

Zicheng Ren

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SKILLS

Machine learning Algorithms & API design | Software Development | Automatic Speech Recognition | Natural Language Understanding | Signal Processing | Data Analysis & Visualization | Debugging | Latex & Markdown | UX Development

PROFESSIONAL EXPERIENCE

- **Intel Corporation, Hillsboro, OR - Deep Learning Research Intern** *Arp. 2018 – Jun. 2019*
 - ❖ Designed and built a data pipeline to aggregate and extract features from thousands of hours of speech/transcript data for training E2E Neural ASR models. (Python, Json, Kaldi, Numpy, Scipy, Pandas)
 - ❖ Successfully built, trained and tuned neural networks for E2E TTS and STT tasks and deployed onto GNA (Intel IP Block) for Google. (TensorFlow, Pytorch, Mxnet, Caffe) [***Topic owner of E2E Neural ASR and presented at Intel I/O Embedded Technology Summit 2019**]
 - ❖ Researched and developed beam search algorithm that further improved the speech recognition accuracy. (Python, Numpy)
 - ❖ Developed new techniques to map new neural network topologies onto GNA using OpenVINO (Intel deep learning toolkit) and contributed to the sub-function design of Model Optimizer and Inference Engine (the components of OpenVINO). (Python, C++)
 - ❖ Developed speech recognition & understanding demo for Google Chromebook using Rockhopper Trail (IP). (Python, C)
- **Oregon Health & Science University, Portland, OR - Teaching Assistant** *Sep. 2015 -- Feb. 2016*
 - ❖ Server administration for OHSU cluster. (Linux, Shell, Slurm)
 - ❖ Compared and analyzed the computation efficiency among Hadoop, Spark and multi-core single machine for IBM model I task with 100 GB bi-text data set. (HDFS, Hadoop, Spark)
- **Tristar Enterprises, Hillsboro, OR – Founder and Developer** *Nov. 2014 -- Aug. 2017*
 - ❖ Designed and developed Android mobile apps and Web apps that facilitate user's language learning activities. (Java, PyQt, Flask, HTML, JavaScript, CSS, UI Design)
 - ❖ Designed and built a relational SQL database for college application data analysis. (PostgreSQL, UML, R)
- **Chonbuk National University, Jeonju, South Korea - Research Assistant** *Aug. 2011 -- Jul. 2014*
 - ❖ Participated in Jeonju City Surveillance System project and developed a fast and robust multi-object tracking algorithm (GMM+MeanShift) under the traffic monitoring system. (Matlab, C/C++, OpenCV)
 - ❖ Collected and analyzed data from multi-hop wireless sensor network for measuring the performance of smart greenhouse, sponsored by Brain Korea 21 Groups program. (Matlab, C/C++)
 - ❖ Lectured computer vision course and supervised lab session for Arduino circuit design. (Matlab, C)
- **Ken Na Electronics CO., LTD, Wuhan, China - SMT Intern** *Jun. 2009 -- Jan. 2010*
 - ❖ Designed and fabricated a software-defined radio receiver PC boards and soldered parts to them to produce a working radio that operates in the Amateur Radio band.

EDUCATION

- **Oregon Health & Science University, Portland, OR** *Sep. 2015 -- Jun. 2019*
— M.S. in Computer Science
- **Chonbuk National University, Jeonju, South Korea** *Aug. 2011 -- Jul. 2013*
— M.E. in Electronic Engineering
- **Huazhong University of Science & Technology, Wuhan, China** *Sep. 2007 -- Jul. 2011*
— B.S. in Communication Engineering

OTHER WORK HISTORY

- **[Certified Languages International, LanguageLine, Telelanguage, PTL], Portland, OR** *Mar. 2015 -- Current*
— Independent Contractor as interpreter/translator
- **Demand Media Studios, online** *Oct. 2014 -- Mar. 2015*
— Technical article writer (over 100 articles published on ehow)