Dhanush Bekal Kannangola

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Education

University of Washington *Seattle, WA*

Master's, Electrical and Computer Engineering, Sept. 2017 - April 2019 *GPA : 3.9/4.0*

- Relevant Coursework: Statistical Learning, AI for Engineers, Introduction to Deep Learning, Conversational AI, Digital Signal Processing, Probability and Random Processes

National Institute of Technology, Karnataka *Surathkal, India*

B.Tech., Electronics and Communications Engineering, 2011-2015 *GPA : 9.04/10.0*

Skills

Programming Python, C, C++(beginner)

Tools PyTorch, Keras, Git, MATLAB, pandas, scikit-learn, numpy, Kaldi(beginner),theano

Technologies AWS (beginner) - DynamoDB, Lambda, Comprehend

Experience

University of Washington *Seattle, WA*

Graduate Research Assistant *April 2018 - Present*

- Developed a sequence2sequence based model which generates scientific abstract using titles and entities extracted from a knowledge graph
- Developing models for retrieving and recommending entities from knowledge graphs
- Explored policy gradient Reinforcement Learning techniques for directing conversations in dialogue systems.

University of Washington *Seattle, WA*

Graduate Teaching Assistant *January 2018 - April 2018*

- I was the teaching assistant for the graduate speech processing course

LEAP Lab, Indian Institute of Science *Bengaluru, India*

Project Assistant *July 2016 - July 2017*

- Developed a Joint Factor Analysis and SVM based system for speaker verification and spoof detection which had error rates of 4.98% and 3.17% for the two respective tasks. The work was presented at ICASSP 2017.
- Developed a phonetic deep bottleneck model based multilingual speaker verification system for the NIST 2016 speaker verification challenge. The standalone system achieved an EER of 16%. The work was presented at INTERSPEECH 2017.
- Experimented with Restricted Boltzmann Machines and its variants as viable front-end models for unsupervised speaker verification.

Adori Labs Inc. *Bengaluru, India*

DSP Intern *Dec. 2015 - May 2016*

- Implemented silence elimination module for an iOS podcast player app using Apple Core Audio Frameworks.
- Developed a Medium blog to podcast converter using Text to Speech Synthesis APIs.

Raman Research Institute *Bengaluru, India*

Visiting Student *Jun. 2015 - Dec. 2015*

- Implemented machine learning algorithms on FPGAs for mismatch error correction in high speed Time Interleaved Analog to Digital Converters.

Projects

Analysis of effects of stimulation on neural connectivity in a monkey brain *April. 2018 - present*

- Exploratory data analysis of effects of different types of paired stimulation on a stroke induced part of a monkey brain.

Amazon Alexa based Chat-bot for Mental Health Advocacy *April. 2018 - June 2018*

- Developed a chat-bot for Amazon echo which could provide information about various mental health conditions.

Noun Recognition From FMRI brain scans *Feb. 2018 - April 2018*

- Worked on spoken words, FMRI dataset creatted by CMU
- Implemented a random forest based classifier for recognizing spoken nouns which were recorded using FMRI brain scans.

Language Recognition of Text *June 2018*

- Worked on twitter dataset consisting of tweets in eight different languages
- Developed an Recurrent Neural Network based language model which could recognize the language of a twitter post with 80% accuracy on the test set.

Audio Beamforming *Oct. 2017 - Dec. 2017*

- Demonstrated a phase based audio beamformer using Sonos Speakers for localized music streaming in a room. This project secured a top three spot in the Sonos 2017 challenge.

Publications

ICASSP 2017 Factor Analysis Methods for Joint Speaker Verification and Spoof Detection

INTERSPEECH 2017 IITG-Indigo system for NIST 2016 SRE challenge