

RUIJIA(RITA) ZHANG

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SKILLS

- **Language:** Java, Python, C++ STL, SQL, HTML5, CSS3, JavaScript ES6, shell scripting, Lua
- **Frameworks/Libraries:** Spring Boot, Spring Cloud, Django, MyBatis-Plus, JOOQ, React.js, Redux, Vue.js, Vuex, Material-UI, React-Bootstrap, JUnit5, Mockito, Jest, React Testing Library, Axios
- **Databases/Tools:** MySQL, PostgreSQL, Flyway, Redis, WebSocket, RESTful API, Consul, RocketMQ, JMeter, Postman, webpack, npm, Jira, Confluence, Bitbucket, Git, AWS, Jenkins, Docker, Maven, Kubernetes, Microsoft Word, Excel & Powerpoint
- **Knowledge:** OOP, OOD, SOLID, DDD, Design Patterns (Singleton, Observer), TDD, Agile, SCRUM, code reviews

WORK EXPERIENCE

Buy Now: Spring Boot based High Concurrency Microservices for E-Commerce

08/2022 - 01/2023

Software Engineer Intern - SKILLUPIT(Canada)

- Participated in design and completed the “Limited Time Promotion & Buy Now” business requirement, improving performance from 500 QPS to 50,000 QPS by employing Redis and RocketMQ.
- Split order service into promotion and order microservices according to DDD(Domain Driving Design) and SOLID principles.
- Implemented cache preheating for active promotions. Completed lock and revert inventory service through Redis and Lua script.
- Peak-load shifting order service stress by asynchronously creating orders with RocketMQ. Implemented “Pay-Check&Cancel” by consuming delay messages. And optimized optimistic-lock of updating inventory in MySQL database.
- Applied Twitter Snowflake to generate distributed IDs.
- Implemented agile team collaboration with Jira, Confluence, and Bitbucket.
- Employed Git for version control and collaborative development, following GitFlow branching strategy and pull request reviews.
- Tested with Postman, JMeter, JUnit5, and Mockito.

PROJECTS

King of Bots: Vue/Spring Boot based Real-Time Microservices for Battle Game

- Developed a microservices-based real-time battle platform with Java, Spring Boot, Vue.js on MySQL and AWS.
- Used Vue.js as frontend; integrated Vuex for state management and vue-router for page routing.
- Developed the RESTful API with Spring Boot on MyBatis-Plus and MySQL.
- Used Lombok for template, Log4j for logging, and IPage for pagination.
- Used JWT with Spring Security for authentication and authorization to realize CORS.
- Built a JWT authentication based WebSocket connection for asynchronous bidirectional communication.
- Realized matchingSystem microservice with ELO auto-matching mechanism to improve efficiency.
- Realized botRunningSystem microservice with Joor API and message queue for point to point tasks that dynamically compile and execute clients’ Java code.
- Realized backend microservice with RestTemplate for process communication and WebSocket to broadcast messages.
- Knowledge of deployment automation with Git, AWS, Jenkins, Docker and Kubernetes.

My Shop: React/Django based E-Commerce Platform

- Built a full-stack e-commerce platform with Python, Django Rest Framework, React on PostgreSQL and AWS.
- Implemented the front end with React, Redux, and webpack for Axios-based dynamic web pages.
- Implemented responsive and user-friendly front-end components with React-Bootstrap and React Router.
- Developed the RESTful APIs with Django Rest Framework to handle user authentication, product search, rating & review, shopping cart management, admin customers, products & orders management.
- Integrated the PayPal API for the checkout process.
- Implemented picture management with Boto3, django-storages to upload the images to AWS S3.
- Wrote unit tests with Jest and React Testing Library.

King of Fighters: JavaScript ES6 based 2D Horizontal Fighting Game

- Designed a game page with CSS flexbox, including HP bars, countdown and two characters.
- Designed a finite-state machine and enabled seven reasonable and smooth animations of characters.
- Used Axis-Aligned Bounding Box for collision detection to achieve attack, attacked and death effects.

EDUCATION

University of Alberta, Edmonton, Canada

09/2020 - 04/2022

M.Eng. in Electrical and Computer Engineering, GPA: 3.9/4.0

University of Electronic Science and Technology of China (UESTC), China

09/2016 - 06/2020

B.Eng. in Software Engineering, GPA: 3.63/4.0