

Roy(Yi Liu)

Software Engineer

+61 0413 157517 | royliu810@gmail.com | Lane Cove, 2066

SUMMARY

- **Senior Java Backend Engineer** with 10+ years of experience architecting scalable applications, microservices, and distributed systems across enterprise environments
- **Full-stack solution architect capable** of designing and delivering end-to-end solutions from backend APIs to modern frontend interfaces using React, Vue.js, Next.js, and TypeScript
- **Performance optimization specialist** with proven track record of implementing innovative architectural solutions to enhance system efficiency and scalability
- **DevOps and cloud solution architect** proficient in CI/CD pipeline design using Docker, Jenkins, SonarQube, and Kubernetes orchestration on AWS cloud platforms (AWS-certified)

TECHNICAL SKILLS

Core Technologies: Java 8+, Spring Boot, REST APIs, Microservices, Python, JavaScript, TypeScript

Testing & DevOps: JUNIT, Jenkins, Git, Maven, JMeter, Sonar, ELK Stack, Grafana, Prometheus, Docker, Kubernetes

Web Applications: Vue, React, React Router, Nextjs, JavaScript, TypeScript, Tailwind CSS, HTML, CSS, WordPress

Cloud & Database: AWS, MySQL, HBase, FAISS, MongoDB, PostgreSQL

Others: Spring, Flask, Fast API, Redis, Kafka, DUBBO RPC, Elasticsearch, Prompt Engineering, Salesforce

KEY SKILLS

Software & Application Design • Technical Architecture & Development • Performance Optimization • Microservices Implementation

PROJECT

Software Engineer(Volunteer)

Nov 2024–Present

Racial Justice Centre, Sydney

- Developed and maintained organization website using WordPress, Divi framework, and custom JavaScript/HTML/CSS implementations based on Figma design specifications.
- Administered Salesforce CRM system, including lead management and execution of mass email marketing campaigns
- Collaborated cross-functionally with graphic designers and funding stakeholders to align technical solutions with organizational goals
- Provided comprehensive IT support and system administration for organizational infrastructure

Significant Achievements

- Delivered complete end-to-end fundraising solution that streamlined donation processes and improved donor engagement
- Led website refactoring project that resulted in a modernized, user-friendly interface with enhanced user experience and improved navigation
- Successfully integrated design and technical requirements through collaborative partnership with creative and funding teams
- Transformed organization's digital presence through strategic website redesign and technical optimization

Full Stack Developer & Solution Architect (Part-time)

July 2024–Present

KIDSFIRST, Sydney

- Independently architected and developed comprehensive AI evaluation platform using React, Next.js, and TypeScript
- Implemented Role-Based Access Control (RBAC) system with granular permissions management for multi-tier user access
- Built AI parameter management interface for dynamic model configuration and hyperparameter tuning
- Developed test dataset collection pipeline with automated validation and quality assurance workflows

Significant Achievements

- Delivered end-to-end evaluation platform featuring both human evaluation workflows and automated LLM-as-a-Judge assessment capabilities
- Created red team testing framework for AI applications with adversarial prompt generation and vulnerability detection
- Engineered dual evaluation system that reduced assessment time by 60% while maintaining accuracy through combined human and automated scoring
- Built scalable architecture supporting multiple user roles with secure session management and real-time model configuration adjustments

Solution Architect (Weekend Role)

Nov 2023—June 2024

KIDSFIRST, Sydney

- Provided strategic technical leadership during project initialization phase
- Conducted technology feasibility studies and architecture planning on weekends
- Directed technology stack selection and system architecture design
- Reviewed and validated API designs and database schemas for outsourced teams
- Designed scalable AWS infrastructure for future growth

PROFESSIONAL EXPERIENCE

SENIOR SOFTWARE ENGINEER

Nov 2021—July 2024

Shanghai Ninerun Network Technology Co., Ltd., Shanghai

- Led development team for secondhand collectible trading application serving 100,000+ active users, overseeing architecture decisions and technical strategy
- Mentored team members through code reviews, technical documentation authoring, and knowledge sharing sessions to maintain development standards
- Spearheaded customer service AI project utilizing LLM technology, vector databases, Spring Boot (Java 19), Flask (Python 3), and microservices architecture
- Conducted comprehensive requirements analysis, solution research, and end-to-end project delivery for cutting-edge AI implementations

Significant Achievements

- Architected and deployed comprehensive monitoring infrastructure with 300+ custom metrics, alerting systems, and Grafana dashboards (40+ panels) for real-time platform visibility

- Refactored core trading module handling 3 million daily transactions using event-driven architecture, reducing codebase by 50% and significantly improving maintainability
- Independently delivered high-performance search solution with real-time indexing and multi-language fuzzy search capabilities, reducing search latency by 85% (150ms to 20ms)
- Designed and implemented task-oriented dialogue system leveraging LLM, vector databases, and Langchain, delivering measurable improvements in customer service efficiency and response quality

SENIOR SOFTWARE ENGINEER

Feb 2018–Sep 2021

Shanghai Lianshang Network Technology Co., Ltd., Shanghai

- Designed and developed core infrastructure systems for instant messaging application serving 2 million users, including API gateway, configuration center, distributed ID generation, notification services, and mobile update mechanisms
- Led cross-functional collaboration with 8 developers to architect end-to-end Content Moderation Platform encompassing multimedia censorship, content analytics, text filtering, risk control, and manual audit systems
- Promoted to team lead of 3-member content moderation team, managing weekly meetings, project milestone tracking, and code review processes
- Orchestrated microservices architecture supporting high-throughput messaging infrastructure with distributed system design principles

Significant Achievements

- Architected and deployed high-performance API gateway serving 50+ microservices with comprehensive features including authentication, rate limiting, routing, IP filtering, and traffic monitoring using Spring Boot, Java 8, and Dubbo framework
- Delivered scalable infrastructure supporting 3,000 requests per second per gateway instance while maintaining system reliability for 2 million concurrent users
- Successfully designed and implemented comprehensive Content Moderation Platform with automated censorship capabilities and integrated manual review workflows
- Enhanced manual audit system efficiency by 3-4x through implementation of optimized message delivery features, significantly improving content review staff productivity and platform safety standards

SOFTWARE ENGINEER

Nov 2015—Sep 2017

Bilibili Inc., Shanghai

- Designed and developed Java backend services for the Professional Generated Content (PGC) platform serving 60 million daily active users
- Architected scalable microservices solutions to support high-volume video streaming operations
- Diagnosed and resolved critical backend technical issues to ensure platform stability and performance

Significant Achievements

- Enhanced Notification System Performance: Refactored episode update notification system using Spring Boot, Java 8, and Kafka to implement a decoupled, highly available distributed architecture. Achieved 720x performance improvement - reduced notification delivery time from 12 hours (500K users) to 10 minutes (4M users)
- Built Real-time Data Processing Pipeline: Independently delivered a comprehensive data stream processing system for PGC analytics, featuring user watch history tracking and preference analysis capabilities. Implemented using Spring Boot, Apache Storm, Kafka, and HBase to handle high-throughput data streams

EDUCATION

Bachelor of Science (Computer science)

• Computer science • Shanghai University • China • 2011

MISCELLANEOUS INFORMATION

Nationality: Chinese

Languages: Mandarin & English

Availability: Immediate