

# PRATHAM SHARMA

"AI-Augmented DevOps Engineer — Building Intelligent Infrastructure That Never Sleeps"

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**Address:** Kathmandu, Nepal

## PROFESSIONAL SUMMARY

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DevOps Engineer with 2+ years of experience in production Kubernetes, CI/CD, and cloud infrastructure across regulated **fintech** and **banking** environments. Delivered **5 live bank deployments** with zero downtime, working directly with client IT teams. Remote-ready and comfortable owning production infrastructure independently.

## TECHNICAL SKILLS

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- **Container & Orchestration:** Kubernetes (Vanilla, K3s), Docker, Helm, containerd, HAProxy, NFS, MinIO
- **Monitoring & Logging:** Prometheus, Grafana, Loki, ELK Stack, Alertmanager, Node Exporter, Blackbox Exporter
- **Cloud:** AWS (EC2, VPC, IAM, ALB, S3, CloudWatch, Auto Scaling, Lambda)
- **Databases:** PostgreSQL (Master-Slave HA), PgPool, Redis, Kafka, MinIO
- **Scripting & OS:** Bash/Shell, Python, Linux (RHEL, Ubuntu, Oracle Linux), Git
- **Networking:** SSL/TLS, Reverse Proxy, HAProxy, Service Mesh, VPC, DNS
- **CI/CD:** Jenkins, ArgoCD, GitLab CI
- **Security:** VAPT, Trivy, SonarQube, Wazuh, Kubeaudit, PCI-DSS, CIS Benchmarks, AppArmor
- **IaC:** Terraform, Ansible, CloudFormation
- **Artifact & Registry:** JFrog Artifactory, Harbor, Nexus
- **AI & Automation:** LLM-assisted IaC, Prompt Engineering (Zero-Shot, CoT), Ollama, Dockerfile Generator (LLM)

## PROFESSIONAL EXPERIENCE

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### DevOps Engineer

Dec 2024 – Present

**Citytech Group Ltd** Kathmandu, Nepal Full-time

- Architected and deployed **production-grade Kubernetes clusters** (Vanilla K8s, K3s) for **5 banking clients**, managing full cluster lifecycle including upgrades, certificate renewal, and resource optimization.
- Built a complete **RHEL-based stack** from kernel tuning to full observability (containerd, HAProxy, **ArgoCD**, NFS, **PostgreSQL HA**, **Prometheus**, Grafana, Loki, Kafka, Minio) and led **live production deployments** with coordinated DB backups, secret rotation, image versioning, smoke testing, and rollback strategies.
- Led Ubuntu (EOL) to RHEL migration across all environments, planning and executing migration and rollback strategies with no disruption to banking transactions.
- Analyzed 6-node **Kubernetes** cluster using **Prometheus**, identified critical **memory pressure (82%)** and high-consumption pods. Implemented **alerts, resource limits**, reducing **OOM risk** and improving **cluster stability**.
- Implemented **centralized artifact management** with JFrog Artifactory across 10+ fintech microservices, cutting **CI build times by 40%** and enabling fully air-gapped, reproducible builds with immutable versioning (*dev* → *staging* → *prod*).
- Remediated **30+ critical CVEs** across Oracle Linux systems (**VAPT**), hardened NFS exports, locked production package versions, and reduced overall attack surface by over **75%**
- Built **hardened OpenJDK 17 Docker images** using jlink minimal JREs and non-root execution, achieving **~70%** reduction in vulnerabilities and **~75%** reduction in image size, deployed to Harbor as a secure base for all microservices.
- Leveraged **LLMs** for Terraform module generation, Kubernetes manifest optimization, and CVE remediation scripting, including automating CVE triage and generating hardening playbooks and reduced remediation time by **60%** and manual effort across infrastructure tasks.
- Owned production incident response across 5 banking clients by resolving **node pressure**, PostgreSQL, MinIO, and log pipeline failures by integrating **AI-assisted root cause analysis** by feeding Prometheus alerts into LLMs with zero-shot/chain-of-thought **prompting**, maintaining continuous uptime with average resolution under 2 hours.
- Built an **agentless Kubernetes certificate expiry monitoring system** using Python and Paramiko SSH with Jenkins-scheduled daily execution and Google Chat alerting, **eliminating manual certificate checks** across multi-distribution clusters.

## DevOps Trainee

February 2024 – July 2024

UNIIT (United Nepalese in Information and Technology) Butwal, Nepal - Full-time

- Built and deployed a **three-tier architecture on AWS** with VPC, public/private subnets, **NAT** gateway, autoscaling, and NGINX load balancing by reducing simulated deployment time by 25%.
- Implemented **blue-green and rolling deployment strategies** on Kubernetes, and built a serverless application on AWS Lambda with automated CI/CD via Jenkins.
- Built shell automation scripts using AI assistance - an early foundation of **AI-augmented DevOps practice**.

## PROJECTS

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### Boardgame App — End-to-End CI/CD Pipeline

[Project Link](#)

AWS · Kubernetes · Jenkins · Terraform · Ansible · SonarQube · Trivy · Nexus · Prometheus · Grafana

- Provisioned full AWS infrastructure (VPC, 7 EC2s, 6-node K8s cluster) using **Terraform** and **Ansible** with complete RBAC and namespace isolation.
- Built a **12-stage Jenkins pipeline** starting from compile, test, SonarQube gates, Trivy scanning, Nexus artifact storage, Docker build/push, and K8s rolling deployment.
- Implemented **observability** with Prometheus, Grafana, Node Exporter, and Blackbox Exporter across all cluster nodes.
- Hardened security via **Kubeaudit** scans, restricted security groups, disabled root SSH by achieving zero critical findings post-deployment

## EDUCATION

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### B-Tech in Computer Science and Engineering

2020 – 2024

Kalinga Institute of Industrial Technology (KIIT) Bhubaneswar, India

**CGPA:** 8.97 / 10.0

## CERTIFICATIONS

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- **AWS Certified Solutions Architect** – Associate
- **CKA** – Certified Kubernetes Administrator (**Target: June 2026**)
- **AWS Cloud Technical Essentials** (Coursera)
- **AI Infrastructure and Operations Fundamentals** (NVIDIA by Coursera)

## ACHIEVEMENTS

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- **Published Book Chapter** “*The Role of Computer Vision in Smart Agriculture*”, featured in “*The Future of Smart Agriculture* ” by Nova Science Publishers
- Awarded **COMPEX Scholarship** by Embassy of India
- Best Speaker Award - Nobel **Model United Nations** (NMUN)