Muhammad Shah

Lead AI Software Engineer

Karachi, Pakistan | +92 320 1294137 | muhammadshah4589@gmail.com

Portfolio: muhammadshah.online | linkedin.com/in/muhammad-shah-93a43021b | github.com/muhammadshahms

PROFESSIONAL SUMMARY

Lead AI Software Engineer with 5+ years of experience building scalable web platforms and production AI features with Laravel, React.js, Node.js, and NestJS. Leads architecture and delivery of Banoqabil LMS at Alkhidmat, a multi-tenant learning platform serving thousands of users on Alibaba Cloud, including a RAG-based AI tutor, automated quiz generation, AI-assisted grading, and lecture transcription built on the OpenAI and Gemini APIs. Skilled in LLM integration, retrieval-augmented generation, microservices, event-driven and real-time (WebSocket and WebRTC) systems, and database performance optimization. Committed to clean code, automation-first solutions, and production-grade reliability.

TECHNICAL SKILLS

AI & LLM: OpenAI API, Gemini API, Groq API, RAG (Retrieval-Augmented Generation), Prompt Engineering, Speech-to-Text & Text-to-Speech, ElevenLabs, Ollama
Backend: Node.js, Express.js, NestJS, Laravel, PHP, Apache Kafka, Redis, WebSockets
Frontend: React.js, Next.js, Vue.js, Inertia.js, Tailwind CSS, Redux Toolkit (RTK), Zustand, Zod, Shadcn UI
Databases: MySQL (Eloquent ORM, Sequelize, Prisma), PostgreSQL, MongoDB (Mongoose), Supabase
Cloud & DevOps: Alibaba Cloud, AWS Lightsail, Docker, Nginx, Linux Server Administration
Architecture: Microservices Architecture, Multi-Tenant SaaS, Event-Driven Systems, REST API Design, WebRTC
Payments: Stripe, Stripe Connect, Stripe Webhooks, PayPal Checkout
Tools: Git, Postman

PROFESSIONAL EXPERIENCE

Lead Software Engineer
08/2024 – Present

Alkhidmat — *Karachi, Pakistan*

- Lead the architecture and development of Banoqabil LMS, a scalable learning platform serving thousands of users with real-time collaboration and enterprise-grade access controls.
- Built a RAG-based AI tutor that answers student questions grounded in course content, using OpenAI and Gemini.
- Implemented AI-powered quiz and assessment generation that turns lesson material into ready-to-use questions.
- Delivered AI-assisted grading that evaluates student assignments and returns instant, personalized feedback.
- Added lecture transcription and voice features to make course content more accessible to learners.
- Deploy and maintain the platform on Alibaba Cloud and lead architecture decisions, code reviews, and delivery standards.
- Built WebRTC virtual classrooms and event-driven microservices with Redis, queues, and WebSockets.
- Engineered multi-tenant SaaS infrastructure with Stancl Tenancy and delivered mobile-first PWA experiences.

Associate Web Developer
11/2023 – 08/2024

Kazmi Global Systems — *Karachi, Pakistan*

- Delivered a high-traffic multi-vendor e-commerce platform, improving performance by 40% through refactoring, query optimization, and real-time WebSocket order and inventory updates.
- Led a database overhaul for Forte Commercial Cleaning's invoicing system: composite indexes and N+1 elimination cut query times by up to 40% under peak load.
- Translated stakeholder requirements into technical specifications and shipped on schedule in an Agile workflow.

Junior MERN & Laravel Developer
01/2024 – 2025

Minterminds (Remote) — *Chandigarh, India*

- Built Global Dropship, a multi-vendor dropshipping platform on Node.js, Sequelize, and EJS, with Shopify API integration for automated product sync, order management, and real-time inventory.
- Delivered Puzzle Buzzle, a peer-to-peer puzzle exchange marketplace, end to end with Laravel, Inertia.js, and Vue.js, including listing management and user matching.

IT Trainee (Contract)

Banoqabil

- Supported technical work for Banoqabil training programs, gaining hands-on web development and team delivery experience.

IT Trainee 10/2022 – 10/2023
Aptech

- Completed a one-year traineeship in software development, programming, and databases through hands-on projects.

PROJECTS

Vertexinvo Community | AI-Powered Community Platform *community.vertexinvo.com*
Tech Stack: Laravel 12, React 19, Inertia.js, MySQL, OpenAI API, Redis, Tailwind CSS, Shadcn UI

- Built an AI-powered community platform with automated blog generation, publishing, and audience engagement.
- Implemented AI-assisted content generation, user profiles, role-based permissions, moderation, and SEO workflows.

VertexInvo | Company Website with AI Assistant *vertexinvo.com*
Tech Stack: Laravel, React, Inertia.js (SSR), Laravel AI, PayPal, Tailwind CSS, three.js, Sentry

- Built the company website with services, case studies, insights, careers with job applications, and quote requests.
- Integrated an "Ask AI" chat assistant on Laravel's AI agent framework, with custom tools to answer visitor questions.
- Built an admin CMS with first-party analytics, PayPal payments, and CSP, honeypot and rate-limit protection.

1and5 Tech | B2B E-Commerce Platform *stage.1and5tech.com*
Tech Stack: Laravel 12, React 19, Inertia.js, MySQL, PayPal, Stripe, Tailwind CSS, Shadcn UI

- Developed AI-powered content generation tools for landing pages and SEO optimization.
- Built a B2B store for UK VAT and bulk purchasing, with inventory, stock alerts, invoicing, and webhook-based Stripe and PayPal payments.

ClientDesk | Client Billing & Support Platform *clientdesk.muhammadshah.online*
Tech Stack: Laravel, React, TypeScript, Inertia.js, Tailwind CSS, Shadcn UI

- Built a client billing platform for quotes, invoices, credit notes, receipts, and statements, with PDFs and partial payments.
- Implemented support plans with recurring revenue, and tickets whose logged time bills straight to draft invoices.
- Delivered a client portal plus aging, revenue, profitability, and tax reports, secured with two-factor authentication.

Trendivoa | Coupon & Deals Platform *trendivoa.com*
Tech Stack: Laravel 13, React, Inertia.js (SSR), MySQL, Tailwind CSS, Shadcn UI, Pest, GitHub Actions

- Built a coupon platform with store directory, verified codes, cashback offers, blog, comments, and newsletter.
- Developed a CMS with drag-and-drop ordering, CSV/Excel import and export, media library, and schema.org SEO.
- Added passkeys, health checks and backups; 150+ Pest tests and zero-downtime GitHub Actions deploys.

BTC Spares | Automotive Parts E-Commerce, Client Project (UK) *btcspares.co.uk*
Tech Stack: Laravel, Redis, Queue Jobs, Docker, Stripe, PayPal

- Built a production e-commerce platform for a UK car parts retailer supplying Ford, Vauxhall, VW, and Nissan parts.
- Engineered engine-level vehicle fitment mapped to OE numbers, Ctrl+K search, stock-aware Stripe and PayPal checkout, and Redis queues on Docker.

Solinvo | Multi-Tenant ERP Platform *solinvo.net*
Tech Stack: Laravel 12, React 19, Inertia.js, PostgreSQL, Redis, Stancl Tenancy, Docker, Tailwind CSS, Shadcn UI

- Architected a multi-tenant ERP combining inventory, POS, sales, purchasing, warehousing, and accounting modules.
- Built financial reporting, ledgers and analytics, with Stancl Tenancy isolation and real-time inventory over Redis and WebSockets.

RentVerify | Property Management SaaS *rentverify.vertexinvo.com*
Tech Stack: Laravel 12, React 19, Inertia.js, PostgreSQL, Redis, Tailwind CSS, Shadcn UI, Stripe, Queue Jobs

- Architected a property management SaaS for landlords to manage properties, tenants, leases, and rent collection.
- Built automated rent generation, payment tracking, and portfolio analytics with Redis, queues, and RBAC.

Taurely | Online Education Platform
Tech Stack: React.js, Supabase, Zoom SDK, Stripe, Shadcn UI, Tailwind CSS

- Built an online education platform with enrollment, courses, Zoom classrooms, Stripe subscriptions, and Supabase auth and real-time data.

EDUCATION

Bachelor of Science in Computer Science 10/2023
Usman Institute of Technology *Karachi, Pakistan*