

KRISHNA Koushik THOKALA

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Summary

Cloud Infrastructure Engineer with two years of Tier-1 carrier operations — led a five-engineer 24/7 rotation holding 99.9% availability under a four-hour restoration SLA — now writing those guarantees as code: multi-AZ Kubernetes platforms in Terraform, delivered through GitOps with no long-lived credentials and defended by SLO burn-rate alerting. AWS Certified Solutions Architect – Associate | MS in Computer Science, Indiana University

Technical Skills

Cloud & Infrastructure as Code: AWS, Terraform, VPC, EC2, EKS, Lambda, RDS, DynamoDB, S3, API Gateway
Containers & Delivery: Kubernetes, Helm, Docker, ECR, Argo CD, GitOps, GitHub Actions, CI/CD, kubeconform
Security & Access: IAM, OIDC, IRSA, RBAC, KMS, Secrets Manager, Network Policies, Checkov
Observability & Reliability: Prometheus, Grafana, CloudWatch, k6, HPA, SLIs/SLOs, error budgets, burn-rate alerts
Systems & Networking: Python, Bash, SQL, PostgreSQL, Linux, Git, TCP/IP, HTTP/HTTPS, DNS, BGP, MPLS
Certification: AWS Certified Solutions Architect – Associate (July 2026)

Cloud Infrastructure Projects

EKS Reliability Platform | EKS, Terraform, Helm, Prometheus, k6, Python/FastAPI, React, RDS **GitHub**

- Built the service as well as the platform under it: FastAPI/SQLAlchemy backend with Alembic migrations on private RDS PostgreSQL and a React dashboard modeling service health, incidents, MTTR, and error budgets.
- Instrumented availability and latency SLIs on bounded route-template labels to cap Prometheus cardinality, with multi-window burn-rate alerting against a 99.9% SLO proven by **promtool** rule tests in CI.
- Proved elasticity under load: k6 drove CPU to 496% against a 60% HPA target across 18,819 requests; the backend scaled 2 → 6 replicas and returned to baseline with zero failed requests or pod restarts.

GitOps Delivery Platform | EKS, Argo CD, Terraform, Helm, GitHub Actions, OIDC **GitHub**

- Eliminated stored cloud credentials from the delivery path: branch-scoped GitHub OIDC federation gating promotion of immutable commit-SHA images behind Git and ECR provenance verification plus required PR approval.
- Reconciled dev, staging, prod, and observability as independent Argo CD Applications with per-namespace RBAC, ResourceQuotas, and NetworkPolicies — tenant isolation enforced by policy, not convention.
- Validated recovery on live EKS rather than assuming it: self-healed injected replica drift, then drove a Degraded release back to health through Git revert.

Serverless Uptime Monitor | Lambda, EventBridge, DynamoDB, CloudFront/OAC, KMS, X-Ray **Live | GitHub**

- Reduced latest-status lookup 8,640× — a scan across 86,400 retained rows replaced by 10 current rows — holding dashboard read cost flat as retention grows; live behind API key enforcement, throttling, and DLQs.
- Hardened the checker against SSRF — rejects loopback, private, link-local, and EC2 instance-metadata addresses and revalidates after DNS resolution before following redirects.
- Drilled the live failure path: one-second failure detection, dashboard visibility within 26 seconds, duplicate-alert suppression under sustained failure, and verified recovery notification.

Experience

Tata Communications **July 2022 – July 2024**

Senior Engineer, Network Operations Center – Shift Lead

Pune, India

Global telecommunications provider supporting Tier-1 carriers across IP/MPLS and optical transport networks

- Led five-engineer shifts in a 24/7 NOC, prioritizing 40+ daily incidents across 25+ Tier-1 carrier clients under 99.9% availability and four-hour restoration commitments; trained engineers joining the rotation.
- Owned P1/P2 incidents in ServiceNow, isolating faults across BGP/MPLS, TCP/IP, DNS, DWDM, and hardware while coordinating vendor TAC, field teams, customer testing, and client communication through restoration.
- Executed 4+ planned network changes per month during scheduled maintenance windows, validating service state before and after each change and initiating rollback when verification failed.
- Authored runbooks, post-incident RCAs, and standardized shift handoffs so incoming engineers inherited complete diagnostic context; earned a Certificate of Excellence for resolving an escalated customer case through closure.

Education

Indiana University Bloomington

August 2024 – May 2026

Master of Science in Computer Science, GPA: 3.5/4.0

Bloomington, IN

SRM Institute of Science and Technology

June 2018 – June 2022

Bachelor of Technology in Computer Science and Engineering

Chennai, India