# RAHUL N R

**Senior Site Reliability Engineer (SRE) | Cloud Infrastructure & AI Operations** Chennai, India | +91 9790939325 | n.r.rahulvarma@gmail.com | https://linkedin.com/in/ntjrrvarma | https://github.com/ntjrrvarma

## PROFESSIONAL SUMMARY

Strategic Senior SRE with 7+ years of experience bridging the gap between legacy systems and **Cloud-Native Observability**. Proven track record of defining **SLOs/SLIs**, hardening **CI/CD security**, and building **Internal Developer Platforms (IDP)** using GenAI to accelerate engineering velocity. Expert in architecting fault-tolerant distributed systems (Redis/Docker) and reducing MTTR through automated root-cause analysis tooling.

## TECHNICAL SKILLS

- **Cloud & Infrastructure:** Kubernetes (K8s), Docker, Terraform, Redis, Google Cloud Platform (GCP).
- **CI/CD & DevSecOps:** GitHub Actions, Secrets Management, GitOps, PyTest, Docker Networking, Zero-Trust Architecture.
- **Observability & Reliability:** SLO/Error Budgeting, Prometheus, Grafana, ELK Stack, Distributed Tracing.
- **AI & MLOps:** RAG (Retrieval Augmented Generation), Google Vertex AI (Gemini), ChromaDB, Vector Search, Streamlit.
- **Languages:** Python (Advanced - AsyncIO/Multiprocessing), Bash Scripting, SQL.

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## KEY TECHNICAL PROJECTS (Architecture & Innovation)

1. **VectorVault: AI-Powered Internal Developer Platform (IDP)** *An AI-driven documentation assistant designed to reduce knowledge silos and accelerate team onboarding.*
   - **Architected a Cloud-Native RAG System:** Built a Retrieval Augmented Generation (RAG) tool using **Google Vertex AI (Gemini)** and **ChromaDB** to allow natural language querying of legacy codebases and PDF architectural documentation.
   - **Strategic Leadership (Mentorship):** Deployed this tool as an internal asset, **reducing new hire onboarding time by 30%** by enabling self-service answers to complex architectural questions, directly addressing organizational knowledge gaps.
   - **Cloud Resource Optimization:** Implemented **semantic caching** strategies using Vector Search, reducing API latency and operational costs by 40% while managing strict API quotas and rate limits.

2. **LogSentinel: Distributed Log Ingestion System** *A high-throughput, fault-tolerant log processing engine designed for reliability under load.*
   - **Reliability Engineering (SLOs/SLIs):** Defined **Service Level Indicators (SLIs)** based on Redis queue depth and ingestion latency, establishing a **99.9% availability SLO** for critical log processing.
   - **Concurrency & Resilience:** Engineered an asynchronous producer-consumer architecture using **Redis Lists (LPUSH/BRPOP)** to handle high-concurrency log streams with zero data loss during simulated crashes.
   - **Traffic Prioritization:** Developed logic to segregate "CRITICAL" vs "INFO" logs, ensuring **Error Budgets** are preserved for high-priority incidents during traffic spikes.

3. **Auto-SRE: Secure Automated CI/CD Pipeline** *A fully automated "GitOps" pipeline ensuring code quality and security compliance.*
   - **Advanced Security Hardening:** Implemented **Secrets Management** using GitHub Encrypted Secrets and environment variable isolation, replacing hardcoded credentials to achieve a **Zero-Trust** security posture.
   - **Automated Quality Gates:** Integrated **Unit Testing (PyTest)** directly into the build stage; configured the pipeline to block Docker image generation if logical tests fail, preventing buggy artifacts from reaching production.
   - **Infrastructure Isolation:** Configured **Docker Bridge Networks** to strictly isolate the data layer (Redis) from the public interface, minimizing the attack surface.

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## PROFESSIONAL EXPERIENCE

**Infosys Ltd.** | Chennai, India **Consultant (Automation & Reliability Engineering)** | *Jan 2022 – Present*

- **Reliability Engineering:** Managed critical infrastructure for a major Telecom Client, ensuring **99.9% availability** for storage and compute resources across 50+ Unix instances.
- **Automation & Tooling:** Architected a Python-based Log Analysis Framework that automated the parsing of **1M+ daily log lines**, reducing manual toil by 90% and saving 20+ engineering hours/week.
- **Incident Management:** Led High-Severity (P1) Root Cause Analysis (RCA) calls; developed automated scripts to detect "Storage Bottlenecks" proactively, preventing production outages.
- **Legacy Modernization:** Developed validation scripts to identify schema mismatches during data migration, ensuring data integrity for millions of subscriber records.

**Infosys Ltd.** | Chennai, India **Systems Engineer (Mainframe & Backend Operations)** | *Dec 2018 – Dec 2021*

- **Production Support:** Maintained mission-critical Mainframe applications processing Terabytes of data daily; handled incident response and defect resolution under strict SLAs.
- **Process Improvement:** Developed Python scripts to generate automated reports from raw Mainframe dumps, eliminating manual spreadsheet work and improving data accessibility for stakeholders.
- **System Stability:** Monitored batch jobs and transaction processing systems, ensuring seamless operations for high-volume subscriber data.

## EDUCATION & CERTIFICATIONS

- **Master of Business Administration (HR)** | SRM Institute of Science and Technology | *Pursuing (2025-2027)*
- **B.Tech, Computer Science** | Dr. M.G.R. Educational and Research Institute | *2018*
- **Certifications:** Infosys Certified Python Programmer, Google Cloud Computing Foundations.