Xiaoran Li

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Education

University of California, Irvine *Irvine, CA*
M.S. in Electrical Engineering and Computer Science *2017 - 2019*

University of California Irvine *Irvine, CA*
B.S. in Electrical Engineering and Computer Science *2014 - 2017*

Professional Experiences

Software Engineering Intern *Irvine, CA*
Western Digital *June 2018 - Sept. 2018*

- Used profiling skill to find the time cost for each package in eSSD start engine and then optimized the code by removing repeated part which improved the start time from 180+ seconds to 150- seconds(C, Python, Java, Bash)

Research Experiences

Low-Latency MapReduce *University of California, Irvine*
Advisor: Prof. Zhiying Wang *Sept. 2017 - Aug. 2019*

- Developed a pair-index and index-pair algorithm for shuffle phase in MapReduce which shortened the overall system delay in distributed computing.
- Simulated the industry distributed file system for MapReduce and coded MapReduce in LAN. Tested the coded MapReduce for 20GB files for word count problem and the searching speed was twice faster than the MapReduce.
- Built an web clawer to collect website information from UCI website then used both MapReduce and Coded Mapreduce in reverse index coding to find the recommended pages from UCI.

Wearable Monitoring Device *University of California, Irvine*
Advisor: Prof. Michelle Khine *Feb. 2014 - Sep. 2017*

- Built an application(Arduino, Matlab, Labview and Python) which capture pulse data from human by using wearable health monitoring device then real time communicate via bluetooth to the Desktop/iPad as readable data within 5m.

Collision Experiment *California Institute of Technology*
Advisor: Prof. Paul Asimow(Undergraduate Research Study) *Aug. 2013 - Sep. 2014*

- Tested gun cannon collision experiment to find the material that not exsist in the natural setting on Earth. Then collected data in a cloud data sheet and plot the result by using linear regression which helps to find how materials can be compose in specific way.

Projects

Around: A Geo-index based social network *April - PRESENT*
Personal Project

- Built a scalable web service in Go to handle posts and deployed to Google Cloud (GAE flex) for better scaling
- Utilized ElasticSearch (GCE) to provide geo-location-based search functions such that users can search nearby posts within a distance (e.g. 200km)
- Used Google Dataflow to implement a daily dump of posts to BigQuery table for offline analysis
- Aggregated the data at the post level and user level to improve the keyword-based spam detection (BigQuery).

NBA Player Strength Visualization *April - PRESENT*
Personal Project

- Created a dashboard to visualize individual player's shot data, including a shot chart and 4 line/bar charts.
- Implemented linked highlighting among all charts using raised common React state among charts.
- Created a field goal percentage filter to provide more detailed visualization areas with made shots.
- Developed a match filter to more specifically visualize stats for home, away, won and lost matches.

Network Security Defender *Irvine, CA*

UNIVERSITY OF CALIFORNIA, IRVINE *Winter 2019*

- Built an application (in Python) for a distributed storage network(consisting of data images) of three users with ReCaptcha technology.
- Generated code that repairs the network after being attacked
- Implemented a Python code using Keras library to do the preprocessing for the ReCaptcha technology and run it on different model. The trained accuracy reached 98% by using 11-layer network of deep learning

Skills

Programming	(Proficient) Python, Java; (Familiar) C, MATLAB
Front-end:	React, HTML/CSS/JavaScript, Bootstrap, AJAX
Back-end:	Spring, Spring MVC, REST, Java Servlet, MySQL, NoSQL(MongoDB)
Cloud	Distributed File System, Parallel Computing, MapReduce, Amazon Elastic Compute Cloud(Amazon EC 2), Cloud Storage, Google Cloud Platform(GCP), Bigtable, BigQuery, Elasticsearch
Special Libraries	OpenCV, Keras, Tensorflow, Apache Spark, CNN, Pytorch,
Models	Supervised and unsupervised Machine Learning Model, Natural Language Processing
Development	Git/GitHub, Linux/UNIX

Honors & Awards

2007 FVC(FIRST Vex Challenge) World Championship ranking at **second place(**2^{nd}**)** *Atlanta, GA, U.S.5*