

# Mirza Shahbaz Ali Baig

Full-Stack Engineer · NestJS · Next.js · PostgreSQL · System Design · AI Integration

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## TECHNICAL SKILLS

**Languages:** TypeScript, JavaScript, Python, C++, SQL, Bash/Shell

**Frontend:** Next.js (App Router), React, Tailwind CSS, HTML/CSS, Socket.IO

**Backend:** NestJS, Node.js, Express, FastAPI, REST APIs, WebSockets, BullMQ

**Databases & Cache:** PostgreSQL (Prisma ORM), MongoDB, Redis, MySQL

**Cloud & DevOps:** AWS ECS, Docker, Cloudflare R2, Vercel, Git, Linux

**Integrations:** Stripe Connect, Meta Business API, WhatsApp Business API, Resend

**AI / ML:** LangChain, LangGraph, OpenAI API, RAG Pipelines, Multi-Agent Systems

## EXPERIENCE

### Full-Stack Software Engineer — Contract

2024 – Present · Remote, Pakistan

*Multi-client · B2B SaaS & Enterprise Systems*

- Architecting a production multi-tenant B2B SaaS platform (NestJS, Next.js App Router, PostgreSQL/Prisma, Stripe Connect, BullMQ, Cloudflare R2) with tenant-scoped middleware ensuring zero data bleed.
- Designed a plugin-based PayableHandler registry with a central PaymentOrchestrator unifying Stripe logic across packages, gift cards, memberships, and wallet credits.
- Built a WhatsApp messaging platform for an educational board (15,000+ students): webhook → BullMQ → Redis Pub/Sub → Socket.IO; reduced message latency from 5,000 ms to under 1,000 ms; cut polling load by 92%.
- Designed a trigger-filter-action Automation engine (BullMQ-backed) for no-code workflow automation; reviewed and approved by senior engineering for production rollout.

## SELECTED PROJECTS

### Multi-Tenant SaaS Platform confidential

*NestJS · Next.js · PostgreSQL · Prisma · Stripe Connect · BullMQ · R2*

- Full B2B vertical SaaS — scheduling, payments, CRM, and automation modules.
- Tenant-scoped Prisma middleware with zero cross-tenant data exposure.
- Unified PaymentOrchestrator handling all Stripe Connect flows in one service boundary.

### Agentic AI Chatbot

*Python · LangChain · LangGraph · FastAPI · Groq API*

- LangGraph state machines with persistent memory and real-world tool-calling.
- Production-grade structure — reusable foundation for client AI projects.

### WhatsApp Messaging Platform confidential

*NestJS · Meta Business API · BullMQ · Redis · Socket.IO*

- HMAC-SHA256 webhook validation, instant BullMQ enqueue returning HTTP 200 to prevent Meta retry storms.
- Live serving 15,000+ students; sub-1,000 ms message latency.

### VideoTube

*React · Express · MongoDB · Node.js · Cloudinary · JWT*

- Full YouTube-inspired MERN platform — video uploads, channels, subscriptions, watch history.
- JWT auth with refresh token rotation; reference architecture for MERN backends.

## EDUCATION

### Punjab University College of Information Technology (PUCIT)

2022 – 2026 · Lahore, Pakistan

B.Sc. Computer Science **CGPA: 3.97 / 4.00 (A+)**

- Coursework: Data Structures & Algorithms (C++), DBMS, Computer Networks, Software Engineering, Information Security, OOP, Discrete Mathematics, ADBMS.

## INTERESTS

System design · Distributed systems · Islamic studies & comparative religion · Cybersecurity (GRC, penetration testing) · Reading · Psychology