Adnan Ahmed Khan

Senior Backend & Platform Engineer Distributed Systems, Kubernetes, SRE

Islamabad, Pakistan | Open to Remote & Employer-Sponsored Relocation

khanadnanahmed01@gmail.com | linkedin.com/in/adnahmed | github.com/adnahmed

WORK EXPERIENCE

HackOnTech

Senior Software Engineer (Backend & Platform) 2023 – Present

Internal B2B/G2G platforms for international NGOs; Scale: 50k–100k DAU, 500–800 RPS peak, 99.9% availability target.

- Decomposed a monolith into 6 Docker/EKS microservices, cutting deploy time from hours to minutes with zero-downtime releases.
- Instrumented Jaeger tracing and Prometheus/Grafana dashboards to cut MTTR from ~45 minutes to under 10 by isolating cross-service latency.
- Implemented Temporal workflows with idempotency/compensation to cut failed cross-service ops ~80% (150/day to <30).
- Reduced payment failures from ~5% to 2% by rebuilding retries and rollbacks in AWS Step Functions.
- Reduced core query latency from 30s+ to under 1s through indexing, connection pooling, and service decomposition (Postgres/Redis).
- Built GitHub Actions + ArgoCD CI/CD with security gates and canary/blue-green releases, supporting 99.9% availability.
- Reduced AWS spend ~25% via EKS node rightsizing, autoscaling threshold tuning, and spot for non-prod without SLO impact.
- Stabilized 500–800 RPS burst windows with rate limiting, queue-based smoothing, and graceful degradation.

Tech: AWS (EKS, Lambda, S3, Secrets Manager, IAM, CloudFront, Route 53), IaC (Terraform, Helm), CI/CD (GitHub Actions, ArgoCD), Observability (Prometheus, Grafana, Jaeger, Datadog), Backend (TypeScript/Node.js, Nest.js, Python/FastAPI), Workflows (Temporal, Step Functions), Datastores (Postgres, Redis), Containers (Docker).

Creative IT Park

Backend Developer 2021 – 2023

- Delivered backend services for School Management System, Rawalpindi Women University, and Capital Development Authority portal, building APIs and database workflows.
- Cut search latency by eliminating N+1 queries and introducing aggregated queries with Elasticsearch + Redis caching.
- Maintained notification delivery during downstream failures by implementing a Kafka-based pipeline with retries and circuit breakers.
- Prevented traffic to degraded pods by operating Kubernetes/Helm deployments with readiness probes and health gating.

Tech: Backend (Node.js, Python/FastAPI), Frontend (React, TypeScript), AWS (ECS, RDS, DynamoDB, IAM), Data/Queues (Kafka, Elasticsearch, Redis), Kubernetes/Helm, Observability (ELK Stack), Datastores (PostgreSQL, MongoDB), Testing (Jest), Containers (Docker).

GeekGenix

Backend Developer 2020 – 2021

- Designed payment APIs with Express.js/MongoDB and integrated Stripe checkout plus webhook reconciliation for production use.
- Hardened authentication with Passport.js strategies and Jest tests, stabilizing login flows in QA.

Tech: Node.js, Express.js, MongoDB, React, Passport.js, Stripe API, Jest.

EDUCATION

BS Computer Science
PMAS Arid Agriculture University, Rawalpindi

SELECTED PROJECTS

Vidx | 2025

- Compiled a custom FFmpeg build with GL-Transitions and streaming pipelines to cut peak memory ~40%, enabling 4K on mid-tier GPUs.
- Resolved GPU bottlenecks by autoscaling consumers on queue depth and adding priority queues, improving turnaround under burst load.
- Built a 4K-capable rendering platform with a FastAPI backend, async task queues, and distributed GPU workers supporting 50+ GL-Transitions shaders.

Crackq.me | 2023

Authorized Security Research & Educational Platform.

- Built a distributed hash-testing platform for authorized security research, integrating Hashcat with a BOINC-style volunteer GPU grid and secure job dispatch.
- Solved throughput bottlenecks by tuning kernel batch sizes and scheduling, increasing hashes/sec without adding hardware.
- Implemented capability-aware routing and priority queues to keep urgent jobs moving while maintaining fairness.

pdf-annotate.js | 2024

- Added real-time multi-user annotation via a WebSocket StoreAdapter with conflict resolution for synchronized sessions.
- Achieved smooth 60fps rendering under high annotation counts by adding spatial indexing and SVG optimizations.