

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 stream processing using Apache Kafka and Apache Flink 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

PROFESSIONAL EXPERIENCE

JPMORGAN CHASE AND CO.

Vice President of Software Engineering | November 2017 – Present (8 years)

Tampa/St. Petersburg, Florida Area (Targeting 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 SAX 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%**.

PROFESSIONAL EXPERIENCE (Continued)

FIS (Fidelity National Information Services)

Senior IT Architect | May 2017 – 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 – 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 **99.999% 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