Vincent Liu

(236) 867-7290 | Vancouver | Email | Portfolio

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 | **Databases**: MySQL, MongoDB, Redis, Kafka
Tools: Git, Postman, Maven, Jira, IDEA, VS Code, DataGrip | **Knowledge**: Java I/O, Network Socket, Multi-Threading
Frameworks: SpringBoot, MyBatis, Sharding-JDBC, RESTful API | **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.

BI Engineer Internship, Huaxia Diantong IT, Beijing, CN   **June 2019 - Oct 2019**

- Managed **BI** dashboards showcase the government key metrics, supporting management adjustment.
- Established data warehouses to ensure data consistency from business systems to dashboards, meeting government data standards.

Technical Support Internship, Guangxi Normal University, Guilin, CN   **Jan 2018 - May 2019**

- Led a team of **2** student developers in developing and optimizing university website, providing technical mentorship.
- Managed university website maintenance, enhancing site reliability, resulted in a **20%** reduction in website-related complaints.
- Resolved **100+** student complaints about website usage, improved user experience and led to a **30%** increase in student satisfaction.

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