

Rithish Murugan

Software Engineer

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SUMMARY

Software Engineer with 3+ years of experience building distributed systems and intelligent developer tooling, progressing from backend-focused development to leading AI-driven platform initiatives. Own end-to-end delivery of LLM-powered applications, working closely with product, security, and infrastructure teams to solve complex engineering problems and improve developer workflows. Experienced in designing scalable microservices, event-driven systems, and code review automation that balances performance, cost, and reliability. Known for mentoring engineers, driving technical decisions, and delivering measurable impact in fast-paced, cross-functional environments.

EXPERIENCE

Rubrik, AI Software Engineer

Jan 2025 – Present | Remote, USA

- Lead development of an autonomous code review agent using **LangChain Agents** and **OpenAI GPT-4o** on **FastAPI**, orchestrating parallel security and performance scans that reduce PR turnaround from 18 h to 2.5 h.
- Engineer event-driven webhook pipeline in **Node.js** and **Express** within a **microservices architecture**, processing GitHub PR events and dispatching payloads to the **Python** agent service via **REST APIs**, enabling real-time reviews for 200 engineers.
- Implement **RAG**-based codebase search using **vector database** and **LangChain** retrieval chains integrated with **GitHub REST API**, providing contextual diff analysis that identifies 34 critical security vulnerabilities missed during manual review cycles.
- Develop confidence-scored suggestion engine with automated test generation using **LangChain** structured outputs, mentoring 3 juniors on evaluation patterns while persisting audit trails in **PostgreSQL** with **SQL** analytics achieving 67% acceptance rate.
- Build admin analytics dashboard in **React** and **Next.js**, partnering with product and engineering leadership to define acceptance-rate, false-positive, and cost-per-PR metrics, reducing review cost from \$50 to \$0.40 per PR.
- Containerize **microservices** with **Docker** and deploy to **AWS ECS, Lambda, and Kubernetes (EKS)**, integrating **Slack REST API** notifications with risk scoring that improves developer satisfaction from 3.2 to 4.6 out of 5.0.
- Orchestrate end-to-end **CI/CD** pipelines using **GitHub Actions** with automated integration tests and agent quality gates, deploying across **AWS** infrastructure in **Agile** sprints achieving 99.8% pipeline reliability processing 600+ monthly PRs.

Razorpay, Software Engineer

May 2021 – Jul 2023 | India

- Led a 4-engineer squad to architect payment processing core in **Java, Spring Boot, and Hibernate**, implementing intelligent retry and multi-gateway routing across UPI rails reducing failure rates from 12% to 4%, recovering \$2.1M annually.
- Drove **system design** of event-driven microservices architecture using **Apache Kafka**, streaming payment events, settlement triggers, and refund workflows across 6 consumer services processing 500K+ daily transactions with guaranteed ordering.
- Built settlement reconciliation engine in **Python** and **FastAPI**, consuming **Kafka** events and automating bank file matching against **PostgreSQL** and **MySQL** ledgers with optimized indexing, reducing reconciliation turnaround from 48 h to 2 h.
- Developed merchant transaction dashboard in **React** and **TypeScript** with real-time payment tracking, settlement summaries, and GMV analytics via **REST APIs**, collaborating cross-functionally with product and design to serve 25K+ merchants.
- Engineered refund orchestration and webhook services in **Node.js** and **Express**, managing state machines with idempotency keys and **Redis**-backed rate limiting via **REST APIs**, reducing refund processing from 7 days to under 24 h.
- Established comprehensive **JUnit** test suites achieving 90%+ coverage across **Spring Boot** payment-critical services, containerized with **Docker**, and deployed to **AWS ECS** via **Jenkins** and **GitHub Actions CI/CD pipelines** in **Agile** sprints.
- Streamed transaction lifecycle events from **Kafka** into **DynamoDB** audit trails with TTL retention, enforced **Git** review gates with mandatory approvals for payment-critical paths, enabling **PCI-DSS** compliance across 500K+ daily transactions.

SKILLS

Programming Languages: Java, Python, JavaScript (Node.js), TypeScript, SQL

Backend & API Development: Spring Boot, Hibernate, FastAPI, Express.js, REST APIs, Microservices Architecture

Frontend Development: React.js, Next.js, HTML5, CSS3

AI/ML & LLM Engineering: LangChain, OpenAI GPT-4o, RAG, LLM Agents, Prompt Engineering

Databases: PostgreSQL, MySQL, DynamoDB, Redis, Vector Databases

Streaming & Event-Driven Systems: Apache Kafka, Event-Driven Architecture, Webhooks

Cloud & DevOps: AWS (ECS, EKS, Lambda), Docker, Kubernetes, CI/CD Pipelines, GitHub Actions, Jenkins

Testing & Quality Engineering: JUnit, Integration Testing, Test Automation, Code Quality Gates

Monitoring & Analytics: System Metrics, Cost Optimization, Performance Tuning, Logging & Observability

Tools & Collaboration: Git, GitHub, Agile/Scrum, Slack API Integrations

EDUCATION

Master of Science in Computer Science

Illinois Institute of Technology

Aug 2023 – May 2025 | Chicago, IL