Ashish A Kamat

LinkedIn | GitHub | Portfolio

Contact No +919004916161
Email ashishkamat27@gmail.com

A multi-faceted and success driven professional, seeking challenging role as Staff DevOps Engineer / MLOps Engineer / Platform Engineer with expertise in Generative AI and LLM Operations

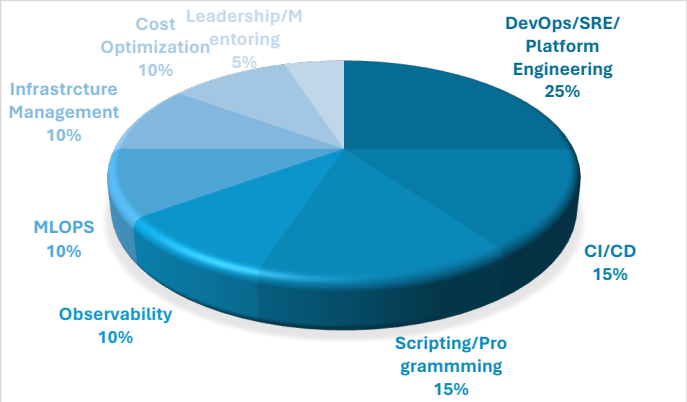
Professional Summary:

- Results-oriented Lead DevOps Engineer with a decade of experience, highly proficient in MLOps and the engineering challenges of Generative AI, specializing in LLMOps infrastructure design and implementation.
- Exceptional expertise in strategic planning, CI/CD pipeline development and program management, effective collaboration with data scientists for seamless GenAI application deployment.
- Experienced in meeting complex infrastructure needs and creating stimulating DevOps environments, conducive to achieving highest level of operational excellence and cost optimization.
- Successfully designed and guided cost optimization frameworks achieving 60% savings on AWS resources, and developed LLM-based solutions reducing support time by 60%.
- Highly efficient in Platform engineering, Infrastructure automation, Kubernetes orchestration, and maintaining enterprise-grade monitoring and observability solutions.
- Excels in coordinating and maintaining the delicate balance between development teams, operations, infrastructure management, and business requirements.

Core Competencies

Cloud Architecture & Management
MLOps & LLM Operations
CI/CD Pipeline Development
Monitoring & Observability
Containerization & Orchestration
Infrastructure as Code
Site Reliability Engineering
Cost Optimization & Management
GenAI Solution Architecture
Team Leadership & Mentoring
Security & Compliance
Performance Optimization

How I spend my day



Education

Pursuing Master in Data Science
Liverpool John Moore's University
(2024 - Present)

Executive PG Diploma in Data Science
IIIT Bangalore & UpGrad (2022-2023)

Post Graduate Diploma in Advanced Computing
C-DAC (2014)

Bachelor of Engineering in Computer Engineering
University of Mumbai (2009-2013)

Career Timeline

Awards And Achievements

- Presenter in WCNC Conference in Walmart for platform developed for Single tenant deployment solution using Argo CD.
- Awarded in Walmart for Top performer of quarter for onboarding first client on GitOps driven platform
- Received Appreciation from Leadership for cost optimization framework developed in Nielsen
- Retained distinguished club in given area for Toastmaster club being VP of membership for PLH Toastmaster club'
- Finalist in Techgig Code Hackathon for theme based on DevOps

Work Experience

Staff DevOps Engineer
Nielsen Media India Pvt Ltd|Bengaluru,India
August 2024 – Present

- Designed **cost optimization** framework for **Kubernetes** clusters running on **EKS** using blend of open-source tools plus in-house built tools, helps the team and overall company to save cost on **Kubernetes** and overall **AWS** resources by up to **60 %**
- Owned **Gitlab** management and created **chatbot** driven automation based on **Gen AI** and **Retrieval Augmented Generation (RAG)** to understand context and provide response for auto approve change of ownerships of repositories, Merge request approvals, runners onboarding etc.
- Implemented **AWS CloudWatch synthetic canary** dashboard and end-to-end automation processes to perform meta monitoring i.e monitoring of monitoring endpoints such as **Prometheus**, **Grafana**, **Loki** etc. Entire framework built using concepts such as **Infrastructure as Code** using **Terraform**, **Gitlab pipeline**, and parameterization for flexibility across services, enhancing system and application performance, by **60%**
- Migrated data science studio data providers and storage classes from **GlusterFs** to **WEKA** data platform helps to speed up **data pipeline** and overall by 30 %
- Currently working on **LLM** based **Airflow Log classifier** and responding system which can evaluate real-time **spark** and logs for given **Airflow DAGs** and recommend possible solutions based on trained model created using **AWS BedRock** with **MLOPS** approach, helping customers to get real time solutions on the fly, saved On-call support time by **60 %** and increased data scientist, data engineers productivity

Cloud Used: AWS, GCP
Coding Languages used: Python, Bash scripting, Go, Firebase (Java script)
CI/CD tools used: Gitlab, Jenkins
MLOPS tools used: Gemini API, AWS BedRock, Airflow DAgs, MLFlow

Personal Details

Date of Birth: 27 June 1991
Languages Known: English, Hindi, Marathi
Address: Bengaluru-560087

Please refer to annexure for experiences summary and projects

ANNEXURE

Previous Work Experience

Senior Platform Engineer
Walmart Global Tech | Bengaluru, India
Dec 2022 – Aug 2024

- Architected and governed single tenant multi cloud (**Azure**, **GCP**) **Kubernetes** based Deployment platforms with **ArgoCD**, **Ansible**, **Concord** workflows, **Looper** Pipelines Terraform, and **OPA Gatekeeper** matching security compliance achieving 40% faster time-to-insight with optimized data pipelines and real-time processing.
- Created custom **Helm** charts and **Concord** workflows, achieving 25% less downtime with containerization and collaboration with DevOps engineers, improving user experience.
- Defined organizational standards for **GitOps** and **CI/CD** templates across 50+ teams by onboarding them to a newly developed **ArgoCD** based **GitOps** driven platform.

Senior Site Reliability Engineer
Walmart Global Tech | Bengaluru, India
Oct 2021 – December 2022

- Part of the Centralised SRE team who is responsible for the development, enhancement, and support for Walmart's own proprietary CI-CD tools such as **Looper**, **concord** (https://concord.walmartlabs.com), **OneOps**, and **WCNP** (Walmart cloud-native platform)
- Focused on CI/CD pipelines, developing and supporting future enhancement of the product, to meet Customer requirement and Open-source industry.
- Designed, architect, and implemented a **Single source of the dashboard** to **monitor Infrastructure** getting used behind all **CI/CD** tools and removing the dependency of Bastion host to run ad-hoc **Ansible** tasks by giving UI trigger feature.
- Participated in RCAs, performance reviews, and production incident retrospectives.
- Delivered 60% cost reduction via auto-scaling, bin-packing, and spot fleet integrations.

Senior DevOps Engineer
Cimpress India Pvt Ltd | Remote
Apr 2021 – Oct 2021

- Designed and deployed **GitLab CI/CD** for microservices across **AWS** and **Azure**.
- Automated serverless deployments using **Terraform** + **Lambda** + **CloudWatch** on AWS platform to increase **deployment** speed up to **40**%.
- Deployed and architected **observability tools** dashboard to monitor events and failure helps to optimize serverless deployment times, resulting in a 40% improvement in deployment speed and 50% reduction in downtime, while ensuring 99.99% uptime and real-time visibility into application performance.

Senior DevOps Engineer
Here Technologies | Mumbai, India
Jun 2019 – Apr 2021

- Migrated microservices to **Kubernetes** (**EKS**) with **observability**, **security**, and **Helm**-based release strategy.
- Create **DevOps** framework using **Gitlab**, **Terraform** modules, **python** scripts and **GitLab templates** to have configuration based deployments which enabled zero-downtime upgrades through canary and blue/green rollout frameworks.

Senior Software Engineer
CitiusTech | Mumbai, India
Apr 2018 – Jun 2019

- **Led DevOps automation** for healthcare analytics with HIPAA-compliant pipelines while working on Client side.

- Built **Jenkins** pipelines, **Docker** registries, and compliance scanners.
- **Mentored** junior resources by assigning **DevOps POCs** and projects.
- **DevOps practice lead** for given vertical and overall projects under vertical.

Senior Programmer Analyst / Software Engineer
Accelya Kale Solutions / Cybage Software | India
2014 – 2018

- Streamlined **CI/CD** delivery pipelines and enhanced infrastructure resiliency.
- Daily interaction with Product team, leads, Managers and Clients, suggesting best practices for **DevOps** and **Cloud** approach with demos, containerization of products, Build and Release activities, Microservice design patterns for achieving High availability and Fault tolerance.
- Gap assessments, Solution proposal, Implementation and Auditing of Software development life cycle to make it **ALM compliance**.
- Creating **releases, workflows** for **Deployment** and **Environment** creation using Configuration management toolsets.

Projects

A] Related to Work Experience

Project Name: Airflow Logs Classification using LLM
Project Description:

- Built a smart, real-time log classification and response system for Airflow DAGs using **Claude Sonnet via AWS Bedrock**, designed to automatically analyze Spark logs and suggest meaningful solutions.
- The system helped identify failures in DAG runs, summarized large volumes of log data, and responded with likely root causes and actionable fixes—saving valuable time during on-call rotations.
- Followed a complete **MLOps approach** for training, validating, and deploying the model, ensuring the pipeline was robust, reproducible, and easy to update with feedback.
- Integrated the solution into the Airflow ecosystem, allowing it to evaluate logs as they were generated, providing near-instant summaries and remediation tips.
- Actively reduced on-call support effort by **around 40%**, as engineers no longer needed to manually sift through large log files to identify issues.
- Boosted productivity for **data scientists and data engineers by up to 50%** by significantly cutting down time spent debugging pipeline failures.
- Designed the workflow to be adaptive—users could validate or improve model suggestions, which were fed back to fine-tune future recommendations.

Skills used: Python, Airflow DAGs, Retrieval Augmented Generation (RAG), Machine learning, Large language Models (LLM) Claude Sonet, AWS Bedrock, Gitlab, Jupyter notebook, Kubernetes, Docker, AWS EKS, shell scripting
Associated with: Nielsen Media India Pvt Ltd
Duration: March 2025 to June 2025

Project Name GlusterFS to WEKA Storage Migration on EKS
Project Description:

- Led end-to-end migration from **GlusterFS** to **WEKA data platform** for Data Science Studio workloads running on **Amazon EKS**.
- Initiated migration due to **deprecated support for GlusterFS** in EKS version 1.26 and above.
- Designed the **architecture, migration strategy, and cost estimation** for a multi-tenant, multi-environment setup.
- Planned and executed the migration with a focus on **zero data loss and minimal downtime** across dev, staging, and production environments.
- Coordinated with platform, data engineering, and storage teams to ensure smooth cutover.

Skills used: EKS, Kubernetes K8s controllers and CRDs, Helm, GlusterFs, WEKA, Airflow, Jenkins, Gitlab, Python, Go
Associated with: Nielsen Media India Pvt Ltd
Duration: April 2025 to June 2025

Project Name: KROS - Kubernetes resource optimization system
Project Description:

- Developed an automated framework to **analyse and rightsized CPU and memory requests/limits** for Kubernetes workloads running on AWS EKS.
- The framework scanned all resources across namespaces and used **Prometheus queries** to evaluate past usage trends of CPU and memory.
- Parsed historical usage data using **Python libraries** to generate optimized request/limit recommendations per workload.
- Automatically applied the new resource configurations, and if the new recommendation was lower than current usage, **notifications were sent to the respective teams** post-update.
- Delivered this high-priority initiative under tight deadlines — completed within **5 days**.
- Resulted in a **platform-level cost reduction of up to 60%**, significantly improving resource efficiency across services.

Skills used: Kubernetes, AWS ·Python (Programming Language) · pandas · Recommender Systems · Machine Learning · Gitlab · Amazon EKS · Shell Scripting
Associated with: Nielsen Media India Pvt Ltd
Duration: November 2024 (finished in just 1 week)

Project Name: Meta-Monitoring Dashboard for Observability Clusters
Project Description:

- Designed and developed a centralized observability dashboard to enable **meta-monitoring**—i.e., monitoring of monitoring systems such as **Prometheus, Grafana, and Loki** across multiple clusters.
- Built a unified interface for SRE and DevOps teams to proactively detect issues in monitoring pipelines and visualize metrics/logs/alerts originating from observability tools themselves.
- Leveraged **Infrastructure as Code (IaC)** using **Terraform** to provision and manage monitoring infrastructure consistently across environments.
- Integrated the solution with **GitLab CI/CD pipelines**, enabling fully automated, repeatable deployments of observability monitoring stacks.
- Applied **parameterization** and templating to ensure reusability and flexibility across various services and environments.
- Optimized system and application performance by up to **60%**, by proactively identifying bottlenecks and failures in the observability toolchain.

- Enabled near real-time visibility into health and availability of monitoring endpoints, reducing mean-time-to-detect (MTTD) for failures in monitoring systems.
- Ensured high reliability and scalability of the observability stack to support organization-wide service monitoring requirements.

Skills used: Kubernetes, AWS ·Python (Programming Language) – Terraform modules – CloudWatch -AWS Lambda – Synthetic canary -Prometheus – Grafana -Loki -Observability
Associated with: Nielsen Media India Pvt Ltd
Duration: October 2024 to Jan 2025

Project Name: GitOps based Deployment to single tenant Kubernetes clusters using ArgoCD
Project Description:

- Worked on setting up a new **CD** tool, **Argo CD**, to support **10k+ deployments** per day across the organization for different products such as Spark-as-a-Service, Machine Learning Workflows, Data pipelines, Kubernetes-based DB setup workload, and deployments.
- Created customized **Ansible** roles and **Helm** charts for **Argo CD** setup to support the above-mentioned scenario.
- Set up chaos testing using **Gremlin** and the in-house platform **ChaosMart** to perform resiliency and performance testing.
- Re-designed the architecture for a **high-availability (HA)** setup and performed **performance tuning.**
- Created various custom **Docker** images and **Jenkins** jobs for automation as needed.
- Developed a plugin using **Golang** for customized **CLI-based authentication** and **authorization**.
- Built a **plugin** to support true **GitOps**-based deployments on push, with custom changes to support metrics and logs forwarding.
- Created custom monitoring dashboards for SRE activities and chaos testing, along with a plugin for log rotation.
- Created **starter kits** for easy onboarding on platform and handled customer queries and issues pre-onboarding, during and post-onboarding

Skills used: ArgoCD, Kubernetes, Docker, Terraform, Ansible, AKS, GKE, Azure, GCP Postgres, Observability, Springboot, Concord, Looper,
Associated with: Walmart Global Tech India Pvt Ltd
Duration: Jan 2023 to Jan 2025

Project Name: Jenkins Monitoring Dashboard Consolidation
Project Description:

- Identified a major pain point for on-call engineers managing over **200+ monitoring dashboards** across various business units for Jenkins masters, agents, and proxies.
- Analysed existing dashboards and **extracted common metrics** across all units to build a unified, simplified monitoring model.
- Created a **standardized set of metrics** and queries that could dynamically fetch data for different Jenkins components across environments.
- Consolidated dashboards from 200+ to just **6 high-level dashboards** — 3 for **production** and 3 for **non-production**, each covering **masters, agents, and proxies**.
- Significantly improved **on-call efficiency**, reduced cognitive load, and enabled faster triaging and alerting during incidents

Skills used: Jenkins, Prometheus, Grafana , Ansible, Bash scripting, Python, OneOps, Linux
Associated with: Walmart Global Tech India Pvt Ltd
Duration: Oct 2021 to Dec 2021

Project Name: Migration from ECS to EKS and Platform Modernization
Project Description:

- Contributed to the strategic upgrade from **ECS to EKS** in response to platform scalability needs and to leverage advanced Kubernetes features.
- Automated the migration process by writing **Bash and Python scripts**, including utilities to convert **ECS task definitions into Kubernetes deployments and services**.
- Developed **Terraform modules** and **eksctl scripts** to provision and manage Kubernetes infrastructure on AWS efficiently.
- Built **HELM charts** with dynamic `values.yaml` files tailored to multiple environments, streamlining application deployment and configuration.
- Set up **Prometheus and Grafana** for centralized monitoring and built custom dashboards to track system health and performance.
- Implemented **alerting mechanisms** for anomaly detection, and wrote **Python scripts** using ML frameworks to predict future anomalies and threats based on real-time and historical data.
- Deployed and configured **Istio with Envoy proxy** to enable service mesh architecture, improving observability, security, and traffic control for microservices.
- Integrated **Kiali dashboard** for service mesh visualization and **Jaeger** for distributed tracing and performance insights.

Skills used: Jenkins, Prometheus, Grafana , Ansible, Bash scripting, Python, OneOps, Linux
Associated with: HERE Solutions India Pvt Ltd
Duration: Dec 2019 to March 2020

Project Name: Static Code Analysis Enablement for Perl
Project Description:

- Led an **organization-wide initiative** to introduce **static code analysis (SCA)** support for **Perl**, a language not natively supported by SonarQube.
- Conducted extensive research to identify alternative tools and modules capable of analyzing Perl code for code quality, security, and maintainability.
- Evaluated multiple open-source and commercial solutions, tested their integration feasibility, and shortlisted tools based on accuracy, performance, and reporting capabilities.
- Successfully designed and implemented a **custom SCA workflow for Perl**, ensuring alignment with organizational DevSecOps practices.
- Helped close a major DevSecOps gap by bringing Perl projects under standardized static code quality checks.

Skills used: Jenkins, Prometheus, Grafana , Ansible, Bash scripting, Python, OneOps, Linux
Associated with: HERE Solutions India Pvt Ltd
Duration: March 2015 to May 2015

B] Academic/Open Source Projects

Project Name: SmartFit: Diet and Exercise Recommendation System using RAG and LLM
Project Description:

- Developed **SmartFit**, an intelligent health assistant that delivers real-time, personalized **diet and workout recommendations** using **Large Language Models (LLMs)** and **Retrieval-Augmented Generation (RAG)**.
- Tackled the global rise in lifestyle-related health issues by creating a system that adapts to users' **dietary patterns, activity levels, and health goals** for better long-term outcomes.
- Integrated **Generative AI** with personalized fitness data to provide **dynamic and evolving guidance**, going beyond traditional static fitness programs.
- Leveraged **machine learning** and **knowledge retrieval pipelines** to contextualize health advice, enabling the system to continuously learn and refine suggestions.
- Focused on optimizing personal wellness through **data-driven, adaptive interventions**, helping users make sustainable health and fitness decisions.
- Aimed to revolutionize personal wellness management by combining diet and exercise as a unified recommendation engine.

Skills used: Large Language Models (LLM) · Retrieval-Augmented Generation (RAG) · Python (Programming Language) · Pandas (Software) · NumPy · Hugging Face Products · jupyter notebook · RAGAS · MLOps · Data Science · EDA
Associated with: LiverPool John Moore's University
Duration: Jan 2024 to March 2025

Project Name: Credit Card Fraud Detection Using Machine Learning (Capstone Project)
Project Description:

- Designed and implemented a system to detect **fraudulent credit card transactions** using various **machine learning techniques** to prevent financial losses and protect customers from unauthorized charges.
- Applied and compared multiple supervised learning algorithms (e.g., **Logistic Regression, Random Forest, etc**) to identify the most accurate and efficient model for fraud detection.
- Conducted **data pre-processing, feature engineering, and model evaluation** using precision, recall, F1-score, and AUC-ROC metrics to benchmark model performance.
- Visualized insights through **graphs and statistical summaries**, highlighting transaction patterns and anomalies to support interpretability
- Achieved improved fraud detection rates by selecting the best-fit model and fine-tuning hyperparameters for optimal performance.

Skills used: pandas · python · NumPy · EDA · Machine Learning · PySpark · Python (Programming Language) · MLOps
Associated with: International Institute of Information Technology Bangalore
Duration: Nov 2023 to Jan 2024
Source code: https://github.com/ashishkamat2791/Credit-Card-Fraud-Detection

Project Name: **Boom Bikes Shared Bike Demand Forecasting**
Project Description:

- Performed in-depth **exploratory data analysis** on bike rental data to uncover trends related to weather, seasonality, holidays, and working days.
- Engineered features, removed multicollinearity using **VIF**, and prepared data with dummy variables for regression modelling
- Developed and refined a **multiple linear regression model** to predict daily bike demand, achieving strong performance metrics (R^2, RMSE).
  Delivered business insights to help Boom Bikes plan post-COVID strategies—optimizing bike availability, operational costs, and customer satisfaction.

Skills used: Python, Pandas, NumPy, Scikit-learn, Stats Models, Matplotlib, Seaborn
Associated with: International Institute of Information Technology Bangalore
Duration: Sept 2023 to Nov 2023
Source Code: https://github.com/ashishkamat2791/Linear_regression_assignment

Project Name: Lead Scoring and Conversion Prediction project for X Education
Project Description:

- Analysed historical lead data to understand key patterns influencing lead conversion, focusing on factors such as lead source, activity level, and user profile.
- Engineered relevant features and cleaned data to prepare it for modelling, including handling missing values and encoding categorical variables.
- Built a **classification model** (e.g., Logistic Regression or Random Forest) to assign a **lead score** predicting the likelihood of conversion for each lead.
- Delivered a scoring system that enabled the sales team to focus on **high-potential "Hot Leads"**, with the goal of improving the conversion rate from 30% to the **target of 80%**.

Skills used: Machine Learning · Linear Regression · Feature Engineering · Python (Programming Language) · Logistic Regression ·Python Programming
Associated with: International Institute of Information Technology Bangalore
Duration: July 2023 to Sept 2023
Source code: https://github.com/ashishkamat2791/Lead_score_case_study