

LIJUAN LIU

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PROFESSIONAL EXPERIENCE

Radical AI | Full Stack Software Engineer

May 2024 – Aug 2024 | Remote | USA

- **Data Collection Pipeline:** Built using **SNS, SQS, and Lambda** to capture user interactions, reducing end-to-end latency from hours to minutes, with data stored in DynamoDB
- **Monitoring System:** Implemented the **ELK stack(Elasticsearch, Logstash, and Kibana)** to monitor system health and analyze logs, providing insights for optimizing user interest models.**Collaborated closely with UX/UI designers** to refine the data presentation layer, ensuring actionable insights are delivered to non-technical stakeholders
- **Low-Latency Data Serving Pipeline:** Configured **Redis** to maintain under 2 ms latency for serving data in training and inference, even with complex datasets like user interaction histories, ensuring data freshness within minutes
- Implemented **React, MUI, and CSS** for responsive user interface components like progress bars and layouts. While backend remained the focus, this collaboration ensured seamless integration between backend services and the frontend user experience.

Full JICHEN DATA Co.ltd | Full Stack Engineer

Oct 2022 – Apr 2024 | Hybrid | Guangzhong, CHN

- **Developed a Real-Time Trading Platform:** Built a secure backend using Java and Spring Boot and a dynamic frontend with React, and deployed services on **JBoss**, enabling users to visualize product price trends and inventory levels, and make buy/sell decisions directly within the app. **Integrated with an enterprise-level content management system to automate transaction updates and notifications**, improving user efficiency by 50%
- **Implemented Real-Time Data Processing and Automated Decision-Making System:** Utilized **Kafka** for real-time data processing to ensure product prices are updated with less than 1-second latency. This setup powered a Gradient Boosting Decision Tree (GBDT) model, optimizing buy/sell strategies based on real-time data. **Developed RESTful APIs in Java to interface with external data providers**, enhancing the system's data accuracy and reliability.
- **CI/CD Pipeline and Infrastructure Management:** Set up a CI/CD pipeline using AWS CodePipeline, AWS CodeBuild, and AWS CodeDeploy for seamless deployment across multiple environments. Employed AWS CloudFormation to manage and provision AWS resources, and used AWS CloudWatch for monitoring and alerting on key performance metrics. Followed Test-Driven Development (TDD) practices to ensure robust code quality, utilizing JUnit for unit tests and Mockito for mock testing. Applied Behavior-Driven Development (BDD) with Cucumber to create detailed test scenarios, ensuring end-to-end test coverage for critical services. This automated pipeline reduced deployment time by 50% and decreased downtime during updates by 35%
- **Containerization and Orchestration:** Containerized services using Docker and deployed them on Kubernetes (K8s) to improve scalability and resilience. This containerization strategy increased development and deployment efficiency by 20%, enabling faster and more reliable software releases.

PRACTICAL EXPERIENCE

Developed a Real-Time Trading Alert and Automation System

Oct 2021 – Sep 2022 | Freelance

- **Real-Time Stock Price Monitoring:** Built a system to continuously listen to the Webull stock API, retrieving real-time prices for all stocks listed on NYSE and NASDAQ. Used Apache Flink and Kafka for efficient data processing, ensuring end-to-end latency of under 1 second for live data streaming
- **Customizable Trade Alert Engine:** Implemented a **User-Defined Language (UDL)** to enable users to define custom trading algorithms for generating trade alerts. The system processes these algorithms in real-time, sending out alerts instantly based on market conditions
- **Automated Paper Trading:** Leveraged the Webull API to automate paper trading based on the specified algorithms, enabling backtesting with various capital levels to evaluate strategy performance
- **Data Storage and Visualization:** Stored all trading and alert data in AWS S3 and DynamoDB for durability and fast access. Developed a frontend interface using **React, D3.js, and Chart.js**, integrated with a backend API for dynamic querying and visualization of trading data

TECHNICAL SKILLS

Programming Languages: Java, Python, JavaScript, HTML, CSS, C, Golang, Kotlin
Frameworks and Libraries: Spring Cloud, Django, Flask, React, Vue.js, Express, Node.js, Next.js, **Freemarker, Rust(basic)**
Databases: MySQL, PostgreSQL, SQLite, MongoDB, Redis, Cassandra, Elasticsearch
Testing and Collaboration Tools: SOAP UI, Postman, Excel (formulas, macros), Miro, JIRA
Cloud Platforms: AWS (SNS, SQS, Lambda, DynamoDB, CodePipeline, CodeBuild, CodeDeploy), GCP, Azure
Developer Tools: Kubernetes, Linux, Docker, IntelliJ IDEA, Jupyter Notebooks, Git, Jenkins, GitLab CI, CircleCI, Agile/Scrum
Additional Skills: Machine Learning and NLP expertise; experienced with TensorFlow and PyTorch

EDUCATION

Stevens Institute of Technology|Master of Software Engineering

Jan 2023 - Dec 2024 | New Jersey | USA

Hofstra University | Master of Science in Business Analytics

Jan 2021 - Dec 2022 | New York | USA

