Qi Tian

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EDUCATION

Carnegie Mellon University – Information Networking Institute Sep. 2018 – May. 2020
Master of Science in Information Technology-Mobility GPA: 3.75

- **Selected coursework:** Distributed Systems(15640), Storage Systems(15746), Search Engine(11642), Web Application Development(17637), Advanced Cloud Computing(15719)

Nanjing University, Nanjing, China Sep. 2014 – Jun. 2018
Bachelor of Science in Software Engineering GPA: 3.6

SKILLS

Language: Java, C++, C, SQL, Python, JavaScript, php, HTML, Ruby

Technologies: Spring MVC, Hibernate, Django, MongoDB, MySQL, EmberJs, RxJava, Retrofit

EXPERIENCE

Google, Cloud AI, Sunnyvale, United States May. 2019 – Aug. 2019
Software Engineer Intern

- Designed and implemented a new user-facing search API for Custom Knowledge Graph (CKG) entities based on string or string prefix.
- Designed and implemented a CKG entities ranking algorithm, then used it to support new string search API.
- Applied lemmatization to document annotations to remove inflectional endings only and to return the base or dictionary form of the document annotations.

SAP Labs, Shanghai, China Oct. 2017 – Feb. 2018
Software Engineer Intern

- Refactored the whole system(JAM community) into modularized single page application with Ember.js and Ruby on Rails.
- Joined the development of automation test system, and used Watir to build the system's framework.

PROJECTS

Spark Data Engineering on the Cloud (Python, Spark, HDFS) Feb. 2019 – Mar. 2019

- Performed ETL processing on Common Crawl dataset via a series of Spark RDD operations on AWS.
- Implemented join based parameter communication to perform iterative machine learning training (Logistic Regression) on KDD2010 (feature num: 20,216,830), KDD2012 (feature num: 54,686,452) and Criteo (feature num: 882,774,562) datasets.

CloudFS Hybrid Field System (C++, AWS) Oct. 2018 – Dec. 2018

- Implemented a hybrid cloud system using FUSE to automatically store small files and metadata on SSD for low latency, and migrate large files to Cloud storage for unlimited capacity.
- Utilized Rabin Fingerprint to chunk the files and implemented a deduplication layer to reduce S3 costs.
- Designed and implemented snapshots feature to quickly backup and restore file system.

SSD Flash Translation Layer (C) Aug. 2018 – Oct. 2018

- Implemented the system for managing mapping relationship between physical and logical addresses.
- Developed the garbage collection system to compress valid pages and erase stale blocks when needed.
- Optimized the allocation algorithm to improve wear-leveling for the SSD with limited lifespan.

Stock Order Intelligent Optimization System (Django, MangoDB, GraphQL) Apr. 2018 – Jun. 2018

- Combined the machine learning into the VWAP algorithm, and provided high-frequency demolition strategy for large orders.
- Built GraphQL APIs which provide authentication, pagination, navigation, etc, and established graph-based queries that delivered information under minimum overhead.
- Applied Django to establish MVC framework, AngularJS for the front end and MangoDB as the database. Deployed the whole system on the Apache Server.

PUBLICATION

- Feng Liu, Zian Wang and **Qi Tian**. *An Observation Dimension Weight-Based U-Tree Algorithm*. ICTAI (International Conference on Tools with Artificial Intelligence) 2017