

# RITESH SINGH

Senior Software Architect | CTO | Agentic AI Expert

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## EXECUTIVE SUMMARY

Dynamic and highly analytical Senior Software Architect with 10+ years of experience in designing hyper-scalable, fault-tolerant enterprise ecosystems. Uniquely specialized in Agentic AI Integration (LLMs, MCP Servers, RAG), Cloud-Native Infrastructures (AWS/Azure), and High-Frequency Microservices (Spring Boot, Kafka). Proven track record of stepping in as a Fractional CTO to align complex business objectives with flawless engineering execution.

## CORE TECHNICAL ARSENAL

**AI & LLMs:** Agentic Workflows, LangChain, GraphRAG, Claude Opus, Vector DBs  
**Backend:** Java 21, Spring Boot, Microservices, Event-Driven Architecture  
**Data & Cloud:** AWS, Azure, Kafka, PostgreSQL, MongoDB, Redis, Docker, K8s

## EXECUTIVE SERVICES

- CTO as a Service: Architecture design, technical due diligence, and team mentorship.
- Agentic AI Integration: Deploying proprietary LLM pipelines and secure MCP Servers.
- Custom Software Development: End-to-end cloud-native microservice transformations.
- System Scalability Audits: Latency reduction, caching strategies, and legacy refactoring.

## NOTABLE ARCHITECTURAL ACHIEVEMENTS

### High-Frequency Microservices (Fintech)

Migrated legacy monoliths to distributed event-driven systems. Reduced latency by 45% and scaled 10x traffic natively using Spring Boot, Kafka, and PostgreSQL.

### Enterprise RAG & Agentic Tooling

Built secure semantic search engines across millions of internal documents using Pinecone and LangChain wrappers. Increased enterprise operational efficiency by 30%.

### Multi-Region Database Sharding System

Orchestrated massive data partitioning across US/EU Cassandra clusters strictly enforcing data compliance while retaining ultra-fast localized read/write performance.