Kalyan Karneedi

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Professional Summary

Full-Stack / Backend + DevOps Engineer with 3 + years of hands-on experience building secure, scalable, and automated cloud-native systems on **AWS**. Skilled in **Python, Django, FastAPI, React, Docker, Kubernetes (EKS), Terraform, Jenkins, and CI/CD**. Experienced across FinTech, EdTech, and Data Analytics delivering production-grade microservices, data pipelines, and AI/ML integrations (TensorFlow, PyTorch, Hybrid RAG with LangChain + Bedrock). Passionate about TDD/BDD, observability, and automation.

Core Technical Skills

Programming / Frameworks: Python, Django, FastAPI, Flask, React, JavaScript, HTML, CSS, Node.js
Cloud & DevOps: AWS (ECS, EKS, Lambda, S3, RDS, Glue, Athena, Redshift, Bedrock, Lake Formation, SQS, SNS, OpenSearch), Docker, Kubernetes, Terraform, Ansible, Jenkins, GitHub Actions (CI/CD)
Data ML: PySpark, TensorFlow, PyTorch, Snowflake, Redshift, Athena, QuickSight, Hybrid RAG (LangChain + LLMs)
Testing Quality: Pytest, Unittest, TDD, BDD, YAML, JSON
Monitoring Logging: Prometheus, Grafana, ELK Stack, OpenSearch, CloudWatch
Security: OAuth2, JWT, IAM, KMS, WAF, VPC, Security Groups

Professional Experience

Tata Consultancy Services (TCS)   Hyderabad, India
Full-Stack / Backend + DevOps Engineer   May 2022 – Present

Digital Banking Microservices with GenAI — State Street Bank

Tech: Python, Django, FastAPI, PostgreSQL, Docker, Kubernetes (EKS), Terraform, Jenkins, AWS ECS/Lambda, SQS/SNS, Bedrock, LangChain (Hybrid RAG), OpenSearch, Grafana, React, OAuth2

- Architected containerized microservices (KYC, Onboarding, Fraud) using FastAPI/Django REST Framework on EKS + ECS.
- Integrated Generative AI via LangChain + AWS Bedrock for document summarization and policy Q&A (Hybrid RAG).
- Designed event-driven workflows with SQS/SNS and serverless Lambdas for asynchronous fraud alerts.
- Built OAuth2/JWT secured APIs, implemented least-privilege IAM, and achieved PCI DSS alignment.
- Automated CI/CD with Jenkins + Terraform; executed blue-green deployments and EKS autoscaling.
- Implemented TDD/BDD with Pytest and Unittest; centralized logs in OpenSearch, monitored via Grafana.

Results: 70 % faster onboarding, 45 % higher fraud-detection accuracy, 99.99 % uptime.

AWS Data Lake & Analytics Automation

Tech: Python, PySpark, Flask, AWS Glue, Athena, Redshift, Snowflake, Lake Formation, SQS/SNS, OpenSearch, Terraform, CloudFormation, Ansible, QuickSight, Prometheus, React, TensorFlow

- Designed ETL pipelines with AWS Glue (PySpark) and automated schema discovery and partitioning.
- Used SQS/SNS for real-time pipeline orchestration and Lambda-based monitoring alerts.
- Unified Athena, Redshift, and Snowflake analytics with Lake Formation governance and audit trails.
- Implemented Hybrid RAG using LangChain + Bedrock to search metadata indexed in OpenSearch.
- Created Flask APIs and React dashboards for data KPIs and QuickSight BI integration.
- Automated infrastructure via Terraform + CloudFormation; enabled CI/CD through Jenkins.

Results: ETL runtime reduced 75 %, data governance automated for 1 TB +, OpenSearch metadata search in seconds.

E-Learning Certification Platform — PepsiCo

Tech: Python, Django, DRF, Celery, RabbitMQ, PostgreSQL, Docker, AWS ECS Fargate, React, Jenkins, ELK Stack, TDD, OAuth2

- Built REST APIs for courses and certifications using Django DRF with async processing via Celery/RabbitMQ.

- Deployed Dockerized services on ECS Fargate using Terraform and Jenkins pipelines.

- Developed React front-end with OAuth2 authentication and role-based access control.

- Added unit/integration tests (Pytest + BDD); centralized logs via ELK/OpenSearch.

Results: Certification processing +60 %, MTTD 45 %, 99.9 % uptime.

Education

B.Tech – Civil Engineering
B.V.C. Engineering College, JNTU Kakinada (2015 – 2019) — 70.2 %