SANTHOSH KUPPUSAMY

Senior Lead Software Engineer (Fintech/Payments)

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PROFESSIONAL SUMMARY

Highly adaptive and innovative Principal/VP-level Engineer with 20+ years of progressive experience in the Electronic Payments Industry, specializing in Fraud Detection and Prevention. Proven technical leader driving multi-year modernization and scale initiatives for mission-critical financial platforms.

Deep Expertise: Designing and scaling multi-threaded, distributed applications, transitioning monolithic systems to modern cloud-neutral, microservice-based architectures.

Modern Stack: Hands-on experience with high-throughput payments processing using Apache Kafka and GRPC for service calls to build highly available, low-latency, and resilient systems.

Leadership and Governance: Expert in defining technical roadmaps, governance, FinOps, and operational excellence for platforms handling billions in transactions across hybrid cloud (AWS) environments.

TECHNICAL SKILLS

- **Cloud and DevOps** Kubernetes, AWS, Docker, FinOps, Terraform, CloudFormation, Jenkins, Git
- **Architecture** Microservices, Apache Kafka, Distributed Systems, RESTful APIs, Multi-Threading, Spring Boot
- **Modernization and Migration** Mainframe-to-Cloud Migration, Legacy System Modernization, Application Re-platforming, Strangler Fig Pattern
- **Observability** OpenTelemetry, Prometheus, Grafana, ELK Stack (Elasticsearch, Logstash, Kibana), Splunk
- **Data and Caching** PostgreSQL, Cassandra, CockroachDB, Redis, Gemfire, Hazelcast
- **Domain** Payment Processing, Fraud Detection and Prevention, Funds Control, ISO 8583/20022
- **Languages** Java, Kotlin, Groovy, SQL
- **AI** LLM, Spring AI, Embabel, Copilot

PROFESSIONAL EXPERIENCE

JPMORGAN CHASE AND CO.

Vice President of Software Engineering

November 2017 to Present (8 years) | Tampa, Florida Area

- Cloud-Native Funds Control Platform: Provided technical leadership for a cloud-neutral, multi-region resilient funds control platform, targeting reduced inter-region latency and establishing a new 99.99% availability standard.
- Mainframe Modernization Initiative: Led the strategic modernization of mainframe-hosted legacy payment systems to modern cloud-native architecture. Architected and executed the incremental migration of COBOL-based batch processing systems to containerized Spring Boot microservices on AWS, enabling real-time transaction capabilities. Implemented dual-run validation strategies to ensure zero data loss during the transition.
- Legacy System Modernization: Drove the technical roadmap for core legacy system migration, orchestrating the transition from monolith to microservices, enabling faster feature release cycles and reducing technical debt.
- FinOps and Automation: Championed Infrastructure as Code (IaC) best practices (Terraform/CloudFormation) and FinOps principles, optimizing cloud resource consumption to achieve significant reduction in infrastructure costs.
- Enterprise Security Governance: Drove the adoption of standardized security frameworks using IDAnywhere across 15+ applications, connecting to various applications and backends (databases/messaging systems).
- AMPS/Graphite Foundation Activities: Led the Banking AMPS team infrastructure, enabling enhanced security and reconciliation mechanisms supporting the FTPS stack integration for multiple CIB payment systems.
- CCMP/FTPS: Led the Reference Data team and Invoice/Payments Capture team from architecture to implementation. This represents one of the earliest microservices applications targeted for internal cloud deployment.
- Observability: Integrated enterprise observability solutions using OpenTelemetry, Prometheus, and Grafana to reduce mean-time-to-resolution (MTTR) and minimize production incidents.
- Generative AI: Developed AI-powered Java static analyzer used firm-wide for detecting concurrency issues and performance anti-patterns with async batch processing and intelligent caching.

PROFESSIONAL EXPERIENCE (Continued)

FIS (Fidelity National Information Services)

Senior IT Architect

May 2017 to November 2017 (6 months) | Milwaukee, Wisconsin, United States

- Cloud Strategy and Microservices: Provided technical leadership on the in-house cloud strategy with OpenShift/Kubernetes adoption, driving the architectural design of a new Digital Banking Platform using Spring Boot Microservices.
- Data Streaming: Architected and implemented a complete message/event delivery backbone using Apache Kafka and Apache Apex for high-throughput micro-batching and real-time data flow.

FIS (Fidelity National Information Services)

High-Performance Rules Engine Engineer/Architect

January 2004 to May 2017 (13 years 5 months) | Milwaukee, Wisconsin, United States

- Patented Rules Engine Architecture: Architected, developed, and maintained a patented, SOA-certified, highly-scalable XML-based business rule engine (core Fraud/Payments system).
- Performance Metrics: Delivered a fault-tolerant system design that achieved 5000+ Transactions Per Second (TPS) with 99.9% uptime.
- Optimization: Drove performance optimization by implementing strategic caching mechanisms (Gemfire/Hazelcast) that resulted in an 80% reduction in database calls.
- Enterprise Observability and Monitoring: Designed and deployed the ELK stack (Elasticsearch, Logstash, Kibana) for centralized logging and metrics aggregation, providing real-time monitoring of critical financial transaction pipelines.
- Technical Mentorship: Provided sustained technical mentorship and training to offshore engineering teams, establishing coding standards and best practices across the development life cycle.

EDUCATION

Master of Computer Applications (MCA)

Thiagarajar College of Engineering, India (2004)

Bachelor of Computer Science (B.Sc.)

Madras University Chennai, India (2001)