

ARUN MISHRA

Senior Principal Architect | Enterprise & Cloud-Native Systems

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WHAT I DO

I find the systems everyone else avoids — broken, undocumented, mission-critical — and I fix them. Then I build something better in their place. Over 16 years across financial services and healthcare, I have walked into red projects, legacy black boxes, and post-merger chaos and turned them into production-grade, cloud-native platforms. I architect from first principles, build POCs to prove the path, and stay until it ships. I work best where complexity is high, politics are low, and the work has real weight.

CORE COMPETENCIES

Architecture: Cloud-Native AWS, Event-Driven Architecture, Microservices, Kafka, API Design, Target-State Architecture, Mainframe Exit, Real-Time Payments (ACH/RTP/Wire), HL7/EHR Integration

Engineering: Java, Spring, Python, CI/CD, DevOps, Data Migration, ML Model Development (design to build), PCI-DSS, HIPAA, SOX

AI (Practical): LLM-assisted architecture acceleration, ML fraud detection platform (architected + built), AI-powered POC development, AWS Bedrock, Claude

Certifications: AWS (9x) • Google Cloud Professional Architect • Google Cloud Generative AI Leader • Azure Developer Associate • ISC2 Cybersecurity • Claude Certified Architect

SIGNATURE DELIVERABLES

- **18 hours → 6 minutes in production.** Kafka Connect pipeline — redesigned broken enterprise API bottleneck (10–15 TPS limit) using Kafka source and sink connectors.
- 21K developer hours saved, \$300K annual infrastructure eliminated, zero duplicate events.
- **Red → green.** ITP data migration rescue — inherited stalled post-merger migration, no documentation, tribal knowledge in 1–2 people. Documented all decisions, closed mappings, built process from scratch.
- **40% API latency improvement, 820M+ records migrated, processing cut 14 hrs → 6 hrs.** Payments modernization — architected instore, web, mobile, third-party platforms (Walmart, Saks, Kohl's, Menards).
- **Projected \$112M ROI on \$28M investment.** Fraud detection platform (in progress, not yet production) — architected and built ML application including model training pipeline and real-time decision layer.
- \$30M+ enterprise savings across cloud migration and modernization initiatives spanning multiple business lines.

PROFESSIONAL EXPERIENCE

Enterprise Architect, Senior Manager (IC) | Capital One

June 2025 – Present

Richmond, VA | post-acquisition integration of Discover Financial Services

- Architecting cloud-native case management modernization on AWS — real-time resolution platform increasing agent throughput and customer transparency.
- Designed and built ML fraud detection platform: model training pipeline, real-time LLM-based decision layer, graph-based fraud ring detection across accounts, devices, and merchants.
- Alert volume: 48,000 → 2,000 daily. Investigation time: 4.2 days → under 3 hours (pre-production). Projected \$86M annual revenue recovery.

Expert Enterprise Architect | Discover Financial Services

March 2023 – June 2025

Remote | Acquired by Capital One, May 2025

- Modernized core banking — credit card posting, billing, statements — from data center to cloud-native AWS. 2,000+ TPS, 99.999% availability target.
- Kafka Connect pipeline redesign: 18 hrs → 6 mins, 21K dev hours saved, \$300K annual savings. Led mainframe exit strategy and established ARB culture across 8 cross-functional teams (40+ people).
- Led ITP data migration recovery — turned red project green. Delivered \$10M in savings via WebSphere/AIX to cloud-native migration.

Enterprise Architect (Freelance) | Capco

Jan 2025 – May 2025

Remote | Payments Modernization

- Architected unified ACH, RTP, and wire payments strategy across multiple acquired banks — target-state architecture and multi-phase integration roadmap ensuring regulatory compliance.

Enterprise Architect (Freelance) | Clarus Care

Feb 2025 – April 2025

Remote | Healthcare AI Platform

- Defined AWS cloud-native architecture for AI-powered patient IVR platform; designed EHR interoperability via Iguana HL7 interfaces.

Lead Software Engineer / IC Architect | Capital One*Jan 2022 – March 2023***Master Software Engineer / Solution Architect | Capital One***2018 – 2021**Richmond, VA*

- Architected payment platforms (instore, web, mobile, third-party) for Walmart, Saks, Kohl's, Menards. 40% API improvement, **820M+ record migration, deployment cycles 14 hrs → 1 hr via CI/CD.**
- Built DRM document management system replacing undocumented legacy black box — case closure efficiency up 78%. Delivered \$20M savings. Mentored 50+ developers.

Senior Software Engineer / Tech Lead | Capital One*2016 – 2018**Richmond, VA*

- Led Small Business Credit Card platform transformation from legacy to cloud-native — 40% increase in card applications.
- Developed Java/Spring microservices for KYC compliance. Implemented CI/CD pipeline enabling one-click deployments — saved 200,000+ developer hours and \$8M annually.

Senior Software Developer / Tech Lead | Egen Solutions*2012 – 2016**Chicago, IL | Healthcare, Government, IoT*

- Led legacy-to-modern web platform transformations across healthcare, government, and IoT sectors.
- Architected enterprise solutions for CGI, Affordable Care Health, U.S. Department of the Interior, and GE Healthcare — driving digital transformation and operational efficiency across regulated industries.

EDUCATION

M.S. Computer Science — University of Houston, TX*2010 – 2012***B.Tech. Computer Science** — UPTU, India*2005 – 2009*