Junhui Zhu

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Education

National University of Singapore   2022/08 − 2023/12 (Expected)
Master of Computing in Computer Science, GPA 4.86/5   Singapore
- Part-time research assistant under Prof. He and Dr. Zhao
- Courses: Distributed Systems, Advanced Operating Systems, Systems Security

Shanghai Jiao Tong University   2018/09 − 2022/06
B. Eng in Industrial Engineering   Shanghai, China
- Courses: Stochastic Process, Introduction to Computer Systems, Operations Research, Real Analysis

Work Experience

Antelope Technology   2023/03 − Now
Software Engineer Intern   Singapore
- Participate in the daily maintenance of the core infrastructure code related to trading, gateway code, and the development of trading logic for different exchanges.

Dynamic Technology Lab, Ltd.   2022/07 − 2023/01
Software Engineer Intern   Singapore
- Developed a service based on Elasticsearch, React and Django for internal Q&A.
- Built market data parser & feeder for TMX exchange.

BrightRidge Investments   2021/09 − 2022/03
Software Engineer Intern   Shanghai, China
- Built trading gateway, market data feeder and docked with strategy programs with Node and Cpp addons.
- Implemented serialization and unserialization of trading signal forecaster with Metaclass in Python.
- Implemented alerting mechanism detecting the improper resource usage of clusters with InfluxDB and Grafana as well as catching error logs with Loki and Prometheus.

Meituan, Ltd.   2021/06 − 2021/09
Software Engineer Intern   Beijing, China
- Traced call stack of slow RPCs and explored speed bottlenecks. After refactoring or rewriting, average response time sped from 500ms to 50ms.
- Cooperated with PMs and frontends, responded to user requirements, read PRDs and wrote backend logics.

Research Experience

DeltaBoost: Gradient Boosting Decision Trees with Efficient Machine Unlearning   ACM SIGMOD 2023
Zhaomin Wu, **Junhui Zhu**, Qinbin Li, Bingsheng He

Projects

Toy FAT Command-line Tool https://github.com/daniel-junhui/fat_tool
- A binary that can manipulate FAT image files.
- Ability to review the format of FAT files, list all file contents in the file system, copy files from other file systems into an image file, or copy files from an image file to other file systems.

Multi-Paxos KV Store Closed source as requested
- Mapping keys to different partitions (mapping is defined during compiling time), with each partition being managed by a Paxos cluster.
- Allocation of partitions to different clusters is managed by a Paxos cluster, which handles the joining of new clusters and the departure of old clusters.

Raft Library in Go
- Lab project of MIT 6.824 Distributed Systems.

- Used Golang RPC lib and Goroutines to implement a lightweight Raft library and passed the tests provided by MIT for over 1000 times;

TCP Library in C++ https://github.com/daniel-junhui/sponge
- Lab project of Stanford CS144 Computer Networks.
- Decoupled the state of the entire TCP connection into a tuple of TCP sender and TCP receiver states, resulting in a more elegant implementation of state transfer

Compiler Frontend for Simplified C Language https://github.com/daniel-junhui/Frontend-for-weakened-C
- Simplified C language by fixing the size of variables.
- Directly translated the AST into x86_64 assembly code, which could be assemblied to ELF by gcc or clang.

Skills

Programming Languages: C++, Python, Node.js, Java, Go, continuously attempting to learn Rust
Tech Skills: Distributed Systems, Docker, P4 (programmable switch language), TMP in C++
Languages: English, Mandarin Chinese, Shanghainese