Aswin Shanmugam Subramanian

Résumé

Hackerman 226, 3400 North Charles Street
Baltimore, MD - 21218
+1-443-986-6765
aswin@jhu.edu
Date Of Birth : 19-MAR-1991

EDUCATION

September 2016 - till date
Doctor of Philosophy.
Concentration: Electrical & Computer Engineering.
Johns Hopkins University, Baltimore, USA. https://engineering.jhu.edu/ece/
Advisor: Dr. Shinji Watanabe. https://www.clsp.jhu.edu/faculty/shinji-watanabe/

September 2016 - December 2017
Master of Science.
Concentration: Electrical & Computer Engineering. (GPA: 3.74/4)
Johns Hopkins University, Baltimore, USA. https://engineering.jhu.edu/ece/

December 2012 - July 2015
Master of Science (by Research).
Concentration: Computer Science & Engineering.
Indian Institute of Technology Madras, India. http://www.cse.iitm.ac.in/
Advisor: Dr. Hema A. Murthy. http://www.cse.iitm.ac.in/~hema/
Thesis: A Hybrid Approach to Segmentation of Speech Using Signal Processing Cues and Hidden Markov Models (July 2015). http://lantana.tenet.res.in/thesis.php

August 2008 - April 2012
Bachelor of Technology.
Concentration: Information Technology.
Sri Sivasubramaniya Nadar (SSN) College of Engineering. http://www.ssn.edu.in/
Anna University, Chennai, Tamil Nadu, India.

PROFESSIONAL EXPERIENCE

September 1, 2017 - till date
Research Assistant, *Johns Hopkins University, Baltimore, MD, USA*.
Center for Language & Speech Processing

- Working with Dr. Shinji Watanabe on noise robust speech recognition, end-to-end speech recognition, speech enhancement and source separation.

May 20, 2019 - August 23, 2019
NLP Research Intern, *Tencent, Bellevue, WA, USA*.
AI Lab

- Worked with Dr. Chao Weng and Dr. Dong Yu on target speech extraction with end-to-end speech recognition objectives.

May 21, 2018 - August 17, 2018
Research Intern, *NTT Communication Sciences Lab, Kyoto, Japan*.
Media Information Laboratory

- Worked with Dr. Marc Delcroix on speaker and environment adaptation for end-to-end noise robust speech recognition.

July 20, 2015 - August 12, 2016
Network Software Engineer, *Data Center Group, Intel, Bangalore, India*.
Axxia network accelerators

- IPv6 module.
- Automation of performance benchmarks.

June 1, 2012 - July 13, 2015 **Project Associate**, *IIT Madras, Chennai, India*.
Development of Text to Speech systems for Indian languages - sponsored by DeitY, Govt. of India.

- Was part of the TTS consortium that developed a common framework for HMM based speech synthesis systems of 13 Indian languages.
- Developed an automatic segmentation tool for the TTS consortium.

TECHNICAL SKILLS

Programming Languages C, C++, Java, C#, Shell, Perl, Tcl, HTML-CSS, MATLAB, Python

Toolkits Kaldi, ESPnet, HTK, HTS, Festival, SPTK, IxNetwork

RELEVANT COURSE WORK

- Audio Signal Processing
- Random Signal Analysis
- Compressed Sensing
- Learning Theory
- Machine Learning for Signal Processing
- Wavelets & Filter Banks
- Information Extraction
- Speech/Auditory Processing
- Machine Translation
- Parallel Programming

SELECTED PUBLICATIONS

https://scholar.google.com/citations?user=yug24TgAAAAJ&hl=en

- **Aswin Shanmugam Subramanian**, Xiaofei Wang, Murali Karthick Baskar, Shinji Watanabe, Toru Taniguchi, Dung Tran, and Yuya Fujita, "**Speech Enhancement Using End-to-End Speech Recognition Objectives**," in Proc. of ***WASPAA 2019***, pp. 229–233, New Paltz, Oct' 19. *[link]*
- Toru Taniguchi, **Aswin Shanmugam Subramanian**, Xiaofei Wang, Dung Tran, Yuya Fujita, and Shinji Watanabe, "**Generalized Weighted-Prediction-Error Dereverberation with Varying Source Priors for Reverberant Speech Recognition**," in Proc. of ***WASPAA 2019***, pp. 288–292, New Paltz, Oct' 19. *[link]*
- **Aswin Shanmugam Subramanian**, Szu-Jui Chen, and Shinji Watanabe, "**Student-Teacher Learning for BLSTM Mask-based Speech Enhancement**," in Proc. of ***INTERSPEECH 2018***, pp. 3249–3253, Hyderabad, Sep' 18. *[link]*
- Szu-Jui Chen, **Aswin Shanmugam Subramanian**, Hainan Xu, and Shinji Watanabe, "**Building state-of-the-art distant speech recognition using the CHiME-4 challenge with a setup of speech enhancement baseline**," in Proc. of ***INTERSPEECH 2018***, pp. 1571–1575, Hyderabad, Sep' 18. *[link]*
- Naoyuki Kanda, Rintaro Ikeshita, Shota Horiguchi, Yusuke Fujita, Kenji Nagamatsu, Xiaofei Wang, Vimal Manohar, Nelson Enrique Yalta Soplin, Matthew Maciejewski, Szu-Jui Chen, **Aswin Shanmugam Subramanian**, Ruizhi Li, Zhiqi Wang, Jason Naradowsky, L Paola Garcia-Perera, and Gregory Sell, "**The Hitachi/JHU CHiME-5 system: Advances in speech recognition for everyday home environments using multiple microphone arrays.**," in Proc. of ***CHiME5 Workshop***, Hyderabad, Sep' 18. *[link]*
- Rupak Vignesh S, **S. Aswin Shanmugam**, and Hema A. Murthy, "**Significance of Pseudo-syllables in Building Better Acoustic Models for Indian English TTS**," in Proc. of **ICASSP 2016**,pp. 5620–5624 , Shanghai, Mar'16. *[link]*
- **S Aswin Shanmugam**, and Hema Murthy, "**A Hybrid Approach to Segmentation of Speech Using Group Delay Processing and HMM Based Embedded Reestimation**," in Proc. of **INTERSPEECH 2014**, pp. 1648–1652, Singapore, Sep' 14. *[link]*

TEACHING EXPERIENCE

Fall '17 & '18 **Course Assistant**, *Digital Signal Processing*, Johns Hopkins University.

Spring '18 & '19 **Course Assistant**, *Information Extraction from Speech and Text*, Johns Hopkins University.