SHENYI **ZHANG**
Associate Software Engineer

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An associate software engineer who has a solid background in web development, DevOps, and big data process including basic Machine Learning expertise. I am passionate about all new technologies as well as any challenges and have been working on Restful API development and CI/CD Automation since graduated from Monash University in 2021.

Education

Dec 2021 – Mar 2020 | **Master of Information Technology, Monash University, Melbourne, Australia**
- WAM 81/100
- GPA 3.625

Sep 2014 – Jul 2018 | **Bachelor of Mechatronic Engineering, Southwest Petroleum University, Chendu, China**
- WAM 82/100
- GPA 3.2

Technical Skills

Programming	Java, JVM, C++, Python, SQL, Terraform.
Web Development	Spring, SpringBoot, Spring WebFlux, SpringCloud, EJB, Maven, RabbitMQ.
Database	MySQL, Redis, MongoDB, Cassandra, Neo4j.
DevOps	Docker, Kubernetes, Azure DevOps, Azure Pipeline, Shell Script.
Cloud Provider	Azure
Big Data Process	Machine Learning, Data Wrangling, PySpark.
Others	**ZooKeeper**, Linux, Multi-thread Programming, Internet Protocols.

Working Experience

2021 May – Present | **Associate Software Engineer, Coles Group | API Development Department, Australia**
- Maintaining and developing existing/new micro-services for different platforms across the enterprise, ensuring the availability and durability of micro-services under a high volume of requests.
- Developing CI/CD pipelines for automating the build/deployment of microservice and the management of Cloud resources.
- Successfully supported dozens of existing SpringBoot services.
- Successfully developed a sales transaction processing platform that receives and processes transaction data from third-party companies.

Java | Python | Terraform | WebFlux | SpringBoot | Spring Data JPA/JDBC | Spring Security | Redis | CI/CD | Kubernetes | Terraform | Azure Services | Azure Devops

2019 Apr – 2019 Jul | **Software Engineer Intern, 3xLogic | Stanley Black & Decker Group, China**
- Participated in a web development agile project to help senior developers test website quality, reported several bugs, and thus improved the quality of deliverables.
- Constantly traced feedback from clients and converted it into business requirements.

Web Testing | Business Analysis | Project Management

Personal Projects

Micro-service Project (Java) : Time Limit Sale System 12/2021 - 01/2022
github.com/Shain001/flashsale

- Developed an online shopping micro-service system where users can participate in the ”Crazy Sale” promotion, focused on improving the system’s respond speed, availability, thread safety, and fault tolerance ability.
- Used SpringCloud components, SpringBoot, and Zookeeper as the core framework to develop Restful APIs and implement the load balance.

- Used MySQL as the main database, while Redis database was used as a cache to increase the response speed.
- Used Sharding-JDBC to implement MySQL Read-Write splitting to increase process speed, while Redis Sentinels and Master-Slave mode were used to ensure high availability.
- Used Redisson Distributed Lock to prevent "over sale", and ensured the thread safety of the system.
- Used RabbitMQ to clip peak traffic and improve fault tolerance, solved the problem of the different process speeds between MySQL and Redis.
- Integrated Bloom Filter into the gateway module (SpringCloud Zuul) to prevent malicious requests and decrease the pressure of back-end modules by filtering unauthenticated/unnecessary requests.
- JMeter testing results showed that the system can steadily handle around 5000 to 6000 requests per second with all modules running on a single machine.

Java | Micro-Service | Restful API | SpringBoot | SpringCloud | ZooKeeper | MySQL | Redis | Sharding-JDBC | Redis Sentinel | Redisson Distributed Lock | RabbitMQ | Bloom Filter | JMeter

Minor Thesis Project (C++) : An Eco-Friendly Navigation Algorithm Based on Mobility Profile

03/2021 - 11/2021

ADC 2022 : Databases Theory and Applications pp 128–140

- Researched and developed an eco-friendly navigation algorithm that can find the most fuel-saving route.
- Built the module prototype by combining the VT-CPFM model and traditional routing algorithm.
- Designed and conducted experiments to compare the performance of developed module with other existing modules.
- Successfully improved the algorithm's accuracy by about 10% compared to other current eco-routing algorithms.

C++ | Algorithm Design | Academic Research | Eco-friendly Navigation | VT-CPFM Model

AWS Cloud and Kubernetes Project (Python) : Modern Intelligent Image Repository

04/2021 - 07/2021

github.com/Shain001/AWS-Docker-Kubernate

- Used AWS Cloud services to develop a cloud image repository where users can manage their images.
- Achieved "Auto-tagging" function that can automatically add tags to uploaded images by integrating deep learning modules.
- Built separate endpoints to provide individual image-recognizing function by using Kubernetes, Docker, and Flask.
- Achieved functions include : CRUD functions, the search image by image function, and image auto-tagging related functions.

Python | Docker | Kubernetes | Yolo | AWS Lambda Function | AWS DynamoDB | AWS API Gateway | AWS S3 Bucket

HONOR AWARDS

2017 **National Endeavor Scholarship**

Publications

Australasian Database Conference 2022 — Improving Eco-Friendly Routing Considering Detailed Mobility Profiles, Driving Behavior and Vehicle Type