Xiaoting Fu

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EXPERIENCE

Spoken Language Assessment for English as Second Language (ESL) Learner - ArgLab, Raleigh, NC *Sept*

- Built a spoken language assessment system based on the grammatical and semantical correctness of speech responses
- Trained an Automatic Speech Recognition (ASR) engine with more than 9,000 utterances from 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 response quality 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 nerual 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

North Carolina State University - Raleigh, NC *Aug. 2017 – Present*
Ph.D. in Computer Science; 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

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