

Xiaoran Li

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Education

University of California, Irvine

M.S. IN ELECTRICAL AND COMPUTER ENGINEER

Irvine, CA

2017 - 2019

University of California, Irvine

B.S. IN ELECTRICAL ENGINEERING

Irvine, CA

2014 - 2017

Professional Experiences

Software Engineering Intern

WESTERN DIGITAL

Irvine, CA

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

ADVISOR: PROF. ZHIYING WANG

University of California, Irvine

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 a web crawler 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

ADVISOR: PROF. MICHELLE KHINE

University of California, Irvine

Feb. 2014 - Sep. 2017

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

Collision Experiment

ADVISOR: PROF. PAUL ASIMOW (UNDERGRADUATE RESEARCH STUDY)

California Institute of Technology

Aug. 2013 - Sep. 2014

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

Projects

Around: A Geo-index based social network

PERSONAL PROJECT

April 2020 - Aug. 2020

- 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 location-based search functions for nearby search
- Improved daily dump of posts to BigQuery table for offline analysis by using Google Dataflow
- Aggregated the data at the post level and user level to improve the keyword-based spam detection (BigQuery).

Network Security Defender

UNIVERSITY OF CALIFORNIA, IRVINE

Irvine, CA

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 models. 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
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