

# Xiaoting Fu

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## EXPERIENCE

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### **Speech Assessment for Second Language Learner** - ArgLab, Raleigh, NC

*Sept 2018 - Present*

- Built a spoken language assessment system based on the grammatical and semantical correctness of speech responses
- Trained an acoustic model with more than 9,000 utterances for English as Second Language (ESL) learners
- Applied pitch normalization and speech adaptation techniques to reduce differences between different models
- Trained a supervised neural network classifier on the output transcription for speech response assessment

### **FLECKS Project: Intelligent Agent Prototype** - ArgLab, Raleigh, NC

*June 2018 - Present*

- Deployed the RedHat Enterprise Linux (RHEL) server for web hosting with Docker Container
- Coded the website to stream audio using socket.io
- Integrated the Kaldi toolkit as a web service

### **ABB Inc. Software Engineer Intern** - Raleigh, NC

*May 2018 - Aug. 2018*

- Developed tools to convert between different format of databases (SQLite and MS Access)
- Programmed tools for database comparison, changes revision and changes application from one database to another
- Designed visual interfaces for editing the SQLite database
- Implemented a SQL Parser for generating SQL action queries based on composite display queries

### **Continuous Child Speech Recognition Research** - ArgLab, Raleigh, NC

*Jan 2018 - May 2018*

- Evaluated audio quality using signal-to-noise ratio and visualized the results
- Applied forced alignment to get the timestamps of the human generated transcriptions
- Used Kaldi neural network tools to train an acoustic model with for 40 hours of children speech
- Used Librispeech corpus to train the language model
- Compared Word-Error-Rate (WER) of the existing open-source speech recognition toolkits on child speech corpus including Kaldi and CMU Sphinx
- Applied speaker adaptation, Vocal Tract Length Normalization (VTLN) to improve the existing models.

### **Android Electronic Health Record System** - WKU, China

*Jan 2017 - May 2017*

- Developed an Android application for recording health data of the older adults
- Used Firebase for real-time database interaction
- Provided health record visualization for user and recommended food and activities based on user daily data record
- Generated user manual and documentation for future reference

## EDUCATION

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### **North Carolina State University** - Raleigh, NC

*Aug. 2017 - Present*

Ph.D. in Computer Science (Advised by Dr. Collin Lynch); GPA: 3.7 / 4.0

### **Wenzhou-Kean University** - Zhejiang, China

*Sept. 2013 - Jun. 2017*

B.S. in Computer Science; GPA: 3.9 / 4.0

## SKILLS

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Python, Bash, Java, C#, SQLite, NodeJS, Docker, Kaldi, CMUSphinx