

# Aswin Sivaraman

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## EDUCATION

**Indiana University**  
*PhD Intelligent Systems Engineering*

Aug 2017—Current

**University of Illinois at Urbana-Champaign**  
*BS Electrical Engineering*

Aug 2011—May 2015

## SKILLS

### Programming:

Python, C, C++, MATLAB, Perl

### Libraries:

PyTorch, Tensorflow, Keras, Redis, Alexa Skills Kit

### Web:

HTML, CSS, PHP, JavaScript, SQL, NoSQL, MongoDB, RESTful, Bootstrap, Foundation, Wordpress

## TEACHING

**ENGR-E511 Machine Learning for Signal Processing**

*Associate Instructor*

Jan 2020—Current

**ENGR-E533 Deep Learning Systems**

*Associate Instructor*

Aug 2019—Dec 2019

## PROJECTS

All projects can be found open-sourced on Github.

## SUMMARY

Aswin is a third-year PhD student advised by Professor Minje Kim within the SAIGE Research Lab at Indiana University. He is interested in machine learning applications to music and speech processing applications, addressing tasks like noise reduction, dereverberation, style transfer, transcription, and diarization.

## WORK EXPERIENCE

### Spotify

*Research Scientist Intern*

Jun 2019—Aug 2019

Designed and tested a neural network model which leverages user listening data to identify advertisements within podcasts using only acoustic features

### Amazon

*Applied Scientist Intern*

May 2018—Aug 2018

Implemented a multi-resolution convolutional neural network to generalize audio feature extraction for the Alexa automatic speech recognition (ASR) acoustic modelling team

### Qualcomm

*Embedded Software Engineer*

Jul 2015—Aug 2017

Developed and supported Diagnostic Services scripts for multiple Snapdragon chipsets, handling change requests from customers and internal engineers

### University of Illinois at Urbana-Champaign

*Teaching Assistant*

Jan 2015—May 2015

Helped to create web development course CS498RK (Art of Web Programming) taught by Professor Ranjitha Kumar by designing lectures, programming assignments, and exams from scratch for over 100 students

## PUBLICATIONS

[1] S. Wager, G. Tzanetakis, C. Wang, L. Guo, A. Sivaraman and M. Kim, "**Deep Autotuner: a data-driven approach to natural-sounding pitch correction for singing voice in karaoke performances**", in *IEEE Int. Conf. Acoustics, Speech and Signal Processing (ICASSP) 2019*. *arXiv preprint arXiv:1902.00956*, 2019.

[2] K. Zhen, A. Sivaraman, J. Sung and M. Kim, "**On psychoacoustically weighted cost functions towards resource-efficient deep neural networks for speech denoising**". *arXiv preprint arXiv:1801.09774*, 2018.

Additional patents, pre-prints, publications are accessible on Google Scholar.