Feng Kaiyu

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Educations

Beijing Institute of Technology | Computer Science *Postgraduate* 2021.09—2024.06

GPA: 3.62/4.0. My main research interest is in **Byzantine Consensus Algorithm**, and I have some research and engineering experience in the field of distributed systems.

Beijing Institute of Technology | Computer Science *Undergraduate* 2017.09—2021.06

GPA: 3.7/4.0 (top 3% in major), received several academic scholarships, second prize (2 times) in the National College Students' XYZ Competition, and third prize in the ZYX Competition.

Skills[2]

- **Programming Languages**: Commonly used Rust, Golang, Python,C++; Familiar with C, JavaScript.
- **Workflows**: Linux, Shell, (Neo)Vim, Git, GitHub, GitLab.
- **Misc**: Hands-on experience with containerization technologies and familiarity with **Kubernetes**.

Work Experience

Foo Bar Corporation | San Jose, CA | *Backend Developer Intern/XXXX* 2020.10—2021.03

- **Independently responsible for the design, development, testing and deployment of XXX business backend.** Implemented station letter template rendering service through FaaS, Kafka and other platforms. Provided SDK code to upstream, added or upgraded various offline and online logic.
- **Participate in XXX's requirement analysis, system technical solution design; complete requirement development, grey scale testing, go-live and monitoring.**

Projects

BusTub Simple stand-alone database based on C++ | CMU 15-445 *Course Project* 2023.02—2023.03

- Implemented a memory pool manager based on an extensible hash table and LRU-K, and developed a concurrent B+ tree supporting optimistic locking for read and write operations.
- Utilized the volcano model to implement executors for queries, updates, joins, and aggregations, and performed query rewriting and pushing down optimizations.
- Implemented concurrency control using 2PL (two-phase locking), supporting deadlock handling, multiple isolation levels, table locks, and row locks.

Multi-Raft Distributed **KV** Storage System | MIT 6.824 *Course Project* 2022.04—2022.08

- Implemented basic functions of Raft protocol: election, log replication, persistence, and log compaction.
- Developed a KV database that satisfies linearizability based on the Raft protocol.
- Adopted a Multi-Raft architecture, supporting data sharding, shard migration, garbage collection of shards, and read-write optimization during shard migration.
- Gained a deeper understanding of the design considerations for distributed systems.

A Certain Consensus Algorithm under XYZ Platform | *Design and Implementation* 2021.11—2022.07

- Modified and implemented a certain consensus algorithm based on the architecture of ZYX.
- Conducted performance testing, analyzed bottlenecks, and optimized throughput; TPS increased from 1K to 6K.

BIThesis LaTeX Thesis Template Collection (Open Source Project) | *Maintainer* 2020.04—Present

- In accordance with specific typesetting requirements, designed macro packages and multiple sets of templates that meet various degree requirements and support flexible configuration using LaTeX3 (expl3).
- Standard workflows were used for requirement development and bug fixes, incorporating regression testing and continuous integration with GitHub Actions.

Personal Summary

- I am optimistic and cheerful, with excellent academic performance and strong self-motivation.
- I have six years of experience using Linux, a wealth of software development experience, and experience in contributing to and maintaining open-source projects. I am skilled in technical writing and continuously follow the developments in internet technology.

[1] Underlined content contains hyperlinks. [2] Skills that are not relevant to the job search are omitted or grayed out.