ABDUL AZIZ

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EDUCATION

Punjab University College of Information Technology (PUCIT)   Lahore, Pakistan
Bachelor of Science in Computer Science   *Aug. 2019 – May 2023*
- Relevant Coursework: Data Structures, Algorithms, Database Systems, Operating Systems, Computer Networks, Software Engineering
- Final Year Project: AutoPostMD – Built a scalable backend system with Node.js, PostgreSQL, and Redis for social media scheduling with queue-based job processing and RESTful API architecture

EXPERIENCE

Tech Lead / Senior Backend Engineer   December 2024 – Present
DeveloperTag   *Lahore, Pakistan*
- Lead a team of 5 engineers architecting scalable microservices using NestJS, PostgreSQL, and Docker
- Design and implement RBAC/ABAC authorization systems using CASL library for fine-grained permission control
- Architect multi-tenant SaaS platforms with Row Level Security (RLS) and tenant isolation strategies
- Build AI-powered chatbots and RAG pipelines using LangChain, LangGraph, and vector databases
- Implement real-time communication systems using WebSockets, Socket.io, and Redis pub/sub
- Establish CI/CD pipelines with GitHub Actions, Docker, and AWS ECS for automated deployments
- Optimize PostgreSQL query performance achieving 60% reduction in response times through indexing and query analysis

Backend Engineer   June 2024 – December 2024
DiveScale   *Lahore, Pakistan*
- Developed RESTful and GraphQL APIs using NestJS with TypeScript following clean architecture principles
- Implemented authentication systems with OAuth 2.0, JWT refresh tokens, and session management
- Built real-time chat systems using WebSockets and Redis for message persistence and pub/sub
- Designed database schemas with Prisma ORM and wrote complex PostgreSQL queries with optimization
- Wrote comprehensive unit and integration tests achieving 85%+ code coverage with Jest

Associate Software Engineer   June 2023 – June 2024
Kwanso   *Lahore, Pakistan*
- Built backend services with Node.js, Express, and NestJS following DRY and SOLID principles
- Developed RESTful APIs with proper error handling, validation using Zod, and API documentation with Swagger
- Implemented database migrations and designed normalized schemas with PostgreSQL and MongoDB
- Solved 300+ algorithmic problems on LeetCode strengthening DSA and problem-solving skills
- Participated in code reviews ensuring code quality, security, and adherence to best practices

PROJECTS

Terzo.ai | *NestJS, PostgreSQL, LangChain, OpenAI API, Redis, Docker*   2024
- Architected AI chatbot backend with LangChain for RAG pipelines and conversational AI agents
- Implemented vector embeddings with Pinecone for semantic search and context retrieval
- Built real-time chat interface using WebSockets with Redis pub/sub for message broadcasting
- Designed queue-based architecture with Bull and Redis for async AI job processing

SimplyFlow | *NestJS, PostgreSQL, n8n, LangGraph, Docker, AWS*   2025
- Built workflow automation engine with n8n integration for custom trigger and action nodes
- Implemented LangGraph-based AI agents for intelligent workflow decision making
- Designed event-driven architecture with PostgreSQL triggers and real-time subscriptions
- Deployed containerized microservices on AWS ECS with auto-scaling and load balancing

Learning Management System | *NestJS, PostgreSQL, WebSockets, Redis, AWS S3*   2024
- Built comprehensive LMS backend with course management, enrollment, and progress tracking APIs

- Implemented real-time notifications and live class features using WebSockets and Redis
- Designed video streaming pipeline with AWS S3 and CloudFront for course content delivery
- Built RBAC system for admin, instructor, and student roles with CASL permission management

QuizApp Competition Platform | *NestJS, PostgreSQL, WebSockets, Redis, Bull*   2024
- Architected real-time quiz competition backend supporting 1000+ concurrent users
- Implemented live leaderboard updates using WebSockets and Redis sorted sets for ranking
- Built anti-cheating mechanisms with session validation and answer submission timeouts
- Designed question bank system with randomization and difficulty-based selection algorithms

SafeStreet | *NestJS, PostgreSQL, PostGIS, Redis, WebSockets, Docker*   2025
- Developed geospatial backend using PostGIS for location-based incident queries and proximity alerts
- Implemented real-time notification system using WebSockets and Redis pub/sub
- Built RBAC system with CASL for admin, moderator, and user permission levels
- Designed efficient caching strategies with Redis reducing database load by 40%

4Corners | *NestJS, PostgreSQL, Stripe API, Redis, Docker, AWS S3*   2024
- Built e-commerce backend with inventory management, order processing, and payment integration
- Implemented Stripe webhook handlers for secure payment processing and subscription management
- Designed optimistic locking for concurrent inventory updates preventing overselling
- Built file upload service with AWS S3 presigned URLs and image optimization pipeline

AutoPostMD | *Node.js, PostgreSQL, Facebook/Instagram/LinkedIn APIs, Redis, Bull*   2023
- Architected social media scheduling backend with Facebook Graph, Instagram Business, and LinkedIn APIs
- Implemented job scheduling system with Bull queues for reliable post publishing at scheduled times
- Built OAuth 2.0 integration flows for secure third-party platform authentication
- Designed rate limiting and retry mechanisms to handle API quotas and transient failures

GuardXP | *NestJS, PostgreSQL, CASL, Docker, AWS, Turborepo*   *In Progress*
- Architecting enterprise security operations platform with multi-tenant data isolation
- Implementing fine-grained ABAC authorization using CASL with dynamic policy evaluation
- Building real-time incident tracking with WebSocket connections and event sourcing
- Designing monorepo backend architecture with shared libraries using Turborepo and NestJS modules

FitnessAds.ai | *NestJS, PostgreSQL, LangChain, OpenAI API, Docker*   *In Progress*
- Building AI-powered ad generation backend with LangChain RAG for personalized marketing content
- Implementing AI chatbot for fitness consultation using LangGraph agent workflows
- Designing analytics data pipeline for campaign performance tracking and reporting
- Building async job processing for bulk ad generation with progress tracking

TECHNICAL SKILLS

Languages: TypeScript, JavaScript, SQL, Python, Bash
Backend Frameworks: NestJS, Node.js, Express.js, Fastify, Next.js API Routes
Databases: PostgreSQL, MongoDB, Redis, Supabase, Prisma ORM, TypeORM, PostGIS, Pinecone
AI/ML Integration: LangChain, LangGraph, OpenAI API, RAG Pipelines, Vector Databases, AI Chatbots, Prompt Engineering
Real-time/Messaging: WebSockets, Socket.io, Redis Pub/Sub, Bull Queues, Server-Sent Events
Authorization: RBAC, ABAC, CASL, Row Level Security (RLS), JWT, OAuth 2.0, Session Management
DevOps/Cloud: Docker, AWS (EC2, ECS, S3, RDS, Lambda, CloudFront), GCP, GitHub Actions, CI/CD, Nginx
Tools/Practices: Git, Swagger/OpenAPI, Jest, Clean Architecture, DRY, SOLID, TDD, LeetCode (300+ solved)