

Muhammad Ahmad

Solutions Architect · Cloud platforms and DevOps

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PROFILE

Computer science student and cloud engineer who designs and builds platforms across AWS, Azure and Cloudflare: infrastructure as code, Kubernetes, GitOps delivery and cost-aware architecture. I document design decisions and trade-offs, and build the systems end to end, from Terraform modules and pipelines to the application on top. Seeking a solutions architect or platform engineering role.

SELECTED PROJECTS

Solar Atlas: multi-environment AWS platform with GitOps

Terraform · AWS · GitHub Actions

- Refactored a flat, prod-only Terraform repository into **7 reusable modules** with separate dev and prod stacks, each with its own S3 state key and native locking to limit blast radius.
- Built GitOps workflows: plan on pull request, apply dev on merge, gated promotion to prod, drift detection and a hotfix path. Replaced stored AWS keys with GitHub OIDC.
- Stack: ECS on EC2, Lambda, DynamoDB, S3 + CloudFront (origin access control), Route 53, ACM, IAM, SSM.

Kubernetes platform on Azure with a documented cost model

Terraform · AKS · Go · Kustomize

- Provisioned resource group, Container Registry and AKS with Terraform; granted the kubelet identity AcrPull so nodes pull images without secrets.
- Delivered a Next.js frontend, a Go auth API (JWT) and a Go WebSocket chat service behind one ingress-nginx, with Postgres (StatefulSet) and Redis, from a single GitHub Actions workflow using Kustomize image overrides.
- Designed for cost: AKS Free tier, ACR Basic, 0.1 GB/day log quota, a stop/start script and a documented teardown. github.com/Ahmed-Mansur/Go-Microservice-Pipeline

DevOps Buddy: AI-native DevOps platform on Cloudflare

Workers · D1 · Hono · React

- Designed a read-only-by-default SaaS: every upstream call passes one guard (GET/HEAD plus three listed read-only POSTs); the only write path needs a one-time approval, is limited to buddy/* branches, never merges, and is audited.
- Modelled **54 Cloudflare products** as declarative registry entries, added event-driven automations (webhooks, cron), and designed around Workers Free limits (10 ms CPU, 50 subrequests). **310 automated tests**. Live demo available.

DevSecOps pipeline for a FastAPI service

GitHub Actions · Docker · Trivy

- Made flake8, Bandit, pytest and Trivy image scanning gates in CI; multi-stage, non-root images; Docker Compose with health checks for the API, Celery worker, Redis and Postgres. github.com/M-Fahim-Feroz/fastapi-devsecops-pipeline

Earlier projects

App Gate, a C++20 DNS proxy sinkhole with REST API and Electron dashboard · Flask CI/CD pipeline · Kubernetes starter with ingress · multi-user Todo list app · chat app with Socket.IO · Discord bot in Python · contact manager REST API.

TECHNICAL SKILLS

Cloud	AWS: ECS, EC2 Auto Scaling, Lambda, DynamoDB, S3, CloudFront, Route 53, IAM, SSM, CloudWatch. Azure: AKS, Container Registry, Monitor, Log Analytics. Cloudflare: Workers, D1, R2, KV, Pages.
Containers	Kubernetes, Docker, Helm, Kustomize, ingress-nginx
IaC and CI/CD	Terraform, Ansible, GitHub Actions, Jenkins, GitOps promotion, drift detection
Security	OIDC federation, Trivy, Bandit, JWT, secrets management (SSM, Kubernetes Secrets)
Observability	Prometheus, Grafana, Azure Monitor, CloudWatch
Data	PostgreSQL, Redis, DynamoDB, SQLite/D1, MySQL, MongoDB
Languages	Go, Python, TypeScript, JavaScript, C++ · React, Next.js, Node.js, Flask, FastAPI · Git

EDUCATION

BCS, COMSATS University Islamabad

09/2022 – present · Lahore, Pakistan

Bachelor of Computer Science, in progress.

CERTIFICATIONS AND LANGUAGES

Certifications	Machine Learning Specialization · Node.js · React · JavaScript · Introduction to Front-End Development (Coursera)
Languages	Urdu, English