

# Adnan Ahmed Khan

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

## PROFILE

Full-Stack & Mobile Lead with 5 years of experience specializing in distributed systems, high-performance backend engineering, and cloud-native architectures. Proven record of transforming monolithic systems for horizontal scalability and reducing critical API latency by up to **96%**. Expert in leading cross-functional teams and modernizing CI/CD pipelines for production-grade cloud infrastructures.

## WORK EXPERIENCE

### HackOnTech

*Team Lead*

Islamabad, Pakistan

Sep 2024 – Present

- Lead a cross-functional team of **7 developers**, driving architectural decisions and the delivery of high-availability cloud services on **AWS**.
- Modernized CI/CD pipelines using **Terraform** and **GitHub Actions** to support daily deployments and automated infrastructure provisioning.
- Reduced production hotfix frequency by establishing automated testing, static analysis, and strict code review standards.
- Mentor junior engineers in clean architecture and distributed system thinking, improving team output consistency.

### Full Stack Developer

Apr 2023 – Sep 2024

- Built a dynamic **Node.js query builder** that reduced critical API latency from 30s+ to **<1s** by optimizing complex PostgreSQL operations.
- Re-architected a monolithic backend into **horizontally scalable microservices** using **Docker** and **AWS EKS**, handling millions of records.
- Implemented hardened API security with **JWT**, layered validation, and **AWS WAF** to protect sensitive data.

**Tech:** TypeScript, Node.js, Nest.js, AWS (EKS, Lambda, S3), Terraform, Postgres, Redis, Docker, CI/CD.

### Creative IT Park

*Software Engineer*

Islamabad, Pakistan

Feb 2021 – Mar 2023

- Scaled 10+ diverse products (SaaS, Portals, E-commerce) by implementing a robust backend architecture using **Node.js**, **Python**, and **AWS (ECS, RDS)**.
- Improved search performance and data retrieval speed by **70%** through the integration of **ElasticSearch** and **ElastiCache (Redis)**.
- Architected high-concurrency event-driven systems using **Kafka** and **Serverless** functions to handle real-time data processing for AI-driven applications.
- Developed secure healthcare and fintech integrations using **FHIR** standards and **OAuth 2.0**, ensuring industry-grade compliance.
- Established a component-driven frontend workflow with **React**, **Redux Toolkit**, and **Storybook**, reducing UI development time by **40%**.

**Tech:** React.js, TypeScript, Node.js, Python, AWS (ECS, Kafka), Docker, Kubernetes, PostgreSQL, MongoDB, FHIR, Jest.

### GeekGenix

*Backend Developer*

Islamabad, Pakistan

Dec 2020 – Feb 2021

- Integrated **Stripe** for secure payments and connected endpoints seamlessly with a React frontend.
- Implemented authentication using **Passport.js** and strengthened reliability through Jest-based unit testing.
- Designed RESTful APIs with Express.js & MongoDB to support dynamic customer workflows.

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

## EDUCATION

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### BS Computer Science

PMAS Arid Agriculture University, Rawalpindi

Sep 2018 – Feb 2023

### FSc Pre-Engineering

Islamabad College for Boys, Islamabad

Mar 2016 – Mar 2018

## PROJECTS

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### Vidx



| May 2025 – Oct 2025

- Architected a distributed video-rendering platform using **FastAPI** and **React**, supporting 50+ cinematic transitions.
- Built a non-blocking parallel pipeline using **RabbitMQ + Celery**, dynamically scaling workers based on CPU/GPU availability.
- Compiled a custom **FFmpeg** build with GL-Transitions to enable **4K rendering** while reducing memory overhead.

**Tech:** FastAPI, React, RabbitMQ, Celery, Docker, MongoDB, Traefik, FFmpeg.

### Crackq.me



| Feb 2023 – Dec 2023

- Built a SaaS platform for distributed cryptographic hash cracking using **Next.js** and containerized workers.
- Leveraged **Fitcrack (BOINC)** to orchestrate a global grid of GPU nodes, enabling on-demand scaling without downtime.

**Tech:** Next.js, TypeScript, Docker, Hashcat, Fitcrack/BOINC.

### pdf-annotate.js



| Mar 2024 – Apr 2024

- Added a remote StoreAdapter enabling **real-time annotation sync** with a central API.
- Optimized SVG/TypeScript rendering logic to prevent annotation overlap and improve interactive performance.

**Tech:** PDF.js, TypeScript, SVG.