

Kyle Xu (Zhongjian Xu)

zjxu97@gmail.com | +86 18971672214 | [linkedin.com/in/xu-kyle](https://www.linkedin.com/in/xu-kyle) | Senior Backend Engineer (6 Years of Experience)

Summary

Backend engineer with 6 years of experience in distributed systems and real-time processing. Specialized in market data infrastructure, trading systems, and streaming architectures using Flink and Kafka. Strong background in high-concurrency system design and financial system modeling.

Education

Heilongjiang University Sep 2016 - Jun 2020
Bachelor of Engineering in Electronic Information Engineering

Work Experience

- Tiger Brokers · Crypto Exchange**

Senior Software Engineer

May 2023 - Present
- Hong Kong licensed cryptocurrency exchange. Led and contributed to market data, OTC trading, and real-time rule engine.
- Meituan · Hotel & Travel Group**

Software Engineer

May 2021 - Mar 2023
- Built merchant-level rate limiting with Redis and implemented signature verification with multi-level cache, improved throughput.
- Xiaomi · Retail Group**

Software Engineer

Oct 2019 - Apr 2021
- Built retail management system components, focused on order and inventory modules and improved transaction consistency.

Core Project Experience

Market Data Infrastructure @Tiger Brokers *Flink, Kafka, Redis, DynamoDB, WebSocket, MQTT, Thrift*

- Background:** Built a unified market data platform integrating internal matching and external feeds for trading and risk control.
- Market Data:** Consumed trade-level events from the matching engine and computed real-time candlestick data with Flink.
- External Feed Integration:** Integrated external exchange feeds (e.g., Binance) for redundancy and price validation.
- Tiered Architecture:** Designed MQTT real-time push (<50ms), Redis hot cache, and DynamoDB historical storage.
- Risk Monitoring:** Implemented real-time volatility and liquidity monitoring for automated risk alerts.

Real-Time Rule Engine Platform @Tiger Brokers *Flink, Spring Boot, Kafka, Redis, MySQL, REST API*

- Background:** Built a Flink-based rules platform to avoid code releases for rule changes across risk control and KYC.
- Rule Engine:** Built a configurable Flink-based rule engine that enabled hot rule deployment without service releases.
- Job Lifecycle:** Implemented dynamic job lifecycle management with savepoint recovery and state persistence.
- Efficiency:** Reduced rule rollout time from 2 days to 1 hour.
- Adapter Framework:** Designed multi-source adapters (Kafka, MySQL, WebSocket) for extensible data integration.

OTC Trading System @Tiger Brokers *Spring Boot, Redis, MySQL, XXL-Job, State Machine, Thrift, RateLimiter*

- Background:** Built an OTC trading platform that supports exchanges between users and LPs (Liquidity Providers).
- OTC Platform:** Built OTC trading platform that supports fiat-crypto large-volume transactions.
- Pricing:** Implemented proprietary order book aggregation across multiple LPs for optimal pricing.
- Order Lifecycle:** Designed full order lifecycle using a state machine (Quote, Trade, Settlement).
- Settlement:** Optimized net settlement process, improved capital turnover by **70%**.

Distributor Management System @Meituan *Spring, Redis, MySQL, XXL-Job, Thrift, State Machine, Guava Cache, MyBatis*

- Background:** Built hotel and ticket distribution services across industries, managed full distributor lifecycle.
- Rate Limiting System:** Implemented traffic limiting based on Redis, prevented malicious requests and system overload.
- Signature Verification:** Built signature verification using Redis combined with Guava Cache for improved verification efficiency.
- Lifecycle Management:** Implemented State Machine that manages status transitions from application to offline, prevented illegal state transitions.
- Rate Limiting:** Built high-efficiency rate limiting algorithm using Redis to achieve multi-dimensional throttling.

Technical Skills

- Languages:** Java (Primary), Python, SQL.
- Streaming & Messaging:** Flink, Kafka.
- Storage:** Redis, MySQL, DynamoDB.
- Architecture:** Distributed systems, high-concurrency design, state machine modeling.
- DevOps:** Docker, Kubernetes, Prometheus.