Ziqi Fang

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EDUCATION

University of Southern California — **Los Angeles, CA, USA**
Master of Computer Science — *01/2024 - 12/2025*
University of Zhongnan University of Economics and Law — **Wuhan, Hubei, China**
Bachelor of Computer Science GPA: 3.84/4 — *09/2019 - 06/2023*

TECHNICAL SKILLS

Programming Languages: Java, Python, JavaScript, C#
Programming Related Tools: Git, Springboot, SpringCloud, RPC(Thrift/Pigeon), Docker, Kubernetes, Kafka, AWS
Storage: MySQL, MongoDB, Redis
Concepts: Linux, Distributed System, Multi-threading, APIs, CPU Memory, CI/CD

WORK EXPERIENCE

Software Engineer Intern
Meituan, Shanghai, China — *05/2024 - 08/2024*

- **Implemented a scalable monitoring and alerting system** for 300K+ daily workflows, significantly improving system reliability and operational efficiency using Spring Boot, Thrift, and MySQL.
- **Led the seamless migration** of several Bloom filters, greatly reducing hash collision issues and ensuring uninterrupted service, resulting in 100% uptime during the transition process.
- **Initialized a local caching service** for category data, optimizing data retrieval and ensuring eventual consistency across 18 machines based on scheduled tasks, leading to a **30% reduction in data access latency.**
- **Prototyped a high-performance request ordering system**, leveraging Redis Lua scripts and MQ to maintain data consistency at scale, efficiently handling **millions of QPS with zero data integrity issues.**
- **Resolved critical memory leaks**, reducing Full GC events and optimizing JVM performance by decreasing loaded classes by 10K+, resulting in a **15% increase in system stability and throughput.**

Software Developer Intern
Pinestone Asset, Shanghai, China — *05/2022 - 09/2022*

- **Initialized a company-wide performance dashboard** using FastAPI, Vue2, and MongoDB, with advanced data visualization powered by Pandas and Plotly, enabling multi-dimensional analysis of key metrics.
- **Optimized data processing workflows** through multi-threading and vectorization operations, improving efficiency by 27% and saving researchers over 8 hours per week on data analysis tasks.
- **Created an entity tracking service** with RESTful APIs, providing real-time updates and entity similarity analysis, effectively tracking over **1,000 industry entities** and making it easier for researchers to spot industry trends.
- **Implemented a system supporting over 50 users to track textual similarities** in annual reports for approximately **4,000 documents**, enabling more accurate and efficient analysis of trends and patterns.

PROJECTS

Railway Online Ticketing System
[SpringBoot, SpringCloud, RocketMQ, Redis, MySQL, MyBatis, Shardingsphere] — *Github Link*

- **Prototyped a method to automatically cancel time-out orders** by utilizing delayed message features in RocketMQ, significantly improving user experience and business agility.
- **Achieved data consistency between MySQL and Redis** employing BinLog with RocketMQ, **decoupling the database and cache** to facilitate easier system expansion and maintenance.
- **Implemented a token allocation algorithm** for user ticket purchases by leveraging the atomic features of Redis Lua scripts, using **token-based rate limiting** to handle massive user ticket requests.

Da Vinci Surgical Instrument Lifecycle Management System
[Fastapi, Pandas, MongoDB, Vue3, Uniapp, Pytest, Docker] — *Github Link*

- **Initialized the web frontend** using Vue3 and Vuetify, ensuring seamless integration and efficient development. **Built the mini-program platform with uni-app** to achieve one-time development across multiple terminals.
- **Implemented an optimistic locking mechanism** with a spin retry strategy to ensure the successful deduction of surgical instruments without repetition.
- **Utilized the chain of responsibility model** to verify the correctness of instrument stock submission parameters, ensuring **high cohesion and low coupling** in the verification logic of the codebase.