

Sunder Singh

Solution Architecture | Digital Transformation | AI & Cloud-Native Engineering | Delivery Leadership

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PROFESSIONAL SUMMARY

Seasoned Solution Architect and Digital Transformation Leader with 18+ years of experience across solution architecture, cloud-native product engineering, and large-scale enterprise modernization. Led multiple legacy-to-microservices transformation programs, establishing repeatable architecture patterns, API governance frameworks, and migration strategies across financial services and regulated industries. Architected full-stack platforms using React, Node.js (Express, Fastify, Bun/Elysia), and Python (FastAPI) with event-driven microservices on GCP — staying close to implementation through design reviews and technical decision-making while aligning architecture trade-offs with business stakeholders. Currently focused on AI platform design — integrating LLM APIs, RAG pipelines, and vector database-backed semantic search into enterprise product workflows with an emphasis on production readiness and measurable value. Built and led a 55+ member offshore engineering organization, with a track record of upskilling teams, enabling architecture adoption, and bridging the gap between business strategy and technical execution.

KEY HIGHLIGHTS

- **Full-Stack Product Engineering & Cloud-Native Architecture:** Architected and led product engineering initiatives across modern cloud-native stacks — defining technology choices, system design patterns, and delivery standards across React/Angular frontends, Node.js (Express, Fastify, Bun/Elysia) and Python (FastAPI) backends, with PostgreSQL, MongoDB, and Redis for persistence. Designed microservices on GCP Cloud Run with event-driven patterns using Pub/Sub and Cloud Tasks. Stayed close to implementation through design reviews, technical decision-making with engineering teams, and stakeholder alignment on architecture trade-offs.
- **AI Platform Design & Intelligent Product Capabilities:** Designing and integrating AI-augmented capabilities into enterprise product workflows — including LLM API integration, RAG pipelines with vector databases (Qdrant, Pinecone, pgvector), and embedding-based semantic search. Building scalable FastAPI-based backend services with queue-driven processing patterns to support content processing, intelligent routing, and automated data enrichment. Bringing a practical, architecture-led approach to AI adoption — focused on production readiness, measurable product value, and responsible integration rather than hype.
- **Microservices & API Modernization:** Drove end-to-end legacy modernization programs, leading cross-functional teams through phased decomposition of monolithic systems into cloud-native microservice architectures on GCP. Established repeatable modernization patterns — strangler fig migration strategies, API-first design standards, and service governance frameworks — delivering measurable improvements in latency, deployment velocity, and infrastructure cost across multiple engagements.
- **Cloud-Native Transformation & Cost Optimization:** Led migration of legacy platform components to cloud-native architectures, improving code quality (80%+ coverage), optimizing cloud spend, and establishing a platform for rapid MVP development that drove innovation and stakeholder engagement.
- **Offshore Transition & Global Team Leadership:** Led a large-scale offshore transition, building a 55+ member high-performance engineering team. Managed end-to-end knowledge transfer, operational stability, and architecture enablement across delivery centers.
- **Technology Leadership & Talent Development:** Designed and led training programs that upskilled 55+ staff into engineering roles, improving product delivery capacity across the enterprise. Recruited and mentored cross-functional teams, ensuring alignment between business objectives and technical execution.

TECHNICAL SKILLS

Languages & Databases	JavaScript, TypeScript, Python, Java, SQL, PostgreSQL, MongoDB, Redis, MySQL, MS SQL
Frontend	React, Next.js, Angular, HTML5, CSS3, Tailwind CSS
Backend & APIs	Node.js (Express, Fastify, Bun/Elysia), FastAPI, REST, GraphQL
Cloud & DevOps	GCP (Cloud Run, Pub/Sub, Cloud Tasks, Cloud Functions, Cloud Monitoring), AWS (EC2, S3), Docker, Kubernetes, Jenkins, Git, CI/CD Pipelines
AI/ML	LLM API Integration, RAG Pipelines, Vector Databases (Qdrant, Pinecone, pgvector), Embeddings, LangChain, Vertex AI
Testing & Automation	Selenium, Appium, JUnit, TestNG, JMeter, Cucumber, BDD/TDD Frameworks
Tools & Practices	Jira, Confluence, Grafana, Prometheus, Agile/Scrum, Figma

PROFESSIONAL EXPERIENCE

Cognizant Technology Solutions | Nov 2016 – Present

Role: Solution Architect & Product Engineering Leader

Clients: Major US Insurance & Financial Services firms (available on request)

Environment: React, Angular, Node.js (Express, Fastify), Python (FastAPI), GraphQL, Java, PostgreSQL, MongoDB, Redis, Docker, Kubernetes, GCP (Cloud Run, Pub/Sub, Cloud Tasks), AWS (EC2, S3), Jenkins, Git, CI/CD, Jira, Confluence

- **Product Strategy & Architecture Leadership:** Owned the product and technology roadmap as Product Owner, defining quarterly goals aligned with business priorities. Led architecture decisions across full-stack platforms — React frontends, Node.js/Python backends, and API layers — balancing strategic direction with hands-on technical governance across financial services engagements.
- **Cloud-Native Platform Delivery on GCP:** Designed microservices-based product architectures on GCP Cloud Run with event-driven patterns using Pub/Sub and Cloud Tasks. Led cloud migration strategies, transitioning legacy monoliths to containerized deployments — reducing infrastructure costs and improving time-to-market.
- **AI-Augmented Product Features:** Led evaluation and integration of AI capabilities into product workflows — intelligent content processing, embedding-based search, and LLM-powered features. Drove POCs and MVPs that demonstrated business value, building stakeholder buy-in for AI adoption across enterprise applications.
- **API Platform & Developer Experience:** Architected enterprise-wide API frameworks with reusable, scalable patterns. Championed developer advocacy through modern tooling, standardized design patterns, and self-service documentation to improve engineering velocity.
- **Pre-Sales & Client Engagement:** Led technology demos and presentations as part of pre-sales activities. Contributed to RFP responses that won enterprise accounts, translating technical capabilities into business value propositions.
- **DevOps & Delivery Engineering:** Designed CI/CD pipelines and IaC practices using Docker, Kubernetes, Jenkins, and GCP. Integrated automated testing, security scanning, and observability into delivery pipelines across multi-cloud environments.
- **Team Building & Offshore Delivery:** Built and mentored cross-functional engineering teams. Led the 55+ member offshore transition, designed upskilling programs, and drove continuous improvement through architecture enablement and hands-on mentorship.

Damco Solutions | Jan 2011 – Nov 2016

Role: Product Delivery Lead, Quality Engineering and Devops

Clients: DentaQuest EDW, ThinkMoney UK, Vertex Group, Trumble LLC and more

Environment: Node.js, Express, Python, Java, Informatica, MS SQL, Amazon EC2, Selenium, Appium, JUnit, TestNG, Cucumber, JMeter, Jenkins, Bamboo, Maven, Git, JIRA, Agile/Scrum

- **Cloud API Development & Architecture:** Led the design and development of RESTful APIs on AWS and GCP using Node.js and Express, defining API specifications and scalability strategies aligned with product requirements and business objectives.
- **Product Roadmap & Delivery Management:** Managed end-to-end delivery across multiple client engagements, crafting architectural roadmaps and coordinating cross-functional teams to ensure on-time delivery while maintaining quality and stakeholder alignment.
- **Full-Stack Engineering & Platform Integration:** Provided hands-on technical leadership across frontend, backend, and data layers. Ensured seamless integration and interoperability of APIs across multiple platforms, leveraging microservices and serverless patterns for cost-efficiency.
- **Test Automation & Quality Engineering:** Designed and built automated test frameworks from scratch using Selenium, Appium, and Cucumber across web, mobile (iOS/Android), and API (SOAP/REST) platforms. Established enterprise-level testing practices including test strategy, defect analysis, and BDD-driven quality gates for multiple client engagements.
- **CI/CD & DevOps Enablement:** Set up continuous integration pipelines using Jenkins and Bamboo, automating test execution and deployment workflows. Integrated automation frameworks with CI servers to minimize manual intervention and improve release velocity across projects.
- **Stakeholder Management & Client Partnership:** Collaborated closely with stakeholders and partners to translate business requirements into technical solutions, building trust and ensuring alignment between product vision and engineering execution.

Early Career (2005 – 2010)

Deloitte India (DC Consultant) | Ness Technologies (Sr. SDET Engineer) | Melstar (Software Engineer) | Nelito Systems Ltd

Progressed through QA engineering, test automation, and delivery roles across financial services and enterprise IT. Built automated test frameworks using Selenium and integrated them with Jenkins-based CI pipelines for continuous validation. Gained foundational experience in API development (Java, REST, SOAP), data platforms, business intelligence reporting, and cross-team project coordination.

EDUCATION & CERTIFICATIONS

B.Com — Agra University (2001–2004)

GNIIT — Diploma in Computers, NIIT South Ex, Delhi (2001–2005)

DOMAIN KNOWLEDGE

Financial Services (Insurance, Banking & Capital Markets), Enterprise Digital Transformation, AI/ML Product Integration