

LAI, HOI FUNG (TIM)

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SUMMARY

Ex-Morgan Stanley Java Software Developer with 8 years of experience in the finance industry. Proven ability in crafting reliable automated tested code, with knowledge in microservices architecture, ensuring scalable and maintainable solutions. Now seeking to apply my expertise and problem-solving skills as a software engineer.

SKILLS

Languages and Frameworks: Java, Spring, Spring Boot, JUnit, Mockito, Python, Bash, SQL
Protocols and Technologies: REST API, WebSocket, FIX, Kafka, ActiveMQ, Chronicle Queue, Redis
Databases: MySQL, MariaDB, PostgreSQL, SQLite, InfluxDB, kdb+, MongoDB
Tools and Platforms: Docker, Jenkins, GitHub Actions, Maven, Gradle, Linux, AWS, Heroku

WORK EXPERIENCE

Bank of China

Hong Kong

Quantitative Trading

Aug 2020 - Aug 2023

- **Quantitative Trading Platform Development:** Led the software architecture for the creation of a microservices-based trading platform. Collaborated closely with quantitative researchers and traders to capture trading opportunities in fixed income, currency, and commodity markets.
- **Low Latency Order Matching Engine** Designed and implemented a high-performance order matching engine in Java with a microsecond level latency at 99th percentile. Developed real-time market data APIs and integrated with trading algorithms.
- **Effective Market Data Platform:** Drove the development of a market data platform utilizing kdb+tick architecture. Enabled real-time data capture and access to over a decade of historical data through normalized schemas. Implemented check scripts to validate the data quality of 233 billion lines of data, ensuring high-quality historical data are available for trading strategy research and development.

Morgan Stanley

Hong Kong

Associate

Sep 2019 - Aug 2020

- **Technical Expertise and Role:** Served as a Java Software Developer in the Institutional Securities Technology Division, specializing in electronic trading systems across Asian markets. Utilized a tech stack comprising Java, Spring, JUnit, and Sybase, while actively leveraging internal proprietary reactive programming libraries and middleware technologies.
- **Core Business Logic Enhancement and Impact:** Revamped the quote request market making engines, introducing novel handling logic and algorithmic parameters. Achievements include a 25% average increase in response rates and a successful retention of the exchange market making license.
- **Project Delivery and Cross-Regional Collaboration:** Completed a project to unify regional codebases into a global one, enhancing code-reuse and productivity for developers in the New York, London, and Hong Kong offices. The change is successfully deployed without issues across different sites in different regions. Concurrently, collaborated with a compliance team in India to fortify the market making system, ensuring daily compliance reporting.

Eclipse Trading

Hong Kong

Software Developer

Jan 2016 - Aug 2019

- **Microservice Application Rewrite** Rewrote a mission critical upstream Java application for financial instrument data. Achieved 80% automated test coverage. Built automated end-to-end integration test cases to reduce manual testing overhead. Delivered to production in a few months and zero issue after deployment. Decommissioned legacy Java applications and PHP scripts and simplified the overall software architecture.
- **Functional and Non-functional Enhancements:** Executed rapid enhancements across various systems, such as real-time risk, order management, and index arbitrage. Seamlessly migrated firm-wide middleware from ActiveMQ to Kafka and ensured robust application delivery with zero post-deployment issues.
- **JVM Garbage Collector Tuning:** Conducted an in-depth evaluation of Shenandoah GC versus G1GC, utilizing GCViewer for stress test-based performance assessments.

EDUCATION

The University of Hong Kong

Sep 2012 - Dec 2015

Bachelor's Degree in Information Systems