Akash Pawar

akash202k | akashpawar.com | +91-9346706296 | akashpawar202k@gmail.com

Summary

Site Reliability/DevOps Engineer with 2.8+ years of experience building resilient, cloud-native systems across AWS and Azure. Led GitOps-based multi-cloud migrations & built cost-optimized, scalable EKS infrastructure. Winner of CNCF Pune Hackathon 2025 for an SRE platform with LLM-powered observability. Skilled in Terraform, CICD, Kubernetes, Karpenter, and incident response—driven to build self-healing, reliable systems.

Certifications

- Certified Kubernetes Administrator — AWS Solutions Architect — AWS Certified Developer

Key Achievements

Winner – CNCF Pune Hackathon 2025 **June 2025**

Cloud Native Hackathon - Team Kubetux *Pune, India*

- Won 1st place building production-grade SRE platform with automated CI/CD, Kubernetes observability stack, and secure Karpenter-based autoscaling infrastructure.
- Official CNCF Recognition

Experience

DevOps Engineer **Dec 2022 – Present**

Trames Private Limited *India, Remote*

- **Cloud Migration & Cost Optimization:** Led complete AWS-to-Azure migration while optimizing performance & reducing operational complexity across systems. Achieved **35% total cost reduction** ($5,500/month) through **spot instances**, auto-scaling, reserved instances, and automated VM management via **Lambda/EventBridge**.
- **Kubernetes Infrastructure:** Architected production EKS clusters using Terraform with multi-node groups, ALB controller, EBS CSI driver, and **IRSA** for secure workload identity management. Implemented **HPA** for resource-based pod scaling, **KEDA** for SQS-driven scaling, and **Karpenter** for infra autoscaling to handle dynamic workloads efficiently.
- **GitOps & CI/CD:** Built comprehensive GitOps pipeline using **ArgoCD** with app-of-apps pattern for micro-services deployment and **ESO** for external secrets management. Configured **GitHub Actions**, **AWS CodePipeline**, and **Azure DevOps** with automated deployment workflows and self-hosted runners.
- **Observability Stack:** Configured monitoring infrastructure using **Prometheus**, **Grafana**, **OpenSearch**, & **Fluent Bit** with custom dashboards for comprehensive workload analysis. Utilized **CloudWatch** and **Logz.io** for centralized logging and advanced analytics capabilities across environments.
- **Incident Management:** Built SRE workflows integrating **Prometheus, Alertmanager, & Slack** to monitor SLIs and trigger SLO-based alerts. Collaborated with developers to define SLIs and automate **blameless postmortems** via a Python CLI, fostering a reliability culture. Worked cross-functionally with backend and product teams to ensure stable deployments and rapid incident resolution.
- **Serverless & Automation:** Designed event-driven backends using **API Gateway**, **Lambda**, **S3**, **SQS**, & **SAM** for scalable processing workflows. Automated infrastructure provisioning with **Terraform** and **AWS CDK**. Built custom monitoring tools using **Python** and **Ansible** for comprehensive metrics tracking.
- **Database Migration:** Migrated prod PSQL databases from AWS to **Azure PostgreSQL Servers** ensuring high availability, data integrity, and seamless replication processes. Implemented minimal downtime migration strategies with complete data validation and performance optimization across all database systems.
- **Security & Networking:** Enforced **IAM** policies, **RBAC**, **IRSA**, and **AWS Identity Center** (SSO) across AWS cloud environments for comprehensive access control. Implemented **GuardDuty** for threat detection, **OpenVPN** for secure private resource access, **VPC** peering and **Kubernetes Network Policies** for pod traffic control and secure multi-application routing.
- **Advanced Networking & DNS Optimization:** Troubleshot service disruptions by analyzing **UDP-based DNS lookups** and fallback **TCP resolution**, optimizing `ndots` and enforcing FQDNs to reduce DNS latency and network overhead in Kubernetes clusters.
- **Cost Analyzer Platform (MCP):** Engineered a modular cost intelligence system with a **context-driven protocol** (MCP) and backend APIs integrating **AWS Cost Explorer** via **boto3**. Designed for LLM integration (e.g., Claude) to enable natural language-driven spend analysis and insights.
- **Graceful Shutdown & Pod Lifecycle Management:** Troubleshot and resolved deployment traffic leaks by coordinating `preStop` hooks, `SIGTERM` handling, and readiness probes. Ensured zero-downtime rollouts through ALB coordination and pod lifecycle debugging.

Personal Projects & POCs

Distributed TensorFlow Job Scheduling with Volcano **2025**

Exploratory POC – Kubernetes GPU Scheduling

- Built a proof-of-concept distributed ML workload using **Volcano Scheduler** on Kubernetes to demonstrate **Gang scheduling** for high-performance TensorFlow training across **NVIDIA GPU nodes**.
- Used `g4dn.xlarge` instance with Kubernetes & Volcano job specs to orchestrate coordinated, parallel model execution.
- Explored HPC-style scheduling and GPU resource orchestration, simulating real-world ML training workflows.
- Project GitHub: `github.com/akash202k/nvidia-gpu-volcano-k8s`

Technical Skills

- **Cloud Platforms:** AWS (EC2, EKS, Lambda, S3, IAM), Azure (VM, AKS, App Service), Kubernetes, Docker, Helm
- **Infrastructure as Code:** Terraform, AWS CDK
- **CI/CD & GitOps:** GitHub Actions, AWS CodePipeline, Azure DevOps, ArgoCD, Azure Pipeline
- **Programming & Scripting:** Python, Node.js, TypeScript, Bash, boto3, Basics of Golang
- **Monitoring & Observability:** Prometheus, Grafana, OpenSearch, Fluent Bit, CloudWatch, Logz.io
- **Databases & Messaging:** PostgreSQL, MongoDB, SQS, EventBridge, Redis
- **Security & Networking:** IAM, IRSA, RBAC, VPN, ALB/NLB, GuardDuty, VPC/VNet, Security Groups, NACLs
- **Tools & Technologies:** NGINX, ESO (External Secrets Operator), Karpenter, SAM, Ansible, Slack integrations

Education

MIT Academy of Engineering (MITAOE) **2019 – 2023**

B.Tech in Electronics & Telecommunication, Cloud Computing Specialization *Pune, India*