

# Aswin Sivaraman

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## EDUCATION

### PhD Intelligent Systems Engineering

Indiana University

Aug 2017—Current

### BS Electrical Engineering

University of Illinois at Urbana-Champaign

Aug 2011—May 2015

## SKILLS

### Programming:

Python, C, C++, MATLAB, Perl

### Libraries:

Tensorflow, Keras, Redis, AWS  
DynamoDB, Alexa Skills Kit

### Web:

HTML5, CSS3, JavaScript,  
Angular, jQuery, Node,  
Express, RESTful, SQL, NoSQL,  
MongoDB, PHP, Bootstrap,  
Foundation, Wordpress

## PROJECTS

### Qualcomm Onboard

Developed custom webapp which intelligently pairs prospective interns with best-fit technical teams, enabling students to work on relevant summer projects imperative to the company.

### Music Browser / Scrobbylr

Built music information retrieval webapp which fingerprints music played on vinyl turntable, fetches metadata via Spotify and Discogs, then displays song information in real-time.

## RESEARCH

### Signals and AI Group in Engineering (SAIGE)

Aug 2017—Current

Prof. Minje Kim

Researching machine learning approaches to audio signal processing problems such as speech recognition, speech denoising, audio enhancement, audio compression/coding, and psychoacoustics.

### Computational Audio Lab (CAL)

Aug 2014—May 2015

Prof. Paris Smaragdis

Wrote undergraduate thesis evaluating a novel framework for speech recognition utilizing winner-take-all semantic hashes of spectrogram frames.

### Statistical Speech Technology Group (SST)

May 2014—Jan 2015

Prof. Mark Hasegawa-Johnson

Performed audio database segmentation using speech recognition and synthesis toolkits for use in an Emotive audio-visual avatar.

## EMPLOYMENT

### Amazon

May 2018—Aug 2018

Applied Scientist Intern

- Proposed and tested end-to-end deep neural networks for the Alexa Acoustic Modeling team

### Qualcomm

Jul 2015—Aug 2017

Embedded Software Engineer / Campus Team Member

- Handled over 100 change requests for the Diagnostic Services team from Qualcomm customers and internal engineers
- Developed new embedded debug trace buffer used on Qualcomm Acoustic audio codec (WCD 9340/9341)
- Received Qualstar award for creating a Python + OpenCV workshop using the Dragonboard 410c which has been taught at numerous universities

### University of Illinois at Urbana-Champaign

Jan 2015—May 2015

Teaching Assistant for CS498RK (Art of Web Programming)

- Created assignments and exams in collaboration with Prof. Ranjitha Kumar for new full-stack web development course
- Taught lab on OAuth middleware in NodeJS to over 100 students

## PUBLICATIONS

[1] Sanna Wager, Lijiang Guo, Aswin Sivaraman, and Minje Kim. "[A Data-Driven Approach to Smooth Pitch Correction for Singing Voice in Pop Music](#)", 2018.

[2] Kai Zhen, Aswin Sivaraman, Jongmo Sung, and Minje Kim. "[On Psychoacoustically Weighted Cost Functions Towards Resource-Efficient Deep Neural Networks for Speech Denoising](#)", 2018.