Junhui Zhu

daniel.zhujunhui@gmail.com | jhzhu.xyz | daniel-junhui | junhui-zhu

Education

National University of Singapore Aug. 2022 – Dec. 2023 (Expected)
Master of Computing in Computer Science Singapore

- **Cumulative average point**: 4.75/5.0
- **Coursework**: Distributed Systems, Systems Security, etc.

Shanghai Jiao Tong University Sep. 2018 – Jun. 2022
B.Eng in Industrial Engineering Shanghai, China

- **Coursework**: Introduction to Computer Systems, OS, CSE, DB Systems, etc.
- **GPA of CS-related courses**: 3.78/4.3 (88/100)

Internship Experience

Dynamic Technology Lab, Ltd. July 2022 – Jan. 2023
Python & Cpp Developer Intern Singapore

- Developed a service based on Elasticsearch, React and Django for internal Q&A.
- Built market data feed handler for TMX using Cpp.

BrightRidge Investments Sep. 2021 – Mar. 2022
Python & Cpp Developer Intern Shanghai, China

- Built trading gateway, market data feeder and docked with strategy programs with Node and Cpp addons. Adopted IPC mechanism for communication and kept the average latency as low as possible.
- 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. Jun. 2021 – Sep. 2021
Java Developer 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.

Projects

Toy KV store in Rust (work-in-progress) from Jan. 2023

- The project of open-source courses provided by PingCAP.

Raft library in Go Jun. 2022

- 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;
- Plan to rewrite with C++ or Rust. Details in Chinese blog:

A TCP library in C++ Apr. 2022

- 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.

Xv6: a Unix-like teaching OS Jul. 2021

- Labs of MIT 6.S081 **Operating Systems**. Details in Chinese blog:
- Implemented 3 main modules of xv6: virtualization, concurrency, and persistence.

Compiler Frontend for Simplified C Sep. 2020 – Nov. 2020

- Simplified the 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++**, **C**, Golang, Java, Python, Rust (learning)
Tech Skills: Linux C++/C (CMake or Bazel), Docker, web development - full stack (Django, Spring, React.ts)
Languages: Chinese - Native Speaker, English - Fluent

Updated on February 6, 2023