





# AKASH PAWAR

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## Summary

DevOps/SRE Engineer with 2.5+ years of experience building resilient, cloud-native systems on AWS and Azure. Proficient in Kubernetes automation, observability, GitOps workflows, and cloud cost optimization (achieved 35% savings). Demonstrated success in high-ownership startup environments—leading infrastructure design, multi-cloud migration, and SRE platform development.

## Certifications

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

## Key Achievements

### Winner – CNCF Pune Hackathon 2025

June 2025

*Cloud Native Hackathon - Team Kubetur*

*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. Integrated **Karpenter** for dynamic auto-scaling based on real-time pod demand and resource optimization.
- **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.
- **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:** Tuned **CoreDNS** behavior by adjusting the **ndots** policy to avoid redundant DNS lookups, minimizing external query flooding. Leveraged fully qualified domain names (e.g **akash.com.**) with trailing dots to bypass cluster DNS search paths, resulting in faster DNS resolution and reduced latency across Kubernetes workloads.
- **Custom Development - MCP:** Built cloud cost analysis tool using **Python** & **boto3** with **AWS Cost Explorer APIs** integration for intelligent spend insights. Created **MCP Server and backend** for detecting high-cost services, analyzing spending patterns, and providing optimization recommendations for effective cost management.
- **Graceful Shutdown & Pod Lifecycle Management:** Designed graceful shutdown mechanisms using k8's **preStop hooks** & **SIGTERM** signal handling to prevent traffic routing to terminating pods during deployments. Implemented proper readiness probe coordination with **ALB** to ensure zero-downtime deployments and seamless traffic management.

## Technical Skills

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- **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
- **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

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**MIT Academy of Engineering (MITAOE)**

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

**2019 – 2023**

*Pune, India*