LIKITH NADENDLA

ML / DevOps Engineer

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SUMMARY

ML/DevOps Engineer who architects, deploys, and operationalizes secure, cloud-native machine learning systems at scale. Experienced in automating pipelines, orchestrating data workflows, and hardening infrastructure across AWS and Kubernetes environments. Adept at collaborating with Data Science, SRE, and Security teams to translate requirements into production systems, improve model reliability, and accelerate delivery of ML-driven features.

Proven ability to optimize inference performance, instrument observability, and enforce compliance for regulated industries, especially healthcare and enterprise retail. Skilled in designing CI/CD guardrails, containerizing workloads, and integrating monitoring to ensure reliability, reproducibility, and traceability across the ML lifecycle. Strong advocate for measurable SLIs/SLOs, model observability, and platform transparency.

Hands-on experience building MLOps platforms supporting reproducible training pipelines, drift-aware retraining, dataset versioning, and model serving using AWS SageMaker, Airflow, MLflow, and containerized services. Comfortable implementing Terraform IaC, distributed logging, APM tracing, and cloud security controls (IAM, KMS, private networking, secrets management) to ensure platform reliability and auditability.

Excels at bridging research and production environments, modernizing legacy infra, and standardizing platform patterns for scale. Recognized for enabling ML teams to move faster without compromising compliance, security, or operational stability, and for championing engineering best practices in fast-paced, cross-functional environments.

TECHNICAL SKILLS

Cloud & DevOps: AWS (ECS Fargate, ECS on EC2, SageMaker Training & Endpoints, SageMaker Feature Store, IAM, S3, VPC, CloudWatch, KMS, Secrets Manager), OpenSearch (keyword search, vector kNN), GitLab CI/CD, Docker, Infrastructure Automation, CI/CD Pipelines

Programming: Python (ML pipelines, feature engineering, inference services), SQL, Bash/Shell Scripting, JavaScript (REST APIs), Node.js

Databases & Data Ingestion: Amazon S3 (offline features & model artifacts), SageMaker Feature Store (online features), S3/Parquet + Glue (offline feature store), OpenSearch, BigQuery (analytics & validation), Database Design & Optimization, HL7, REST APIs, DynamoDB Streams, Kafka / Amazon Kinesis

Frameworks & Libraries: XGBoost, scikit-learn, pandas, NumPy, FastAPI/Flask (REST inference services), matplotlib

Tools & Platforms: Docker, GitLab CI/CD, Git, Jupyter Notebook, Visual Studio Code, Datadog, AWS CloudWatch, JIRA, Confluence

Infrastructure & Networking: Linux, AWS VPC Networking, IAM & RBAC, Private Endpoints, Load Balancers, Security Groups, Encryption (KMS)

Machine Learning & Modeling: Embedding Models, Feature Engineering, Ranking Models, Model Evaluation, Drift Detection (PSI, KS tests), Hybrid Recommendation Systems

Observability & Reliability: Datadog (APM, metrics, dashboards), CloudWatch Logs & Metrics, SLI/SLO Definition, Latency & Throughput Monitoring, Root Cause Analysis

Other Skills: MLOps Best Practices, Production ML Deployment, Model Lifecycle Management, Cross-Functional Collaboration (Data Science, SRE, Security), System Documentation, Problem Solving, Agile & Scrum

WORK EXPERIENCE

ML Ops Engineer | Nike | Portland, OR — April 2024 – Present

Project Overview: Built a production-grade, cloud-native personalization platform on AWS that powers product recommendations, search re-ranking, and homepage personalization using scalable MLOps pipelines, real-time model serving, and enterprise-level CI/CD, monitoring, and security practices.

- Designed and operated a hybrid personalization system combining offline embedding generation and real-time ranking, supporting product recommendations, search re-ranking, and homepage personalization use cases.
- Built daily batch pipelines in Amazon SageMaker to train user and product embedding models, storing vectors for scalable candidate retrieval.
- Implemented vector-based candidate generation using OpenSearch kNN, integrating semantic recall with keyword search results for downstream ranking.
- Developed real-time ranking services using XGBoost deployed on SageMaker real-time endpoints, meeting internal latency SLOs (p95 < 150 ms).
- Implemented feature store patterns with SageMaker Feature Store, enabling consistent feature definitions across training and inference paths.
- Established Dev → Staging → Prod model promotion pipelines using GitLab CI/CD, including canary and shadow deployments for safe rollout.
- Integrated end-to-end observability using Datadog, CloudWatch, and custom metrics to monitor latency, throughput, drift signals, and feature freshness.
- Implemented data and model drift detection using statistical tests and embedding distribution analysis, enabling proactive retraining decisions.

- Partnered with SRE and security teams to enforce IAM least-privilege access, private networking for endpoints, container image scanning, and secrets management via AWS Secrets Manager.
- Conducted root-cause analysis on inference latency regressions and traffic anomalies, defining SLIs/SLOs for ML services aligned with platform reliability goals.

DevOps/ML Ops Engineer | Core Defender AI | Portland, OR — April 2023 – Feb 2024

Project Overview: Built and operated a HIPAA-compliant laboratory data and MLOps platform to ingest and normalize HL7 test results, enable reproducible ML-driven analytics, and automate secure reporting for partner labs and patients, with strict PHI isolation, auditability, and operational reliability.

- Architected and operated a HIPAA-compliant laboratory data and ML analytics platform ingesting HL7 records from LIS systems and streaming sources, supporting external partner labs and direct patient result delivery.
- Designed multi-stage data pipelines (ingestion, validation, normalization, feature engineering, ML scoring, and reporting) using Apache Airflow and AWS Step Functions, ensuring reliable dependency management and mixed SLA support.
- Implemented schema validation and data quality gates using Great Expectations to prevent malformed or non-compliant assay data from entering downstream ML and reporting workflows.
- Built reproducible ML training pipelines with drift-triggered retraining on ECS (Fargate and EC2), prioritizing model accuracy, explainability, and auditability over inference speed.
- Established experiment tracking and model lifecycle management using MLflow, enabling full traceability of datasets, features, hyperparameters, metrics, and model artifacts for compliance and audits.
- Implemented dataset versioning via immutable S3 snapshot manifests, ensuring deterministic reproduction of historical ML runs and regulatory audit readiness.
- Designed an offline feature store using S3 (Parquet) and AWS Glue, with optional DynamoDB storage for latest feature access during scoring and report generation.
- Automated ML-driven PDF report generation triggered by DynamoDB Streams, securely storing artifacts in S3 and exposing results via controlled API-based downloads.
- Enforced strict PHI separation, encryption, role-based and per-partner access controls, and logging policies that explicitly prevented PII and test result leakage.
- Built comprehensive observability and incident response workflows using Datadog, CloudWatch, and PagerDuty, supported by documented runbooks to improve on-call readiness and reduce mean time to recovery.

Linux System Administrator | Hexagon R&D India | Hyderabad, India — May 2019 – August 2022

Project Overview: Supported GIS research and development environments by maintaining Linux-based compute infrastructure for internal data processing and simulation workloads.

- Administrated Linux servers supporting geospatial compute workloads, ensuring stability for development and simulation teams.
- Tuned system-level parameters for memory, I/O, and storage performance to meet GIS data processing requirements.
- Implemented user/group policies and RBAC schemes for research teams, improving accountability, and reducing system conflicts.
- Assisted in migrating legacy desktop compute nodes to centralized Linux servers, improving maintainability and resource utilization.
- Provided tier-2 support for GIS modeling tools, internal build tooling, and CI pipelines used by R&D engineers.
- Coordinated with networking teams to troubleshoot connectivity and NFS issues impacting lab compute workloads.
- Automated system health checks, log analysis, and routine maintenance tasks using Bash scripting, reducing manual intervention, and improving uptime.
- Configured and optimized NFS mounts, local repositories, and package mirrors to streamline software deployment and data access for research workloads.
- Collaborated with security teams to apply OS patches, harden configurations, and enforce credential management practices, enhancing overall security posture.

EDUCATION

Master of Science in Computer Science | Pace University | New York, NY

Data Engineering & Analytics | Cloud Computing & Infrastructure | Machine Learning & AI | Software Development & Systems Design

Bachelor of Technology in Computer Science and Engineering | Vardhaman College of Engineering | Hyderabad, Telangana

Software Development | Database Management | Cybersecurity & Risk Management | Business Intelligence & Process Optimization

CERTIFICATIONS

- Google Cloud Skill Badges: Deploy Kubernetes Applications on Google Cloud, Develop Google Cloud Network, Set Up an App Dev Environment on Google Cloud, Implement Load Balancing on Compute Engine, Build a Secure Google Cloud Network
- IBM Project Management Fundamentals
- Harness Certified Continuous Delivery & GitOps Developer
- VMware Cloud and Virtualization
- ISC2 Candidate
- Data to Insights with Google Cloud (Specialization from Google)
- IT Security Defense Against the Digital Dark Arts from Google
- License Linux Server Management License