

Vincent Liu

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SUMMARY

Committed and adaptive Java engineer with over 7 years of related experience in developing and maintaining web applications.

TECHNICAL STACK

Programming Languages: Java, Python, SQL, Shell, JavaScript

Tools: Git, Postman, Maven, Jira, IDEA, VS Code, DataGrip

Frameworks: SpringBoot, MyBatis, Sharding-JDBC, RESTful API

Databases: MySQL, MongoDB, Redis, Kafka

Knowledge: Java I/O, Network Socket, Multi-Threading

Server: Linux, GCP, Tomcat, AWS, Docker, K8s, JVM

PROFESSIONAL EXPERIENCE

Back-end Engineer Freelancer, Daily Supplies, Vancouver, CA

May 2024 - Present

Developed MVP version user-end business website, aiming to provide members with personalized nutrition recommendations by AI.

- Managed the user-end website using **SpringBoot framework** to handle backend operations, including processing product data in **MySQL** and building **RESTful APIs**, resulting in a **20%** improvement in development efficiency.
- Integrated **Apache Kafka** to decouple order submission from processing, which alleviated database write pressure and improved user experience by reducing average wait time by **800ms**.
- Leveraged **Redis** combined with **Spring Cache** to cache frequently accessed product details and pricing, significantly reducing latency and ensuring faster response times compared to using MySQL alone, while decreasing database load by **50%**.
- Implemented **MyBatis** to manage **CRUD** operations, simplifying the integration of dynamic **SQL** queries, enhancing code readability and improving development efficiency.
- Leveraged **JUnit** for backend unit testing and integrated **Postman** for automated API testing, ensuring the accuracy and reliability of API responses and identifying edge cases early, which reduced manual testing time by **1-2 hours** per regression test.

Back-end Engineer, Defend, Vancouver, CA

May 2023 - May 2024

Completed the first milestone of development of a dating App for the target customers who need a safer dating platform.

- Developed email registration feature by leveraging **Redis** to store and manage rapidly expiring verification codes, avoiding frequent database read/write operations, ensuring secure and efficient user verification, and reducing database query load by **8%**.
- Implemented **JWT-based authentication** in a **microservices** architecture, enabling stateless and secure user authentication across multiple services, which reduced the need for centralized session management and improved system scalability and security.
- Leveraged **MySQL** with **Sharding-JDBC** to horizontally partition the **high-traffic** user table, distributing user data across multiple nodes based on user ID, balancing database load more effectively and resulting in a **3x** reduction of database query time.
- Utilized **Docker** to containerize microservices and deployed them with **K8s** for automated scaling and orchestration, reducing deployment time and simplifying management, which enhanced flexibility and prevented vendor lock-in.

Data Engineer Team Lead, Rainer Technology, Beijing, CN

Oct 2019 - Jun 2021

Led a team of 3 data engineers and 3 projects in designing and implementing scalable data solutions to support various business functions. Discussed customer needs and documented their requirements for projects, ensuring all data solutions met customer expectations.

- Designed and implemented scalable data models, increasing data query performance by **35%**.
- Optimized existing **DB2** databases indexing, resulting in a **20%** reduction in query costs and improved system performance.
- Designed and optimized **ETL** pipelines using **Python** and **SQL**, reducing data processing time by **30%**.
- Automated data loading and reporting processes, decreasing manual effort by **80%** and improving accuracy using **Shell** scripting.

Data Engineer Internship, Huaxia Diantong IT, Beijing, CN

June 2019 - Oct 2019

- Supported the development of **ETL** processes while updating the data mapping documentation as needed.
- Mastered **ETL** processes with **Kettle** and **SQL**, optimizing data flow from source databases to **MySQL** central data warehouse.

Data Engineer Lead Internship, Guangxi Normal University, Guilin, CN

Jan 2018 - May 2019

- Led a team of **2 data engineer interns** in developing and optimizing data solutions, providing technical mentorship.
- Utilized **MySQL** database for data storage and management, ensuring data integrity and reliability.
- Developed and maintained **ETL** processes with **Kettle**, enhancing data extraction and transformation accuracy by **20%**.

EDUCATION

The University of Nottingham

Nottingham, UK

M.S. in Artificial Intelligence

Sep 2021 - Dec 2022

- Graduated with Merit

Guangxi Normal University

Guilin, China

B.S. in Computer Science

Sep 2016 - Jul 2020

- GPA: 3.53/4.0