

Vinil Satrasala

SOLUTION ARCHITECT & SR LEAD ENGINEER

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PROFESSIONAL SUMMARY

Forward-thinking Solution Architect and Senior Lead Engineer offering over 15 years of exceptional, versatile experience driving end-to-end product lifecycles across mobile, web, and distributed cloud-native environments. Proven track record spanning 8+ years in dedicated architectural leadership, managing high-performing cross-functional engineering teams (15+ members), and translating vision into robust production systems. Successfully channeled deep mobile domain expertise to champion the delivery of 30+ enterprise and citizen-facing mobile applications to the Google Play Store.

Deep technical mastery across Android SDK/NDK, hybrid web frameworks (React, Angular), high-concurrency Node.js microservices, and modern DevOps tooling. Expert in automating enterprise delivery pipelines utilizing Jenkins CI/CD, designing resilient event-driven architectures (Kafka/RabbitMQ), and embedding cutting-edge AI/ML Agentic frameworks to achieve massive operational agility.

CORE COMPETENCIES

- **Mobile Engineering & Leadership:** Architecture of native and hybrid apps, application ecosystem governance, core SDK optimization, device/IoT integration (MQTT, RTSP), and global Play Store release management.
- **DevOps & Pipeline Automation:** Architectural implementation of automated Jenkins CI/CD pipelines, application signing workflows, secure build variants, and automated testing deployments.
- **Team Leadership & SDLC Governance:** Mentoring and directing cross-functional engineering pods of 15+ members, scope engineering, agile sprint execution, and multi-million-dollar global project delivery.
- **Solution Architecture & AI Systems:** Microservices, Event-Driven Architecture (EDA), Multi-Agent workflows, Small Language Models (SLMs), geospatial data lakehouses (PostgreSQL + PostGIS), and containerized topology systems.

TECHNICAL PROFILE

- **Mobile Ecosystem:** Android SDK, Android NDK, Java, Kotlin, React Native, Gradle Customization, Proguard/R8, Custom UI Components, XMPP (Asmack).
- **DevOps & CI/CD:** Jenkins, Automated Pipelines, Git, App Signing Frameworks, Docker Containerization.
- **Languages & Web Frameworks:** JavaScript (ES6+), TypeScript, Node.js, Express.js, Angular, React, Redux.
- **Databases & Vector Stores:** PostgreSQL (Spatial/Relational), MongoDB (Document-store), SQLite, pgvector.
- **Protocols & Gateways:** MQTT, RTSP, HTTP, WebSockets, RESTful APIs, Firebase Suite (FCM, Analytics).

PROFESSIONAL EXPERIENCE

Solution Architect & Senior Lead Engineer

Nov 2015 – Present

Quantela Technologies Pvt Ltd, Hyderabad

- **Engineering Team Leadership:** Formulated, scaled, and managed an elite cross-functional engineering pod of 15+ developers, QA engineers, and system specialists through complex Agile release cycles.
- **DevOps Automation (Jenkins):** Designed and implemented enterprise-grade Jenkins CI/CD pipelines that reduced manual build efforts by 75%, enforcing automated artifact generation, secure application signing, and immediate Play Store internal deployment stages.
- **Play Store Product Delivery:** Orchestrated the end-to-end launch of over 30 citizen-facing and enterprise mobile products globally, aligning core app footprints with smart city Integrated Command & Control Center (ICCC) environments.
- **Advanced System Architecture:** Integrated autonomous AI/ML Agent layers with mobile notification triggers and messaging routes (Kafka/RabbitMQ) for real-time critical incident predictive routing and alert triage.
- **Full-Stack & Data Lakehouse Alignment:** Governed modular low-code UI frameworks in Angular/React while engineering hybrid geospatial indexing (PostgreSQL + PostGIS) nested in secure Docker container networks.

Android Team Lead & Full-Stack Engineer

Feb 2011 – Nov 2015

Riktam Technologies, Hyderabad

- **Product Lifecycle Control:** Conducted comprehensive scope definition, high-level structural design, and deployment mapping for critical client-facing mobile architectures.
- **Core Mobile Engineering:** Developed scalable real-time messaging structures utilizing specialized XMPP network protocols (Asmack) paired with high-availability database caching via MongoDB configurations.
- **Performance & Awards:** Successfully supervised sprint targets for large developer pods, driving rapid feature rollouts that culminated in receiving the "Best Employee of the Month" recognition 10 distinct times.

REPRESENTATIVE ASSIGNMENTS

Quantela Platform (ICCC) Mobile & Infrastructure Delivery (Solution Architect & Technical Leader)

Tech Stack: Jenkins, Android SDK, Node.js, Angular, React, PostgreSQL, Docker, Kafka, MQTT, RTSP

Architected the event-driven microservice foundations and mobile delivery layers for the enterprise-grade ICCC platform, recognized by the World Economic Forum as Technology Pioneers. Designed real-time security stream monitoring via RTSP over native mobile clients and embedded automated Jenkins CI/CD jobs to compile high-availability, multitenant application flavors easily.

Global Smart City & Safe City Custom Deployments: Spearheaded solution architectures and technical delivery configurations for high-impact global deployments, including Smart City GMDA ICCC, Patna Smart City, Panaji Smart City, City Of Brockton, Hull, Raipur Smart City, Kakinada Smart City, Vijayawada Smart City, Ahmedabad Safecity, and Safe Kerala.

MahaDBT 2.0 & MPLRS AI Chat Assistant & Data Engines (Tech Lead & Solution Architect)

Tech Stack: Python, Node.js, Angular, PostgreSQL, LangGraph, pgvector, SLMs (Small Language Models), RAG

AI Chat Assistant Integration: Conceptualized, designed, and deployed a highly secure, privacy-compliant AI-based chat assistant serving the MahaDBT 2.0 (Direct Benefit Transfer) and MPLRS platforms. Implemented a Retrieval-Augmented Generation (RAG) pipeline backed by optimized vector stores (pgvector) and localized Small Language Models (SLMs) to seamlessly guide millions of citizens through complex land record processes and subsidy application queries.

Analytical Reporting Infrastructure: Architected and delivered robust high-concurrency reporting engines capable of transforming massive distributed government datasets into real-time analytical summaries for cross-functional stakeholder execution.

Enterprise AI Assistant Chatbot (Generic RAG & SLM Framework) (Solution Architect)

Tech Stack: Python, LangGraph, pgvector, Small Language Models (SLMs), Retrieval-Augmented Generation (RAG)

Designed and engineered an enterprise-grade autonomous AI assistant chatbot utilizing Retrieval-Augmented Generation (RAG) architectural pipelines. Integrated Vector stores (pgvector) for optimized context retrieval and orchestrated fine-tuned Small Language Models (SLMs) locally to deliver rapid, secure, and privacy-compliant predictive conversational inference.

MBT (My Bus Tickets) Mobile Platform (Mobile Lead Architect)

Tech Stack: Android SDK, Route Tracking, Payment Gateways (BillDesk, Razorpay), Digital Wallets (Paytm)

Led the architectural development of a native Android application engineered for real-time seat booking and operational route tracking. Successfully integrated secure, multi-tier payment infrastructure including BillDesk, Razorpay, and Paytm mobile wallet APIs to ensure high-concurrency transaction reliability.

Spoonly E-Commerce Ecosystem (Full-Stack Mobile Lead)

Tech Stack: Android SDK, Web Services, Instamojo Gateway, Inventory Engine

Designed and built a full-featured online food ordering e-commerce application. Developed a robust backend vendor administration panel to facilitate dynamic stock/inventory updates and vendor registrations, paired with a seamless Instamojo payment gateway integration for end-user checkout execution.

Captiva Tour Mobile Experience (Android Engineering Lead)

Tech Stack: Android SDK, SQLite, Location-Based Services, Audio Streaming Engines

Engineered an immersive, offline-first mobile tourism guide application. Developed custom localized rendering systems to present offline city maps alongside a synchronized, location-aware audio narration tour engine that functions seamlessly independent of network connectivity.

Atlantis Citizen Portal & Mobile Platform Module (Project Lead / Solution Architect (Mobile & Integration))

Tech Stack: Jenkins, Android SDK, React, Node.js, PostgreSQL, Docker, Firebase Cloud Messaging

Engineered the structural layout connecting citizen-facing applications with central city administrative interfaces. Designed custom WebSocket pipelines handling geo-spatial alerts alongside a dedicated Jenkins pipeline that automatically published white-labeled app variants directly to the Google Play Store.

EDUCATION

B.Tech in Information Technology | Joginpally B.R. Engineering College (JNTU-Hyd)

Higher Secondary / Intermediate (12th Class) | Narayana Junior College, Kurnool (88.7%)

KEY MERITS & OPEN SOURCE CONTRIBUTIONS

- **Open Source Maintainer:** Built and open-sourced optimized route rendering modules (``driving-route-path-using-google-api``) and unified social frameworks.
- **Corporate Recognition:** Recipient of 10+ internal organizational excellence awards, including a consecutive three-month streak as "Best Employee of the Month".
- **Academic Honors:** Placed 273rd in the Zonal ITD Talent Search Examination and secured 8th Rank in the City Mathematics Olympiad.