

Muhammad Ali Khan

Backend Software Engineer

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Summary

Backend Software Engineer experienced in designing scalable server-side applications using **Node.js, Express.js, TypeScript, MongoDB, PostgreSQL, and Redis**. Skilled in building REST APIs, authentication systems, database architectures, caching layers, real-time services, and cloud deployments. Strong foundation in system design, API optimization, data structures, debugging, and delivering reliable production-grade backend solutions.

Technical Skills

Languages: JavaScript, TypeScript, Java, SQL

Backend: Node.js, Express.js, REST APIs, API Design, JWT, OAuth, RBAC, Middleware Architecture, Microservices

Databases: MongoDB, PostgreSQL, MySQL, Redis, Prisma, Mongoose, Database Design, Query Optimization

Architecture: System Design, Scalability, Caching, Event-Driven Architecture, Database Optimization

Frontend: React.js, Next.js, Redux Toolkit, Tailwind CSS

Tools: AWS, Docker, GitHub Actions, CI/CD, Git, GitHub, Postman, Vercel, Render, API Testing, Agile/Scrum, Linux/Bash

Experience

Turing

Nov 2025 – Mar 2026

AI Reasoning Engineer

Palo Alto, CA, USA · Remote

- Evaluated and improved **Large Language Models (LLMs)** for code generation, algorithmic reasoning, context understanding, and software engineering problem solving
- Designed **Codeforces-style algorithmic challenges** and structured reasoning datasets to benchmark advanced coding capabilities of LLMs
- Contributed to **CL-Bench** with Tencent and Fudan University researchers, evaluating context learning across **1,899 tasks, 500 contexts**, and **31,000+ rubrics**
- Built an internal **LLM response extraction and defect analysis tool** to parse model outputs, detect malformed responses, and improve evaluation workflows

DevWeekends

Aug 2024 – Present

Software Engineer Fellow & Technical Mentor

Lahore · Remote

- Built and deployed **3+ production-style applications** using Node.js, Express.js, MongoDB, PostgreSQL, authentication systems, and scalable backend architectures
- Mentored developers through **10+ technical sessions** covering data structures, algorithms, backend engineering, and software fundamentals
- Solved **280+ LeetCode problems** covering trees, graphs, dynamic programming, and advanced algorithmic patterns
- Guided developers through code reviews and debugging discussions within a fellowship community of **800+ developers**

Projects

NexVendor | Live | GitHub | MERN, Redux Toolkit, Socket.IO, MongoDB

- Designed and developed **20+ RESTful APIs** following scalable API design principles for authentication, products, orders, refunds, payments, and seller workflows
- Implemented secure **JWT authentication** and role-based access control for buyers, sellers, and admins using Express middleware
- Modeled scalable **MongoDB schemas** with Mongoose for users, products, shops, orders, refunds, messages, and transactions
- Built real-time backend services using **Socket.IO** for chat, delivery updates, and user activity tracking
- Integrated **Cloudinary** for media uploads and **Stripe** for payment workflows across the marketplace
- Deployed backend services on **Render** with environment-based configuration, centralized error handling, and secure API communication with Vercel frontend

Ilmo LMS | Live | GitHub | Next.js, TypeScript, Redis, MongoDB

- Built scalable backend services for a **full stack LMS platform** using Node.js, Express.js, MongoDB, Redis caching, and modular API architecture
- Developed REST APIs for authentication, courses, orders, reviews, Q&A, notifications, and admin dashboard workflows
- Implemented **JWT and OAuth authentication** with Google/GitHub login to improve security and onboarding
- Integrated **Redis caching** for session management and frequently accessed resources, reducing database load and improving response times by approximately **40%**
- Designed MongoDB models with Mongoose and integrated Cloudinary for media storage and VdoCipher for secure video playback
- Built real-time admin notification workflows using **Socket.IO** for orders, reviews, and Q&A events

Education

University of Education Lahore

Bachelor of Science in Computer Science | CGPA: 3.74

2023 – 2027

Multan, Pakistan