Aditya Mehta

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Software Engineer • Cloud, DevOps, Distributed Systems • Python, AWS, Kubernetes

Education

Master of Computer Science (GPA 4.00/4.00) Aug 2023 to May 2025
Arizona State University, Tempe, AZ

Bachelor of Technology, Computer Science (GPA 7.78/10.00) Aug 2016 to May 2020
University of Petroleum and Energy Studies, Dehradun, IN

Professional Experience

Software Engineer Lead Feb 2023 to Jul 2023
Capgemini India | Client: General Motors (US) Bengaluru, IN

- Facing SLA lag and high compute spend on image processing, designed a serverless pipeline with AWS Lambda, S3 triggers, and API Gateway; turnaround improved 40% and compute cost fell 25%.
- When batch jobs created backlogs, designed and deployed a Python-based parallel workflow on AWS using Lambda, SQS, and Step Functions; batch runtimes dropped 60% and capacity increased 4x with zero downtime.
- During 4x traffic spikes and rising costs, paired Kubernetes Cluster Autoscaler with AWS Spot Instances and set CloudWatch and Grafana predictive alerts; handled 4x load at 30% lower cost and halved critical tickets.
- With multi-repo workflows slowing releases, migrated to a monorepo CI/CD using environment-based Helm charts; enabled one-click dev to prod deploys.

Software Engineer Jun 2020 to Feb 2023
Larsen & Toubro Infotech | Client: Scania AB (Sweden) Bengaluru, IN

- Under variable traffic and stability risk, engineered a FastAPI service on PostgreSQL and shipped via Jenkins CI/CD, adding an IsolationForest predictor into Grafana autoscaling dashboards; improved stability under load.
- Amid a heavy support queue and dependency on gatekeepers, shipped the SAPS API on AWS API Gateway and Lambda with DynamoDB and OAuth 2.0; enabled self-serve for 600+ teams and cut support requests by 40%.
- With WSO2 upgrades blocking releases, automated the path using CodeBuild Docker images, CloudFormation IaC, and Lambda-driven CodeDeploy; reduced release time by 70%.
- Facing regressions slipping through to staging, built a PyTest pack for 120 REST endpoints with CloudWatch and SNS alerts that surfaced issues quickly; achieved 99% deploy confidence.
- Across three regions with fragmented logging and slow triage, synchronized CloudWatch logs to Datadog and scripted monitors with Jenkins alerts; trimmed incident triage time by 30% while maintaining a 99.9% SLA.

Software Developer Intern May 2019 to Jul 2019
CaratLane India Chennai, IN

- Delivered an AWS-hosted task tracker (Django REST, Angular) with a nightly Python Lambda digest; unified eight teams' queues and saved 30 min per stand-up.
- Built the Angular UI with reusable components, route guards, and reactive forms; integrated Django REST and JWT, added server-side pagination/search, and Jenkins S3 deploys to cut lookup time by 40%.
- Created a self-service portal for Docker images in ECR with MongoDB metadata and role-based access (OAuth 2.0, JWT); Jenkins published images and notes, reducing DevOps hand-offs 50% and turnaround to minutes.

Projects

Data Integration and Model Evaluation Platform Feb 2025 to May 2025
Python, FastAPI, MinIO, Redis Streams, OpenFaaS, Apache Airflow, TensorFlow, Docker, GCP, MLflow, OpenAPI

- Teams struggled to compare models on small image datasets; built a Python service layer with FastAPI that exposes versioned endpoints for dataset registration, job submission, and results retrieval so consumers can integrate evaluations programmatically.
- Containerized MinIO for versioned data, wired Redis Streams to trigger OpenFaaS functions, and orchestrated training and evaluation DAGs in Airflow on GCP; emitted structured logs and metrics and tracked runs in MLflow for reproducibility.
- Delivered 92% TensorFlow accuracy on baseline tasks and parallelized evaluation jobs for 3x faster experiment cycles; OpenAPI schemas and JWT auth enabled secure internal consumption by other services.

IoT Edge Telemetry Platform — Sep 2024 to Dec 2024

Python, FastAPI, PostgreSQL, Redis, Helm, Prometheus, Grafana, k3s, Node.js, GitHub Actions, OpenAPI

- An ingestion backend missed latency targets as devices scaled; decomposed a Flask monolith into FastAPI and Node.js services with clear API contracts, pagination, and rate limits so downstream apps could rely on predictable SLAs.
- Deployed containers to a k3s cluster with Helm, used Redis for caching and queues, added Prometheus and Grafana for golden signals and SLO tracking, and enforced lint, test, and image-scan gates in GitHub Actions.
- Cut p99 latency by 40%, held under 150 ms at 4x load in load tests, and enabled one-click environment promotions with CI/CD for frequent, low-risk releases.

Makerspace Live Utilization Dashboard — Feb 2024 to Apr 2024

Python, Node.js, MongoDB, React, WebSockets, Docker Compose, GCP Pub/Sub, JWT

- Nightly CSV exports blocked same-day decisions; delivered a backend that streams MongoDB change events into a WebSocket API so ops can consume real-time utilization and queue data without manual pulls.
- Published updates through GCP Pub/Sub for fan-out, secured access with JWT, and packaged services with Docker Compose for repeatable deploys across environments.
- Live charts cut on-site wait times by 25% and eliminated manual reporting; the API is now a single integration point for staff tools and internal dashboards.

Skills

Backend & APIs: Python, FastAPI, Flask, OpenAPI, REST, WebSockets, OAuth 2.0, JWT, asyncio
Cloud & Platform: AWS (Lambda, SQS, Step Functions, API Gateway, CloudWatch, DynamoDB, ECR), GCP (Pub/Sub), Docker, Kubernetes/k3s, Helm, Terraform
CI/CD & IaC: GitHub Actions, Jenkins, AWS CodeBuild, AWS CodeDeploy, CloudFormation
Data & Messaging: PostgreSQL, MySQL, MongoDB, Redis, MinIO, Redis Streams
Observability & Quality: Prometheus, Grafana, Datadog, MLflow, PyTest, Integration Testing, Test Automation
Languages & Web: Python, Java, TypeScript, Node.js, React, SQL, Bash