

# Roy(Yi Liu)

## Software Engineer

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### SUMMARY

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- **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

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**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

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

## PROJECT

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### 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

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### 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

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Bachelor of Science (Computer science)

• Computer science • Shanghai University • China • 2011

## MISCELLANEOUS INFORMATION

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Nationality: Chinese

Languages: Mandarin & English

Availability: Immediate