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, pp. 4511-4515.

[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*