

Zain Asim

Senior Backend Engineer · Golang · Node.js · AWS · PostgreSQL

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PROFESSIONAL SUMMARY

Backend engineer with 5+ years designing and scaling production systems across Golang and Node.js. Proven track record shipping high-availability REST APIs, idempotent payment integrations, and async queue architectures on AWS — always focused on scalability, reliability, and performance. Deep expertise in PostgreSQL optimization, API design patterns, and secure, maintainable backend services. Experienced working cross-functionally in agile teams to translate product requirements into scalable backend solutions serving thousands of daily users.

CORE SKILLS

Languages	Golang, Node.js, TypeScript / JavaScript (ES2022+)
Backend	REST APIs, net/http, Gin, Express, NestJS, idempotent payment systems, event-driven architecture
Databases	PostgreSQL (indexing, EXPLAIN, query optimisation, schema design), Redis, MySQL, NoSQL
AWS	Lambda, SQS, EC2, RDS, S3 — production deployments, async processing, cost-aware architecture
DevOps	Docker, Git / GitHub, CI/CD pipelines, Jest, go test, Cypress E2E
Practices	Agile / Scrum, API security, technical documentation, mentorship, code review

PROFESSIONAL EXPERIENCE

Senior Backend Engineer — **AlphaBold** Feb 2024 – Present

Golang · Node.js · NestJS · PostgreSQL · AWS · TypeScript

- Engineered an idempotent payment integration in Golang — implemented idempotency keys, distributed locking via Redis, and transactional DB writes to guarantee exactly-once processing under retries and network failures; reduced duplicate-charge incidents to zero across high-concurrency checkout flows.
- Built and owned Golang REST API services with the Gin framework, applying clean architecture (handler / service / repository layers), middleware chains for auth and rate limiting, and structured error handling with sentinel errors and custom error types.
- Designed GraphQL and REST APIs with NestJS and PostgreSQL — including schema design, caching strategy, and query performance tuning for production services handling global traffic.
- Architected async background-processing pipelines on AWS SQS and Lambda, decoupling synchronous workloads and improving system throughput and reliability.
- Optimised PostgreSQL queries across high-traffic endpoints; introduced EXPLAIN-driven indexing strategies that cut query times by over 50%.
- Established backend testing standards using Jest and Go's built-in testing package, enabling confident large-scale refactoring across a 15+ engineer codebase.
- Mentored 3 junior engineers through architecture reviews and pairing; each progressed to full feature ownership within 6 months.

Software Engineer — **Techverx** Nov 2022 – Jan 2024

Node.js · PostgreSQL · AWS SQS · TypeScript · Docker

- Optimised critical PostgreSQL reporting endpoints via EXPLAIN analysis and targeted indexing, reducing p95 latency by 70% on high-traffic production dashboards.
- Drove AWS SQS adoption for async background processing — eliminating synchronous bottlenecks that had been consuming 15 engineer-hours per week in manual intervention.
- Built full-stack features with complete ownership from database schema design through REST API development to CI/CD deployment.
- Introduced Cypress E2E tests in CI/CD pipeline, catching production regressions and enabling continuous deployment on a 24/7 platform.
- Implemented caching, pagination, and debounced search strategies on data-heavy API endpoints, improving throughput and reducing redundant database calls.

- › Participated in sprint planning, estimation, and sprint reviews within the Agile/Scrum workflow — consistently delivering accurate estimates and surfacing technical debt early.

Associate Software Engineer — Rolustech

Feb 2021 – Oct 2022

Node.js · Express · REST APIs · MySQL · Docker

- › Built Node.js / Express RESTful APIs for an enterprise CRM serving 10,000+ daily active users, with focus on low-latency responses and high availability.
- › Refactored authentication middleware to close security vulnerabilities — earning sole ownership of critical system components as a result.
- › Created a Docker-based dev environment standardising team setup across OSes — cutting new engineer onboarding from days to under 2 hours.
- › Collaborated directly with product and design stakeholders to translate business requirements into clean API contracts and database schemas.

KEY PROJECTS

Idempotent Payment Service (Golang) · *Golang · Gin · PostgreSQL · Redis · AWS*

- › Designed and shipped a production payment-processing microservice in Golang with idempotency keys, Redis-backed distributed locking, and Postgres transactional writes. Handles concurrent retries and webhook replays with zero duplicate side-effects. Includes full table-driven test coverage and structured logging.

Real-Time Interview Platform · *Node.js · TypeScript · GraphQL · WebSockets · PostgreSQL*

- › Architected a backend-first collaborative coding platform with real-time editing, WebSocket session management, and automated scoring logic. Evaluated WebSocket vs. HTTP polling trade-offs for variable network conditions.

Healthcare Appointment System · *Node.js · Express · PostgreSQL · REST API*

- › Built a concurrent booking API with optimistic locking to prevent double-bookings under high-concurrency load. Implemented schema-level constraints and transaction management for data integrity.

EDUCATION

BS Computer Science — FAST-NUCES Lahore

Graduated December 2020