

# SANTHOSH KUPPUSAMY

Principal/Lead Software Engineer (Fintech/Payments) | VP of Engineering | Cloud Architect  
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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 (Targeting San Francisco Bay Area Relocation)*

- **Cloud-Native Funds Control Platform:** Provided Principal architectural leadership for a cloud-neutral, multi-region resilient funds control platform, resulting in 30% 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, resulting in 70% reduction in processing time and enabling real-time transaction capabilities. Implemented dual-run validation strategies to ensure zero data loss during the transition.
- **Legacy System Modernization:** Defined and drove the technical roadmap for core legacy system migration, orchestrating the transition from monolith to microservices, which enabled 60% faster feature release cycles and reduced technical debt by 80%.
- **FinOps and Automation:** Championed Infrastructure as Code (IaC) best practices (Terraform/CloudFormation) and FinOps principles, optimizing cloud resource consumption to achieve 30% reduction in infrastructure costs.
- **Enterprise Security Governance:** Drove the adoption of standardized security frameworks across 15+ applications, leveraging the proprietary file encryption system to mitigate PII exposure and ensure SOX audit compliance.
- **Observability:** Integrated enterprise observability solutions using OpenTelemetry, Prometheus, and Grafana to reduce mean-time-to-resolution (MTTR) and cut production incidents by 45%.
- **Generative AI:** AI-powered Java static analyzer used firmwide 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)*