ZITONG ZHU

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EXPERIENCE

TENCENT TECHNOLOGY (SHENZHEN) CO., LTD.   Shenzhen, Guangdong, China
Software Developer   July 2021 – June 2024

Experienced in designing, developing, and managing high-performance financial systems for large-scale internal platforms at Tencent, supporting over 100K users with a focus on scalability, reliability, and cloud-native architecture.

- Led the architecture and development of core service components using Java and Spring Boot, with MySQL and Oracle databases. Designed a microservices architecture with RESTful APIs for seamless integration and modular scalability, deploying all services via Tencent Cloud using Docker for containerization to ensure high availability and efficient resource management.
- Developed a Gateway Service handling 5K QPS and 40M requests daily, enabling protocol translation (e.g., HTTP to RPC), intelligent request routing, and role-based authorization using OAuth 2.0, optimized for high-throughput environments.
- Built a high-throughput Message Service processing 200K+ messages daily using RabbitMQ for asynchronous messaging, Redis for rate limiting, and SMTP proxies with WeChat API for multi-channel delivery.
- Designed and developed department portals in Java and React for 300+ users and 100+ systems, integrating DevOps tools for operations management, approvals, foundational service configuration, log analysis, and monitoring of container resource usage and API availability using Zabbix.
- Optimized operations using Quartz for scheduling, Impala for big data queries, Redis for caching, and Python scripts for APM tracking, AI analysis, and data reconciliation.

Tencent Technology (Shenzhen) Co., Ltd.   Shenzhen, Guangdong, China
Internship - Software Developer   July 2020 – Dec 2020

Developed and managed core message service components at Tencent using Java and Spring Boot, supporting over 100,000 users.

- Designed and implemented RESTful APIs and RPC protocols to enable seamless integration across 100+ systems. Utilized Redis to implement window current limiting for half-hour intervals and token bucket limiting for daily rate control.
- Enabled multi-channel messaging with SMTP proxy for email delivery and WeChat API for direct WeChat messaging, ensuring scalability and reliability through optimized microservices architecture.

Yellow River Hydro Power Development General Company   Zhengzhou, Henan, China
Internship - Software Developer   Jun 2018 – Aug 2018

Assisted in coding the in-house Monitor Data Fusion Applications for Yellow River Hydro Power Development, developing a scheduled feature to process and deliver large-scale monitoring data to a WeChat group.

- Processed 1.5 million monitoring data points annually, generating over 200GB of multimedia and textual monitoring data.
- Decomposed XML trees and executed keyword-based queries using XPath for data extraction from XML and HTML sources.
- Utilized regular expressions and web crawlers to search and filter data, compiling structured reports for delivery.

PROJECTS

Watch the Fun

- Built an Instagram-like web app using JavaScript, Node.js, AngularJS, and MySQL, with user management and social media features, tested via Jest and Selenium.
- Implemented access control, input validation, secure tokens, account lockout, and real-time updates with WebSocket.

Movie Snipper

- Designed and developed a web app with a user system using HTML, CSS, and AngularJS for the front-end framework and Node.js for the back-end server. Implemented a scalable architecture integrating IMDb and Rotten Tomatoes data to manage 50K+ movies.
- Leveraged MySQL for structured data like user accounts and MongoDB for unstructured movie data, optimizing queries for ranking and personalized movie recommendations.

EDUCATION

UNIVERSITY OF AUCKLAND   Auckland, New Zealand
Master of Information Technology   2024 - Current
Cumulative GPA: 3.5/4.00

UNIVERSITY OF PENNSYLVANIA   Philadelphia, PA, the U.S.
M.S.E in Computer and Information Science   2019 - 2021
Cumulative GPA: 3.5/4.00

MUHLENBERG COLLEGE   Allentown, PA, the U.S.
Bachelor of Science Double Major in Computer Science and Mathematics   2015 - 2019
Cumulative GPA: 3.7/4.00 | Honors: Dean's list (every semester)