

Jawad Ul Hadi

Senior Backend and AI Engineer

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PROFESSIONAL SUMMARY

Strategic Backend Lead and Solution Architect with 7+ years of experience engineering scalable, multi-tenant SaaS platforms and integrating production-grade AI solutions. Proven track record in optimising high-throughput systems, reducing latency by 90%+, and mentoring high-performing engineering teams. Expert in end-to-end development, from relational/NoSQL data modelling and API contract design to cloud infrastructure and cost-effective AI service architecture.

CORE COMPETENCIES

- **System Architecture & Design:** Distributed Systems · Multi-tenant SaaS · Event-Driven Architecture · Domain-Driven Design (DDD) · Modular Monoliths · API Design (REST, GraphQL, WebSocket)
- **AI & LLM Engineering:** OpenAI API · Google Gemini · Anthropic Claude · Provider Abstraction · RAG Pipelines · Multi-Agent Systems · LLM Observability · Structured Output · Vector Databases
- **Backend & Data Performance:** PostgreSQL · MongoDB · MySQL · Redis · SQL/NoSQL Query Optimisation · Indexing Strategies · Caching · Full-Text & Semantic Search
- **Cloud, DevOps & Infrastructure:** GCP · AWS (Lambda, API Gateway) · Docker Containerization · CI/CD (GitHub Actions) · Infrastructure as Code · Serverless Architecture · Zero-Downtime Migrations
- **Security & Governance:** RBAC · JWT · OAuth 2.0 · Tenant Isolation · HMAC Request Signing · Secrets Management · Audit Logging
- **Languages & Frameworks:** TypeScript · Node.js · Python · FastAPI · NestJS · JavaScript

PROFESSIONAL EXPERIENCE

Backend Lead / Senior Backend and AI Engineer

Jan 2024 – Present

MicroAgility Services (Pvt) Ltd. · Islamabad, Pakistan

- **Platform Leadership:** Served as sole backend owner of Selectmox, a multi-tenant recruitment SaaS serving 100+ organizations. Directed all architectural decisions for 20+ NestJS modules, 150+ REST endpoints, and granular RBAC.
- **System Optimisation:** Spearheaded a database performance overhaul, restructuring query patterns, indexing, and caching across MySQL/PostgreSQL. **Result:** Reduced per-request queries by 92.5% and cut dashboard load times from 8–12s to 1–2s.

- **AI Service Consolidation:** Architected a unified AI service (TypeScript/Python/FastAPI) abstracting OpenAI, Google Gemini, and Anthropic. **Result:** Cut AI codebase surface by 60%, reduced maintenance overhead, and powered 5 production workflows via a single resilient contract.
- **Resilient Infrastructure:** Implemented asynchronous ETL pipelines (BullMQ/Redis) for heavy AI processing (OCR/PDF parsing). **Result:** Decoupled resource-intensive tasks from the request path, ensuring API stability and predictable performance under load.
- **Graceful Degradation:** Integrated deterministic, rule-based fallbacks for all AI workflows. **Result:** Guaranteed high availability for end-users, ensuring features degrade gracefully rather than failing during provider outages.
- **Security & Isolation:** Engineered tenant isolation at the server level using JWT-based scope enforcement. **Result:** Eliminated potential cross-tenant data leaks, creating structural security guarantees.
- **Mentorship & Force Multiplication:** Led team AI enablement through internal engineering sessions on RAG and guardrails. Mentored junior engineers on distributed systems, secure coding, and architectural documentation.

Back-end Software Engineer

Mar 2022 – Jan 2024

MicroAgility Services (Pvt) Ltd. · Islamabad, Pakistan

- **Scalable SaaS Development:** Engineered backend services for multi-country HRMS/payroll and project management SaaS platforms, featuring complex payroll compliance engines and real-time WebSocket collaboration.
- **Performance Engineering:** Optimised RESTful and GraphQL APIs. **Result:** Achieved 40% faster data retrieval in production environments.
- **Migration Excellence:** Executed multiple zero-downtime database and server migrations across PostgreSQL, MySQL, and MongoDB. Maintained 99.9% release stability through disciplined Git workflows.
- **Cloud Operations:** Containerized services using Docker and managed deployments on GCP and AWS, ensuring high availability for organizational reporting tools.

Software Developer

Jan 2018 – Mar 2022

Market Icon · Rawalpindi, Pakistan

- **Serverless Architecture:** Designed integrations using AWS Lambda and an API Gateway to connect SaaS applications to CRMs and payment gateways. **Result:** Eliminated fixed infrastructure costs while maintaining high system availability.
- **API Development:** Built secure, documented APIs (Express.js/FastAPI) using JWT and OAuth 2.0 authentication for diverse client projects.

- **Lifecycle Management:** Managed full-stack delivery, from requirements analysis and data mapping to automated GitHub Actions deployment pipelines.

EDUCATION & CERTIFICATIONS

- **B.S. in Computer Science** — Government College University, Faisalabad
- **Google Cloud Certifications:** Generative AI Fundamentals, Cloud Computing Foundations (w/ IBM)
- **Industry Certifications:** IBM AI Fundamentals, Cybersecurity Essentials, ISC2 Certified in Cybersecurity (Candidate)