ALLAN PENG

Email: megatron@berkeley.edu Website: www.allan.expert

INDUSTRY EXPERIENCE

Mod9 Technologies

Software Engineer *Spring 2018-Present*

- Lead development on multi-threaded Speech Recognition server, using C++, Boost, Asio, and Kaldi. The server reads audio streams from network socket and writes back transcriptions in real time.
- Manage product releases, interface with customers, and write public-facing documentation.
- Built parallelized speech recognizer that transcribes audio up to 400x faster than real time
- Implemented new speaker diarization (segmentation) system, using clustering and HMM-GMM models. The new system improved diarization error rate from 15% to 4%
- Trained HMM-DNN models to transcribe English and Spanish using Kaldi
- Designed finite state transducer that recognizes all possible pronunciations of American phone numbers

UC Berkeley RISELab / AMPLab

Research Engineer *Spring 2017 – Winter 2017*

- Focused on distributed computing on serverless cloud infrastructure (AWS Lambda)
- Contributed to Pywren project, migrating to different cloud infrastructures: Google Cloud & Azure

Facebook

Engineering Intern, Internet.Org Scalability Team *Fall 2015*

- Worked on i.org traffic monitor, a debugging tool for Android engineers on iorg team
- Added functionality for engineers to dog-food Facebook products (FB-Lite, Free Basics, Native) using various carrier infrastructures from different countries

TECHNICAL SKILLS

Languages: Python, C, C++ (Boost), Go, Bash, Java
Technologies: Linux, Kaldi, LaTeX, Docker, AWS, Google Cloud, OpenFST

PROJECTS

Paxos-based Distributed Datastore (Golang)

- General purpose Paxos library, and sequentially consistent partition-tolerant distributed datastore

Voice-Controlled Autonomous Guitar (Raspberry Pi, Python) *(www.allan.expert/guitar)*

- Embedded system built with an array of solenoids held over the frets and strings of an acoustic guitar
- Built speech recognition interface to start, stop and choose songs, using Google Cloud APIs.

Linux Firewall (Python)

- Stateful packet filter for Linux. Filters based on IP subnet, DNS, or geo-location
- Implemented DNS redirects, TCP resets, and logging HTTP transactions

EDUCATION

University of California, Berkeley

B.A. Double Major: Applied Mathematics & Computer Science, Regents & Chancellor's Scholarship

London School of Economics

International Relations & Law