

ANIL KUMAR REDDY JONNALA

LEAD SOFTWARE ENGINEER

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PROFESSIONAL SUMMARY

AI Engineering Lead with 15+ years of experience building and operating production software, now specialized in production-grade LLM and agentic AI systems across OpenAI, Claude, and open-source models. Designed and shipped a governed, multi-agent Incident Intelligence platform with hybrid RAG, automated evaluation, guardrails, PII redaction, agent observability, and immutable audit logging aligned with Model Risk Management (MRM) standards. Strong end-to-end expertise across agent orchestration, RAG and retrieval, LLM telemetry, cloud-native architecture on AWS and Kubernetes, and enterprise backend engineering. Skilled at turning complex enterprise operational bottlenecks into auditable, reliable AI systems.

CORE SKILLS

Agentic AI & LLM Orchestration: LangGraph, LangChain, OpenAI API, Anthropic Claude, ADK (Agent Development Kit) paradigms, multi-agent workflows, tool/function calling, Model Context Protocol (MCP), prompt & context engineering, streaming (WebSocket) inference, multi-turn memory & checkpointing

Agent Observability & Telemetry: Execution graph tracing, tool-call tracking, Open Telemetry, token & latency monitoring, RAGAS offline evaluations, Chain of Evidence tracing, LLM telemetry dashboards

RAG & Retrieval: Hybrid RAG / GraphRAG, vector search, embeddings, chunking strategies, LlamaIndex, pgvector, Neo4j knowledge graph, semantic retrieval, blast-radius analysis

LLM Ops & Governance: OpenAI & Claude model integration, Databricks AI Gateway, Delta Lake, RAG evaluation, guardrails, model cards, PII redaction, immutable insert-only audit logging, Model Risk Management (MRM) support in highly regulated environments

MLOps, Cloud & Infrastructure: AWS (EKS, Lambda, Bedrock, S3, SQS), Kubernetes, Docker, Helm, Terraform, GitHub Actions CI/CD, HashiCorp Vault, OIDC/RBAC

Backend & Integration: Advanced Python (FastAPI), Java 8+, Spring Boot, React, Node.js, RESTful APIs, WebSockets, microservices, event-driven & distributed systems, ServiceNow ingestion, Databricks, Postgres, Kafka

CERTIFICATIONS

- Certified Kubernetes Application Developer (CKAD) - Cloud Native Computing Foundation
- AWS Certified Solutions Architect (Associate) - Amazon Web Services

PROFESSIONAL EXPERIENCE

Lead Software Engineer | TATA Consultancy Services / New York Life Insurance (USA) | 10/2022 - Present

AI & Data Systems (04/2024 - Present)

- **Production Agentic AI & Leadership:** Architected and delivered a multi-agent Incident Intelligence platform using Advanced Python leveraging LangGraph multi-agent orchestration with OpenAI and Claude LLMs; championed enterprise GitHub Copilot adoption to accelerate delivery while establishing strict peer-review and secure coding standards.
- **Agent Observability & Telemetry:** Engineered robust observability pipelines capturing non-deterministic execution traces, multi-agent handoffs, and tool-call latencies, surfacing token consumption and Chain of Evidence logs via AI Operations dashboards.
- **Hybrid RAG & Knowledge Foundations:** Engineered foundational RAG and hybrid vector-graph retrieval systems combining pgvector semantic search and Neo4j knowledge graphs over a Databricks Delta Lake data layer, powered by an AWS Bedrock utility and multi-model LLM inference for incident note standardization.

- **Orchestration, Confidence & Governance:** Designed a multi-agent framework integrating ServiceNow, New Relic, and Databricks using versioned Structured RCA Contracts, backed by a deterministic Confidence Engine with replayable scoring, human-review controls, and immutable audit logs supporting strict MRM validation workflows.
- **RAGAS Evaluation Gates:** Integrated RAGAS-based evaluations, asynchronous Python (FastAPI) data pipelines, and real-time observability telemetry into the deployment lifecycle to gate AI responses against enterprise trust and context-precision thresholds.

Observability & Core Development (10/2022 - 03/2024)

- **Observability Command Center:** Served as technical lead for an enterprise-wide observability initiative while concurrently delivering core backend application enhancements to support evolving business requirements.
- **Telemetry, MTTD & MTTR Optimization:** Engineered an exception-oriented visual command center utilizing custom New Relic (NR1) applications and Nerdpacks, tracking synthetic monitor health to reduce Mean Time To Detect (MTTD) and Mean Time To Resolve (MTTR) by ~25%.
- **Production Rigor & Mentorship:** Mentored senior engineering teams on observability-driven development and fault-tolerant microservice design, significantly reducing production regression risks.

Senior Java Developer (Cloud Modernization) | TATA Consultancy Services / New York Life Insurance (USA) | 08/2018 - 09/2022

- **Microservices Transition:** Spearheaded a multi-year modernization project, successfully transitioning legacy monolithic architectures to highly available containerized microservices.
- **EKS & Event-Driven Architecture:** Led end-to-end delivery of container orchestration on Kubernetes (Amazon EKS) via Helm and scaled asynchronous, event-driven architectures utilizing AWS (Lambda, SQS, S3) and Apache Kafka.
- **High-Throughput APIs:** Designed distributed data access patterns and APIs to support high-throughput, asynchronous data processing capabilities.

Java Developer | TATA Consultancy Services / New York Life Insurance (India) | 09/2015 - 07/2018

- **Monolith Modernization:** Led the transition of legacy monolithic applications to containerized microservices, establishing foundational cloud-native delivery pipelines and distributed systems.
- **API Performance Optimization:** Designed high-performance, well-governed RESTful APIs using Java and Spring Boot, optimizing scalable data access patterns and transaction throughput for enterprise data by 20%.

Systems Engineer & Production Support | TATA Consultancy Services / British Telecom (India & UK) | 12/2010 - 08/2015

- **System Reliability & Virtualization:** Eliminated single points of failure in distributed systems through service virtualization, improving decoupled workflows and data reliability.
- **Process Automation:** Engineered automation scripts (Unix/Java) to manage business-critical workflows and deployed real-time WebLogic monitoring infrastructure.

EDUCATION

Bachelor of Technology in Computer Science and Engineering - JNTU Kakinada | 2010