

# NIKHIL V

Infrastructure & DevOps Engineer

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## Professional Summary

Infrastructure and DevSecOps Engineer with **8+ years of professional IT experience** and **4+ years specialized in DevOps/Platform Engineering**. Expert in building enterprise-grade cloud platforms from scratch, specializing in Azure Landing Zones, multi-cluster Kubernetes architectures, and hybrid cloud connectivity. Proven track record achieving significant cost optimization while implementing comprehensive DevSecOps pipelines. Deep expertise in Infrastructure as Code (Terraform), container orchestration, CI/CD automation, and Platform Engineering.

## Technical Skills

**Cloud & Platform Engineering:** Azure (AKS, App Service, Landing Zones, VNet, Private Endpoints, NAT Gateway, Bastion, Windows 365, Key Vault, DevOps, Data Factory), AWS (VPC, EC2, S3, RDS), Hybrid Connectivity (VPN Gateway, ExpressRoute), IaaS/PaaS/SaaS Implementation

**Container Orchestration:** Kubernetes (K8s, AKS Private Clusters, Multi-Cluster Architecture), Docker, ACR, Operators, CRDs, Admission Controllers

**Infrastructure as Code:** Terraform (Advanced Modules, State Management), GitOps

**CI/CD & Automation:** Azure DevOps (YAML Pipelines), Jenkins (OWASP, SonarQube), GitHub Actions, ArgoCD, PM2

**DevSecOps:** Falco, OPA Gatekeeper, SonarQube, cert-manager, External Secrets Operator, Non-Human Identity (NHI) Management, Network Policies, RBAC, Zero Trust

**Monitoring:** Prometheus, Grafana, Loki, Kubecost, Azure Monitor, Custom Dashboards

**Networking:** VNet Peering, NSG, Load Balancing, Azure Firewall, Application Gateway, DNS, Nginx, Let's Encrypt

**Programming:** Python, Node.js, Bash, PowerShell, YAML, HCL

**Databases:** PostgreSQL (Azure Flexible Server), MySQL, Redis, Backup/Recovery, Performance Optimization

## Professional Experience

### Freelance Infrastructure & DevOps Engineer

April 2025 – Present

*Ergonnx Technologies Inc., USA (AI-Driven Engineering Observability Platform)*

*Remote*

- **Enterprise Platform Architecture:** Built complete cloud infrastructure from ground up for AI-driven engineering observability platform serving software development teams. Established Azure Landing Zone with hub-spoke topology, centralized governance, and organizational standards enabling platform services deployment across multiple environments supporting real-time SDLC observability and AI-powered automation.
- **Multi-Cluster Kubernetes Platform:** Architected 4 specialized private AKS clusters (Infrastructure, Frontend, BFF, Data) using Terraform with 50+ reusable modules. Implemented platform services including service mesh, ingress, cert-manager, and secrets management enabling zero-manual-intervention deployments via Azure DevOps pipelines supporting AI agent orchestration and data processing.
- **IaaS/PaaS/SaaS Strategy:** Designed hybrid service model leveraging Azure PaaS (App Service, PostgreSQL Flexible Server, Redis, NAT Gateway) with Kubernetes IaaS for containerized workloads. Implemented PaaS patterns through GitOps reducing deployment time by 75% supporting platform's AI automation and real-time observability.
- **Hybrid Cloud Connectivity:** Implemented VPN Gateway for Azure-AWS site-to-site connectivity, Azure Bastion for zero-trust access, and Windows 365 Cloud PCs integrated with corporate VNet providing developers secure environments with direct private cluster access, improving productivity 40%.
- **DevSecOps Pipeline:** Built end-to-end pipelines integrating SonarQube code analysis at every stage. Deployed OPA Gatekeeper with custom policies and Falco for runtime monitoring achieving 100% compliance. Implemented External Secrets Operator with Azure Key Vault for Non-Human Identity (NHI) management, eliminating hardcoded credentials and managing service accounts, API keys, and machine identities for AI agents across all applications.
- **Network Security Architecture:** Designed secure architecture with private clusters, private endpoints for all services, NSG micro-segmentation, NGINXaaS with WAF, and automated Let's Encrypt certificates via cert-manager eliminating public endpoints except controlled ingress.
- **Observability Platform:** Deployed centralized monitoring stack (Prometheus, Grafana, Loki) in dedicated cluster with secure HTTPS ingress. Implemented log aggregation from all clusters, real-time cost monitoring with Kubecost, and 20+ custom dashboards supporting platform reliability and customer-facing observability features.
- **Cost Optimization:** Achieved significant cost reduction through: high spot instance utilization, cluster autoscaling with rapid scale-down, consolidated networking eliminating multiple load balancers, burstable database tiers, shared services model, and automated resource cleanup policies.
- **GitOps & Governance:** Implemented ArgoCD for declarative deployments with dev→staging→production promotion workflows. Developed OPA policies enforcing namespace conventions, resource quotas, and security standards with automated validation achieving 15min deployments with zero-downtime updates.
- **Operational Excellence:** Established automated backup/restore, disaster recovery with documented RTO/RPO, incident playbooks, and resource lifecycle management reducing operational overhead 60%.
- **Tech Stack:** Azure (AKS, App Service, ACR, VNet, NAT Gateway, Bastion, Windows 365, PostgreSQL, Key Vault), AWS, Terraform, Kubernetes, Azure DevOps, Prometheus/Grafana/Loki, ArgoCD, OPA, Falco, cert-manager, Kubecost, Python, Bash.

## System Administrator (DevOps)

June 2024 – April 2025

*RoadE Labs Pvt Ltd*

*Cochin, India*

- Managed Azure Data Factory ETL pipelines and Jenkins CI/CD with OWASP/SonarQube integration for Node.js applications. Administered production Linux servers on Azure/AWS/DigitalOcean with Nginx, Let's Encrypt SSL, and PM2 process management.
- Configured SSO, MFA, load balancers, and horizontal scaling. Deployed Prometheus/Grafana monitoring with custom dashboards. Managed MySQL/PostgreSQL databases with backup/restore, performance tuning, and replication.

## System Engineer

December 2020 – May 2023

*Aforehand Natural Products Pvt Ltd.*

*Ottapalam, India*

- Deployed and maintained e-commerce infrastructure on AWS (EC2, RDS MySQL, S3, VPC). Implemented Prometheus and Grafana monitoring for system metrics and application performance tracking. Managed Zoho Mail, Active Directory, and Office 365 administration.

## System Administrator

July 2017 – October 2020

*Xian Infotech LLP*

*Perinthalmanna, India*

- Managed network servers, Active Directory, user accounts, and workstation deployments. Monitored system performance and resolved technical issues. Implemented security controls and executed system upgrades.

## Customer Support Engineer

August 2015 – January 2017

*Accel Frontline Ltd. - Client: South Indian Bank*

*Cochin, India*

- Provided technical support for banking staff resolving hardware, software, and networking issues. Diagnosed problems using systematic troubleshooting and managed escalations ensuring complete resolution.

## Key Projects

### Ergonnex AI-Driven Engineering Observability Platform | *Azure, Kubernetes, Terraform*

April 2025 – Present

- Built complete cloud infrastructure for AI-driven engineering observability platform helping software teams align work with business priorities. Platform enables real-time SDLC observability, AI-powered automation, and intelligent agent orchestration for improved productivity.
- Architected 4 specialized AKS clusters supporting platform features with Terraform IaC. Deployed Azure App Service for web applications. Implemented comprehensive security: OPA Gatekeeper policies, Falco runtime monitoring, network micro-segmentation, and pod security standards ensuring secure infrastructure for AI agents and customer data.
- Established observability stack (Prometheus/Grafana/Loki), GitOps with ArgoCD for automated deployments, External Secrets Operator for credentials management, and cost optimization through strategic infrastructure design supporting scalable SaaS delivery.

### Koble Connect - Alumni Social Networking Platform | *Azure, Jenkins, Node.js, Kubernetes*

June 2024 – April 2025

- Managed infrastructure for social networking platform enabling alumni, colleagues, and community members to connect and share information. Deployed on multi-cloud (Azure/AWS/DigitalOcean) using Terraform IaC. Configured Jenkins CI/CD with OWASP/SonarQube security scanning, PM2 for Node.js process management, and Nginx with Let's Encrypt SSL certificates.
- Containerized applications with Docker/Kubernetes for scalability. Implemented Prometheus/Grafana monitoring with custom dashboards. Streamlined CI/CD reducing deployment time 60% while enhancing security through automated scanning.

## Education

### Diploma in Computer Engineering

June 2012 – April 2015

*Institute of Printing Technology & Govt Polytechnic College*

*Shoranur, India*

## Certifications & Additional Information

**Certifications:** Certified in Cybersecurity (CC) - ISC2, Docker for Beginners - EdYoda/Udemy, Azure Administrator (In Progress)

**Languages:** Malayalam (Native), English (Professional), Hindi (Professional), Tamil (Conversational)

**Leadership:** Secretary, Computer Engineering Students Association (2014-2015)