

Ahmed Khawar

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EDUCATION

University of Central Punjab

Bachelor of Science in Software Engineering

Lahore, Pakistan

October 2020 – July 2024

- Relevant Coursework: Data Structures & Algorithms, Operating Systems, Computer Communication Networks, Database Systems, Advanced Web Development, Natural Language Processing, Deep Learning.

Corvit Training Institute

AWS CSA & DevOps Training

Lahore, Pakistan

April 2026 – Present

- Intensive cloud training focused on EC2, ECS, S3, EBS, EFS, RDS, CloudFront, Docker, Kubernetes, IAM (Groups & Policies), and Access Control Lists (ACLs).

Corvit Training Institute

Agentic AI Training

Lahore, Pakistan

July 2026 – Present

- Enrolled in specialized autonomous agent design focusing on tool integration, advanced prompting, reasoning chains, multi-agent frameworks, and official Anthropic certification preparation.

TECHNICAL SKILLS

- **Programming Languages:** Python, JavaScript, PHP, SQL
- **Frameworks & Libraries:** Django, FastAPI, Flask, Laravel, Node.js, NestJS
- **Databases & Data Stores:** PostgreSQL, SQLite, Firebase, Supabase, Redis
- **DevOps & Tools:** AWS, Docker, Kubernetes, CI/CD (GitHub Actions), Git, Bitbucket, Performance Monitoring
- **Software Practices:** System Design, Modular Feature-Based Architecture, Test-Driven Development (TDD), RESTful API Development, Requirements Analysis
- **Project Management:** Agile Methodologies, JIRA, ClickUp, Technical Documentation

EXPERIENCE

Pentagon AI

Lead Backend Engineer

Lahore, Pakistan

January 2025 – Present

- Architected and implemented a scalable SaaS backend infrastructure in Python, successfully supporting 10,000+ concurrent sessions with sub-150ms response latency across user workflows.
- Designed a modular, feature-based service architecture to coordinate real-time communication, call scheduling, transcription storage, and AI intent parsing across 7+ interconnected modules.
- Integrated third-party Voice AI and LLM infrastructures (Twilio, OpenAI) via secure REST APIs and robust webhook handlers across 5+ external services.
- Led database schema design and optimization in PostgreSQL, reducing query overhead by 45% to power dynamic data flows for a multi-tenant system architecture.
- Directed backend compliance with security protocols (JWT, OAuth, input sanitization), eliminating over 95% of exploit vectors during independent penetration testing.
- Collaborated cross-functionally with product, AI, and frontend engineering teams to establish rigid API contracts, reducing integration bugs by 70%.
- Mentored intern in programming fundamentals, object-oriented programming (OOP), scalable system design, and clean web API creation.

Nidam AI

Software Engineer

Lahore, Pakistan

October 2024 – October 2025

- Led the design and customization of enterprise ERPNext systems, writing custom client/server scripts and API integrations to automate modular operations across accounting, sales, and HR.

- Established secure authentication flows and access control policies within custom enterprise modules, reducing common security vulnerabilities by roughly 75%.

TronAI Technologies

Software Engineer

Lahore, Pakistan

May 2024 – January 2025

- Engineered and maintained scalable backend microservices using FastAPI and PostgreSQL, achieving a 25% improvement in API response times through strict query and caching optimizations.
- Implemented asynchronous task handling with Celery and Redis to decouple heavy background processing jobs, increasing system throughput and infrastructure reliability.
- Designed modular, reusable core backend components that reduced subsequent feature development effort by 35% while maintaining 90%+ unit and integration test coverage.

PROJECTS

SmartConvo – Distributed Voice AI Platform

Django, FastAPI, PostgreSQL, AWS

- Architected a high-performance backend ecosystem utilizing Django for core business logic and a custom FastAPI service layer for high-throughput, real-time voice data stream orchestration.
- Redesigned microservice communication boundaries between frontend and AI processing layers to optimize latency, increasing system throughput by 40% and maintaining 99.9% uptime.

Evo Trade AI – Multi-Agent Autonomous Trading Engine

FastAPI, Gemini API, PostgreSQL, Redis

- Deployed a modular multi-agent cryptocurrency trading engine automating the full lifecycle across four decoupled, specialized AI agents executing real-time sentiment analysis and technical indicators (RSI, MACD).
- Engineered a centralized strategic coordinator to aggregate asynchronous market data streams and validate high-probability algorithmic trading signals.

UniFix – AI-Driven Internship Platform

Django, React.js, SQLite

- Developed a full-stack web application featuring secure application tracking, student-to-internship matching via intelligent AI matching logic, and automated application status workflows.

LEADERSHIP & INTERESTS

- **Community Engagement:** Active advocate of the "Building in Public" philosophy; regularly author technical documentation breakdowns, system architecture deep-dives, and engineering milestones shared with the professional ecosystem.
- **Interests:** System Architecture Design, Voice AI Frameworks, Multi-Agent AI Ecosystems, High-End Travel, and Technical Mentorship.