Nan Qin

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SKILLS

Programming Languages: Java, C#, JavaScript, Python, Bash, C/C++, Clojure, SQL.
Framework: ASP.NET, Entity Framework, Node.js, D3, Angular, Hadoop, Spark, Zookeeper, Apache Thrift.
Software: Git & Github, Elasticsearch, PostgreSQL, MongoDB, Redis, OAuth, Docker, Nginx, Amazon AWS.
Specific Skills: Algorithms & Data Structures, Cloud Development, Web Development.

EXPERIENCES

Software Engineering Intern   Kabbage Inc, Atlanta, Georgia
June 2019 – August 2019
- Worked with senior engineers to develop Kabbage data platform using ASP.NET and Entity Framework. Code was integrated into real products and deployed into production environment.
- Added a retry policy when loading user bank transactions, which avoided inconsistent failure.
- Migrated the bank search service to Elasticsearch, which largely increased throughput compared to the original regex match with SQL database.

Undergraduate Research Assistant   Distributed Computing Systems Group, University of Minnesota
January 2018 – May 2018
- Implemented a quorum and eventual consistency models for Wiera distributed storage system.
- Designed a dynamic quorum selection, which reduced latency by 30% compared to a random selection.
- Responsible for writing Wiera tutorials and creating testcase.

PROJECTS

1. Linux Web-Based Monitoring (https://monitor.qinnan.dev)
- Used microservices architecture to develop a Linux monitoring system with Node.js and Angular.
- Wrote maintainable code by Implementing separate auth, data access, and permission services and using RESTful APIs for intern-services communication.
- Employed MongoDB to provide flexibility of data schema compared to a traditional RDBMS.

2. PubSub Framework
- Used Apache Thrift API to construct a publish-subscribe system focused on throughput and fault tolerance.
- Utilized Redis to cache client metadata along with multithreading in the client-side library, which improved throughput by 40%.
- Achieved fault tolerance by using Zookeeper with backup servers and logging.

3. Visualization of Ford GoBike (https://gobike.qinnan.dev)
- Visualized Ford GoBike dataset with D3 and Leaflet map to help the analysis of bike distribution.
- Reduced the original CSV raw data size by 80% with a compressed data structure.
- Employed heatmaps and interactive bar charts to efficiently present the usage trending.

EDUCATION

Computer Science, Master of Science   September 2018 – Expected December 2019
Georgia Institute of Technology   GPA: 3.88

Computer Science, Bachelor of Science   September 2015 - May 2018
University of Minnesota, Twins Cities   GPA: 3.88

Relevant Coursework

1. Algorithms & Data Structures 2. Program Design & Development. 3. Operating Systems. 4. Mobile & Ubiquitous Computing 5. Special Issues in Could Computing 6. Programming Languages 7. Information Visualization.