

Aswin Shanmugam Subramanian

Résumé

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Date Of Birth : 19-MAR-1991

EDUCATION

- September 2016 **Doctor of Philosophy.**
- till date 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 **Master of Science.**
- December 2017 Concentration: Electrical & Computer Engineering. (GPA: 3.74/4)
Johns Hopkins University, Baltimore, USA. <https://engineering.jhu.edu/ece/>
- December 2012 **Master of Science (by Research).**
- July 2015 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 - **Bachelor of Technology.**
April 2012 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 - **Research Assistant, Johns Hopkins University, Baltimore, MD, USA.**
- till date Center for Language & Speech Processing
o Working with Dr. Shinji Watanabe on noise robust speech recognition, end-to-end speech recognition, speech enhancement, beamforming and dereverberation.
- May 20, 2019 - **NLP Research Intern, Tencent, Bellevue, WA, USA.**
August 23, 2019 AI Lab
o Worked with Dr. Chao Weng and Dr. Dong Yu on target speech extraction with end-to-end speech recognition objectives.
- May 21, 2018 - **Research Intern, NTT Communication Sciences Lab, Kyoto, Japan.**
August 17, 2018 Media Information Laboratory
o Worked with Dr. Marc Delcroix on speaker and environment adaptation for end-to-end noise robust speech recognition.
- July 20, 2015 - **Network Software Engineer, Data Center Group, Intel, Bangalore, India.**
August 12, 2016 Axxia network accelerators
o IPv6 module.
o Automation of performance benchmarks.

June 1, 2012 - **Project Associate**, *IIT Madras, Chennai, India.*

- July 13, 2015 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.