

# Xiaoran Li

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## Objective

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Motivated software programmer seeking **Software Engineer** role, leveraging solid programming skills and expertise in research and development of distributed cloud storage system and enthusiasm in computer science fields.

## Skills

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**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, Kubernetes, Apache Spark  
**Development** Git/GitHub, Linux/UNIX

## Professional Experiences

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### Software Engineering Intern

WESTERN DIGITAL

Irvine, CA

June 2018 - Sept. 2018

- Performance analyzed(profiled) and designed an algorithm to transfer the profile for eSSD to periodic task table to calculate time cost.
- Optimized eSSD engine to remove bottlenecks and improve performance by 20% from 180+ seconds under Mint(Linux)(C, Bash).
- Developed and applied a new Cache storage layer to the eSSD and improved response call by 10% from 2.15 s/call.

### Software Engineering

TINYKICKS

Irvine, CA

Feb. 2014 - Sept. 2017

- Built a data pipeline that comprises multiple steps to gather high volume and velocity data from both push based and pull based sources, which include wearable devices portocal identification, data storage into relational database (MYSQL) and data conversion from digital to binary.
- Developed a real-time health monitoring system (Arduino, Matlab, Labview, and Python) to support the device communication to registered services via Bluetooth within 5 meters.

## Research Experiences

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### Low-Latency MapReduce

ADVISOR: PROF. ZHIYING WANG

University of California, Irvine

Sept. 2017 - Aug. 2019

- Researched and developed new MapReduce shuffling algorithm (pair-index & index-pair), which shortened overall system delay in distributed cloud storage system.
- Performed investigative comparison by simulating the industry distributed file system for *MapReduce* and *coded MapReduce* in LAN. Tested the coded MapReduce to solve word count problem for 20GB files and the searching speed was two times faster than the *MapReduce*.
- Built a web crawler to collect website information from UCI website, and then used both MapReduce and Coded MapReduce in *reverse index coding* to find the recommended pages from UCI.

## Projects

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### 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 use Google Dataflow.
- Aggregated the data at the post level and user level to improve the keyword-based spam detection (BigQuery).

## Education

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**M.S. IN ELECTRICAL AND COMPUTER ENGINEER**, UC IRVINE, IRVINE, CA

2017 - 2019

**B.S. IN ELECTRICAL ENGINEERING**, UC IRVINE, IRVINE, CA

2014 - 2017

## Honors & Awards

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2007 FVC(FIRST Vex Challenge) World Championship ranking at **second place(2<sup>nd</sup>)**

Atlanta, GA, U.S.