ZUO YUE

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Software Developer, skillful at concurrent parallelism, cloud computing, message queue middleware and distributed system, need EP sponsor.

EDUCATION

National University of Singapore   **Aug 2022 - Jul 2024 (Expected)**

Master of Computing | GPA: 4.17/5.00   Singapore, Singapore

Relevant Courses: High-Throughput Stream Programming, Software Engineering on Application Architecture

Tsinghua University   **Aug 2017 - Jun 2022**

Bachelor of Architecture | GPA: 3.73/4.00   Beijing, China

Honors: Awarded Scholarship for Comprehensive Excellence in 2020 (Top 10%)

WORK EXPERIENCE

Full Stack Software Engineer Intern   **May 2023 – Jan 2024**

HackerTrail Company   Singapore, Singapore

- Optimized a profile searching and recommending system as both web application and Chrome Extension, leveraging **TypeScript**, **Python**, **Fast API**, **Celery** and **Next.js**, enhancing recruiter's hiring efficiency. Tested by **Jest** for automating unit/integration tests and **CI/CD** scripts to reduce bugs. Deployed on **AWS LightSail** with **AWS LightSail** for PostgreSQL and amplified search capability by **AWS Elastic Search.**
- **Database Query Optimization**: Diagnosed and remedied data anomalies by a **1%** reduction with enhancing **SQL Alchemy** session handling and optimizing **PostgreSQL** operations in microservice system.
- **Message Queue Enhancement**: Implemented a high-priority task queue using **AWS SQS** and **Celery**, ensuring efficient prioritization and processing. Established a scheduled task system and utilized **CloudWatch** for performance monitoring and auto-scaling, significantly enhancing system reliability and operational efficiency.
- **Responsive Design**: Created customized email template design and flow-sending system. Ensured responsive designs for multi-device compatibility. Transiting from Polling to Server-Sent Events (**SSE**), loading efficiency was improved by **20%**.

SELECTED PROJECTS

Chatting AI Chrome Browser Extension   **Jun 2023 – Present**

- Link: https://github.com/zuozuo12345/chatGPT-extension
- Designed an AI chatbot based on Chrome Extension with a floating dialogue window by using Spring Boot, Redis and **MySQL** for enhanced functionality. Integrated with **Open AI APIs** with prompt to provide user-defined interactions, such as text adventure games, tarot divination and psychological counseling. Incorporated a robust framework using **Pinecone** and offered **ChatGPT** multi-model selection options for a more tailored user experience.
- Pioneered real-time communication pathways utilizing **SSE**, catering to **Multi-turn Dialogues** and **Single-turn Dialogues**. Optimized system responsiveness by architecting a **dual-layer caching mechanism** combining **Caffeine** and **Redis**, ensuring automated data retrieval during cache discrepancies.
- Safeguard system integrity and security by using **JWT** and ensuring efficient resource management for API-Key usage.

City Spots Share and Review Mobile Web Application   **Aug 2022 - Dec 2022**

Link: http://43.206.181.204:8080/

- Developed a social-driven web application for local spot recommendations and reviews in **Java** with **JavaScript**, **Spring Boot**, **MyBatis**, **MySQL**, **Redis** and **Vue.js**.
- Used **Redis** as **message queue** for asynchronous communication process to improve system performance. Applied **Redis Clusters** to cache information with **distributed locks**, improving system scalability and solving high concurrency issues.
- Deployed server on **Amazon EC2**, capable of handling **800+ queries per second** as tested by **Apache JMeter**.

SKILLS AND OTHERS

- **Programming Languages:** Python, Golang, TypeScript/JavaScript, Java, Scala, C#, C/C++.
- **Programming Frameworks/Tools:** AWS, Git, Linux, Docker, MySQL, PostgreSQL, Redis, Kafka, Spring Boot, Fast API, REST API, UML, Figma, CI/CD, GIS, Vue.js, Node.js, HTML, CSS.