

Bhargavi Reddy Surakanti | DevOps Engineer

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SUMMARY

DevOps Engineer with 5+ years of experience building and automating scalable CI/CD pipelines and cloud infrastructure across AWS, Azure, and GCP. Strong expertise in Docker, Kubernetes, Helm, and Infrastructure as Code using Terraform, Ansible, and CloudFormation to deliver reliable, cloud-native platforms. Proficient in Python and Java-based automation with deep focus on monitoring, observability, and system reliability using Prometheus, Grafana, ELK, and OpenTelemetry.

TECHNICAL SKILLS

CI/CD & Automation:	Jenkins, GitLab, GitHub Actions, Azure DevOps, ArgoCD, Octopus Deploy, CircleCI
Cloud Platforms:	AWS (S3, RDS), Microsoft Azure, Google Cloud Platform
Containerization & Orchestration:	Docker, Kubernetes, Helm, OpenShift, Istio (Service Mesh)
Infrastructure as Code (IaC):	Terraform, Ansible, AWS CloudFormation
Programming & Frameworks:	Python, Java, Bash, Shell, YAML, JSON, Groovy, Django, SpringBoot
Monitoring & Logging:	Prometheus, Grafana, ELK Stack, Splunk, AWS CloudWatch, OpenTelemetry, Jaeger
Databases & Storage:	MySQL, PostgreSQL, MongoDB, Cassandra, DynamoDB
Networking & Load Balancing:	Nginx, AWS ALB/NLB, Cloudflare
Version Control & Collaboration:	Git, GitHub, JIRA, Confluence
Operating Systems & Platforms:	Linux, Windows Server

PROFESSIONAL EXPERIENCE

DevOps Engineer | Northern Trust, USA Jun 2024 – Present

- Engineered Infrastructure-as-Code using Terraform to provision and manage multi-database infrastructure across AWS RDS (MySQL, PostgreSQL), DynamoDB, and self-managed Cassandra clusters on EC2 with automated cross-region replication and failover policies for disaster recovery.
- Developed Python-based intelligent automation scripts analyzing query patterns, connection pool saturation, and I/O metrics to dynamically trigger RDS scaling events and DynamoDB throughput adjustments using predictive analytics and historical load forecasting.
- Architected comprehensive Jenkins CI/CD pipeline automating database schema migrations, version-controlled SQL deployments, stored procedure updates, and rollback procedures with pre-deployment validation and post-deployment smoke tests across all database engines.
- Designed and deployed automated backup routines using AWS RDS automated snapshots, cross-region replication, Bash scripts for MongoDB/Cassandra backups, point-in-time recovery capabilities, and documented disaster recovery procedures with quarterly DR drills.
- Built Python query optimization analysis framework parsing slow query logs, executing plan analysis, detecting missing indexes, recommending partitioning strategies, and integrated with Jenkins for continuous production performance profiling and optimization recommendations.
- Configured distributed caching architecture using Redis for frequently accessed data, MongoDB replica sets for read scaling, Nginx load balancing policies, and automated cache invalidation logic, reducing primary database load and improving application response times by 40%.
- Created Ansible playbooks implementing self-healing automation detecting database anomalies (replication lag, connection exhaustion, disk pressure), triggering corrective actions (index rebuilding, connection pool reset), and establishing feedback loops to prevent recurring incidents.

Software Engineer | Coforge, INDIA Apr 2021 – Jul 2022

- Designed ETL pipelines using Apache Airflow and PySpark that ingested product catalogs and customer behavior data in real time from multiple sources into PostgreSQL and MongoDB, allowing for scalable feature engineering of 100K+ products without failures in the pipelines.
- Implemented a hybrid recommender system, using Collaborative Filtering-Matrix Factorization and Word2Vec embeddings for Content-Based Filtering. The stacking of ensemble models resulted in a 32% click-through rate improvement and a 28% increase in average order value.
- Implemented a Flask REST API backend with request caching and connection pooling for serving real-time recommendations and pricing predictions in less than 200ms, including extensive logging and error handling to make the app production-ready.
- Deployed end-to-end ML pipeline, which used Docker containerization and Jenkins for continuous integration/continuous deployment, with MLflow for model versioning and experiment tracking on AWS (EC2, S3), allowing model retraining every 48 hours with performance monitoring.
- Implement integrated semantic search using TensorFlow embeddings with similarity indexing on enriched product metadata for better recommendation context, reducing irrelevant suggestions by 25%, while improving key customer engagement metrics by 22%.

Software Developer | TCS, INDIA Jul 2018 – Mar 2021

- Developed RESTful APIs using Spring Boot and Spring MVC to handle claim intake, status checks, and payment initiation, which served as the core backend for the new claims processing system.
- Built the business logic and data persistence layer for claim transactions using JPA and Hibernate, effectively modeling complex relationships between claims, policies, and payouts in the database.
- Implemented a document processing module using Spring WebFlux to handle uploaded claim supporting documents asynchronously (like PDFs and images), reducing processing latency by 40% for claims with attachments.
- Created and executed unit tests for service layer methods using JUnit and Mockito, achieving 85% code coverage for the claims adjudication engine and ensuring high reliability.
- Utilized AWS EC2 and S3 for deploying application instances and storing processed claim documents, gaining practical experience with cloud platform management.
- Assisted in the containerization of the microservice using Docker, creating consistent images for deployment across different environments from development to staging.
- Supported the integration of the new microservice with the existing policyholder portal, collaborating with front-end developers to ensure seamless API consumption.

EDUCATION & CERTIFICATIONS

Masters in Information Systems Management Auburn University at Montgomery, USA	Aug 2022 – May 2024
Bachelors in Electronics and Communication Engineering Aurora's Technological and Research Institute, India	Jul 2015 – Jun 2019

- Microsoft – AZ-900: Azure Fundamentals**
- AWS Cloud Practitioner**