

Mohammad Ahmad Khan

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Applied AI Software Engineer III / Full Stack Engineer | SaaS Delivery | Distributed Systems | Networking and Security

Professional Summary

Full Stack Software Engineer and Applied AI practitioner with hands-on experience designing, building, and shipping production-grade SaaS platforms, distributed systems, and compliance-critical applications for enterprise and non-profit clients across India and the Middle East. Proven ability to lead end-to-end software development lifecycles, drive cross-functional alignment across backend, frontend, DevOps, and QA teams, and deliver measurable business outcomes under real constraints. Experienced in cloud-native architectures, microservices, RESTful API design, AI-native engineering workflows, and network infrastructure. Comfortable operating across time zones in fast-paced, high-ownership environments.

Technical Skills

- **Backend and Systems:** Node.js, Nest.js, TypeScript, REST APIs, WebSockets, Socket.io, Monoservice/Microservices architecture, PostgreSQL, NeonDB, MongoDB, Redis (caching, queuing, pub/sub), database sharding and indexing, serverless computing, auto-scaling, high-throughput data pipelines
- **Frontend:** Next.js, React.js, Redux, JavaScript, Progressive Web Apps
- **Cloud and DevOps:** Docker, CI/CD pipelines, VPS deployment, private infrastructure management, Git, GitHub Actions, Hostinger, Vercel
- **AI and Intelligent Systems:** LLM integration, MCP server and tool orchestration, human-in-the-loop agentic workflows, Cache-Augmented Generation (CAG), deterministic tool-call reporting pipelines, Claude, Cursor, GitHub Copilot, OpenRouter, Vercel AI SDK, FastAPI
- **Networking and Security:** CCNA certified; enterprise routing and switching, VLAN segmentation, local DNS, mesh network architecture, SSL/TLS, OAuth 2.0, end-to-end cryptographic encryption, API security
- **Daily Driver:** Linux (Ubuntu / Zorin OS), VS Code, Open Skills
- **Engineering Practices:** Agile and Scrum, sprint governance, release planning, risk identification and escalation, code review, technical documentation, preferred : fumaDocs
- **Languages:** TypeScript, JavaScript, Python, Kotlin, Dart

Experience

Applied AI SWE III

Dec 2024 – Present

Androcoders, Full-time, On-site, Kanpur, India

- Led system architecture and full stack delivery for multiple concurrent production SaaS applications, owning decisions from database schema design and technology selection through deployment and post-launch monitoring
- Drove complete digital transformation of IIFA Placements, one of India's largest career consulting agencies, delivering 22 interconnected backend modules covering authentication, role-based access control, AWS integration, payments, candidate-to-job-description mapping, queue management, lead management, salary management, expense tracking, Gmail integration, and more; platform processes 136 new job roles daily and reduced the internal candidate assessment workflow from 18 minutes to 3 minutes per candidate, replacing all legacy manual workflows and becoming the operational backbone of the organization
- Resolved a critical mid-project scalability failure: backend services were collapsing under production load before Redis queue and sliding window rate-limiting infrastructure could be fully deployed; independently identified the risk, escalated to the client with quantified business impact and two mitigation paths, implemented serverless horizontal auto-scaling as a pay-as-you-go bridge to maintain service continuity, then gracefully transitioned to the queue architecture once stable, with zero data loss and zero downtime
- Designed and deployed MCP-based tool-calling agents and human-in-the-loop AI workflows using OpenRouter and Vercel AI SDK, enabling real-time manufacturing KPI monitoring and operational dashboards for business clients
- Automated weekly and monthly executive management reports via deterministic tool-call pipelines sourcing data exclusively from live systems, eliminating manual reporting effort and ensuring data accuracy for leadership decision-making
- Managed a team of 3 interns: defined onboarding protocols, delivered technical training, established handover standards, and enforced code quality through structured reviews, maintaining zero disruption to delivery schedules
- Served as business growth analyst for knitting manufacturing clients, tracking operational input and output metrics and presenting data-driven recommendations directly to management

Full Stack SWE II

Apr 2024 – Dec 2024

Androcoders, Full-time, On-site, Kanpur, India

- Designed and shipped the Pink Caravan platform for a Dubai government-collaborated women's breast cancer non-profit: built machine control systems, participant data collection, gamified feedback pipelines, and AI-generated final management reports compliant with Dubai legislation; the gamified data collection approach drove 654 participant responses versus 124 via standard methods — a 5.3× increase in engagement

- Managed a high-severity mid-event compliance incident: a mandatory government form field was absent from the live application during an active event; executed an emergency local deployment bypassing app store review cycles, dispatched automated opt-out notification emails to all affected participants, and resolved the issue with zero regulatory breach or data integrity failure
- Coordinated directly with Dubai government committee officials and international stakeholders across time zones throughout the project lifecycle
- Architected and deployed a pan-India private delivery and logistics platform integrating Shiprocket, custom delivery tracking, admin and seller dashboards, deployed on a private VPS with database sharding, indexing, and horizontal auto-scaling for production load
- Built a Next.js-based internal project management platform to replace Jira and Atlassian for team workflows, featuring end-to-end cryptographic messaging, Slack integration, and Discord/Telegram/WhatsApp AI automation for task auto-detection & creation and deadline reminders

Machine Learning Engineer

Jan 2024 – Mar 2024

Triserv 360, Full-time, On-site, Kanpur, India

- Built and evaluated image classification models on the MNIST dataset using Jupyter Notebook and Google Colab; integrated inference pipelines for fast production data processing

Creative Lead and Graphic Designer

May 2021 – Apr 2022

Upwork / Freelancer.com, Remote

- Directed end-to-end creative production and channel branding for international clients including @rattlesnaketv (YouTube); coordinated daily async communication across Romanian time zones, delivering consistently against client deadlines

Selected Projects

Live Data Ingestion Layer, High-Throughput PostgreSQL Pipeline

- Engineered a write pipeline sustaining 6.1 million writes per second, equivalent to 52.96 billion writes in 24 hours; optimized for peak load with connection pooling, batching, and index tuning in remote PostgreSQL

LLM Real-Time Data Layer, Cache-Augmented Generation (CAG) Architecture

- Designed a CAG system for real-time LLM data retrieval that reduces inference latency and token cost by serving validated cached context before model calls; deployed with an agent-accessible search and read tool interface for developer documentation

Bang Search, Progressive Web App

- Built a browser bang-shortcut PWA supporting multi-engine search via keyboard commands; full offline support via local storage, installable across all major platforms

Meteor Fitness, React Native iOS and Android Application

- Cross-platform fitness application published on the App Store and Google Play; covers workout tracking, progress analytics, and personalized fitness plans generated by AI

Leadership and Recognition

- Awarded highest throughput Event Manager for planning and executing 21 events across 3 consecutive days for a large-scale student orientation; managed full logistics, scheduling, vendor coordination, and real-time execution
- Organized Google Developer Student Club (GDSC) hackathons and campus-wide technical events; coordinated multi-team participant pipelines and cross-functional logistics

Education

Bachelor of Technology in Computer Science Engineering

Nov 2022 – Feb 2026

Dr. APJ Abdul Kalam Technical University, Lucknow

Specialization: Artificial Intelligence and Machine Learning, and honors in cyber security.

Certifications

- **Anthropic, Model Context Protocol Advanced (Jul 2025):** agentic integration architecture, MCP server and tool orchestration, deterministic tool invocation, and AI governance patterns for engineering workflows
- **NVIDIA, AI for All: From Basics to GenAI (Jul 2025):** generative AI pipeline design, enterprise model deployment, accelerated computing, and responsible AI considerations
- **Microsoft, OpenAI in Azure AI Foundry (Jun 2025):** prompt-to-production workflows, model endpoint configuration, evaluation loops, and enterprise safety controls
- **Google, GDG on Campus Program (Aug 2025):** technical leadership, developer ecosystem coordination, and campus-scale engineering event management
- **MongoDB, Advanced Schema Design Patterns (Jul 2025):** workload-aware schema strategy, aggregation-oriented design, indexing trade-offs, and scalable data access patterns
- **Vercel, Next.js SEO Implementation (Apr 2025):** metadata orchestration, server-rendered content optimization, Core Web Vitals, and production performance practices