

Mohd Arif Khan

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PROFESSIONAL SUMMARY

Backend-heavy Full Stack Software Engineer with 4+ years of experience building, testing, documenting, and scaling production web applications. Strong expertise in backend APIs, databases, real-time systems, automated testing, and cloud infrastructure, with supporting frontend experience in React. Known for strong debugging and problem-solving skills, with the ability to quickly identify root causes in complex codebases and production issues. I am confident leading initiatives and improving workflows, with broad exposure gained through years of hands-on development and freelancing experience.

WORK EXPERIENCE

Virtuos Digital Ltd.

Associate Software Developer,

Feb 2024 – Present

Gurugram, HR

- As a Full-Stack Developer, I lead enterprise AI solutions and multi-tenant platform development for major financial clients.
- Core responsibility: Architect scalable chat applications handling diverse media types with real-time messaging.
- Core responsibility: Manage end-to-end development lifecycle from conception to deployment across cloud infrastructure, having complete ownership of the project including handling meetings.
- Wrote unit and integration tests using Jest to validate API behavior, business logic, and edge cases.
- Implemented a sophisticated intent-recognition system using Google Dialogflow and the Oracle CX API.
- Mentored junior developers on backend fundamentals, including API design, database modeling, and debugging best practices.
- Lead the automation of workflows using Jenkins pipelines to streamline the development workflow.
- Architected a robust, multi-tenant chat application with a comprehensive communication infrastructure:
 - Real-time messaging via WebSocket technology
 - Omnichannel support integrating website chatbot and WhatsApp Business API
 - Advanced message handling, including text, video, audio, and image communications
- Orchestrated cloud infrastructure across Google Cloud Platform, Contabo, and AWS Amplify
- Achievement #1: Transformed customer support operations, reducing manual intervention by 40%/accelerating response times
- Achievement #2: Architected a multi-tenant chat infrastructure serving thousands of users

Freelance Software Developer

Self-Employed (Fiverr & Upwork)

Jan 2021 – Aug. 2023

Gurugram, HR

- As a Freelance Developer, I delivered full-stack solutions for 40+ international clients across diverse industries.
- Specializing in web applications, mobile development, and cloud infrastructure with a 100% project success rate.
- Core responsibility: Build and deploy full-stack applications using modern frameworks and cloud platforms.
- Core responsibility: Manage international client relationships while ensuring project delivery and satisfaction.
- Completed over 40 diverse software development projects for clients from around the world
- Created cross-platform mobile applications for Android and iOS using React Native

- Deployed applications on major cloud platforms, including AWS, Google Cloud Platform, and Microsoft Azure
- Implemented containerization and infrastructure solutions with Docker, Kubernetes, and Linux server management
- Utilized advanced technologies, including Redis, Cron, and Celery, for optimizing application performance
- Achievement #1: Built and deployed full-stack applications serving diverse industries from e-commerce to healthcare
- Achievement #2: Developed cross-platform mobile applications with containerization for scalable deployment

Scizers LLP

Nov 2021 – May 2022

Software Development Intern

Gurugram, Haryana

- Developed backend services and APIs for enterprise applications used by clients such as Nestlé.
- Built backend infrastructure using Node.js, Express.js, and PostgreSQL.
- Optimized application performance for resource-constrained environments, reducing memory usage by 40%.
- Integrated backend services with frontend applications built using React and Electron.
- Worked on hardware-integrated systems using Bluetooth Low Energy (BLE) for data communication.

PROJECTS

Vurve.ai – Omnichannel Business Communication Platform – *Lead Engineer*

Python, FastAPI, PostgreSQL, Redis, Next.js 14, TypeScript, ARQ, SQLAlchemy

- Architected event-driven microservices backend with 60+ async REST endpoints and ARQ-based distributed worker queues (High/Normal/Low priority), processing 50,000+ messages per campaign at 100+ msgs/min sustained throughput while serving 500+ concurrent users with <200ms average API response time.
- Built intelligent campaign delivery engine with multi-stage retry logic using exponential backoff, Redis-backed rate limiting, and timezone-aware scheduling in PostgreSQL, achieving 67% WhatsApp and 95% email delivery rates across production campaigns.
- Developed a custom Shopify App with OAuth 2.0 integration and real-time webhook processing for 15+ event types (orders, carts, checkouts, customers), enabling bidirectional data sync and automated message flows triggered by e-commerce events across connected stores.
- Engineered AI-powered cart abandonment system with 4-stage detection pipeline, and automated multi-channel recovery workflows, reducing cart abandonment revenue loss by enabling targeted recovery campaigns with full attribution tracking.
- Developed a visual workflow automation platform with React Flow drag-and-drop canvas and FastAPI execution engine, enabling non-technical users to create Shopify-triggered message sequences with conditional branching and variable substitution—reducing manual campaign setup time by 90%.

Asana-WhatsApp Integration Platform – *Lead Engineer*

Node.js, TypeScript, Express.js, MongoDB (10+ models), Redis, Bull Queues, Next.js 14, React 18, Docker, OAuth 2.0

- Architected event-driven notification platform integrating Asana project management for our clients with WhatsApp Business API using microservices architecture, processing 10K+ daily messages for 1000+ users with Bull queue-based async job processing and exponential backoff retry logic
- Engineered an OAuth 2.0 authentication flow with automatic token refresh for Asana API and implemented webhook signature verification using HMAC-SHA256 for secure real-time event processing from Asana and WhatsApp Business API
- Developed distributed worker system with Redis-backed Bull queues processing 15+ event types across 5 concurrent workers, achieving 3-attempt retry mechanism with exponential backoff (2s base delay) and comprehensive message delivery tracking (pending → sent → delivered → read status pipeline)

- Built 15+ RESTful API endpoints with JWT authentication, rate limiting (100 req/15min), Express-validator input validation, and real-time analytics dashboard calculating delivery rates, read rates, and average delivery times across time-series data aggregations

Advanced Cooling Systems Field Service Report Platform – Full Stack Developer

React Native, Node.js, Express.js, MongoDB, GraphQL

- Engineered GraphQL API layer with Node.js and Express.js serving React Native mobile app and React web dashboard, implementing role-based access control, JWT authentication, and real-time data sync via WebSocket connections, achieving <200ms average API response time and <500ms real-time update latency across 15,000+ reports.
- Built multi-step form workflow with Google Places autocomplete integration, Formik validation, and multi-image upload pipeline (3-5 images per report) to AWS S3, reducing average report completion time from 45 minutes (manual paperwork) to 7 minutes digital submission, storing 50,000+ service documentation images with 98% upload success rate.
- Implemented real-time push notification system using Firebase Cloud Messaging integrated with Node.js backend, delivering assignment alerts and status updates to field technicians with 96% delivery success rate, alongside automated report aggregation queries for management dashboard analytics featuring date-range filtering, technician performance metrics, and export capabilities.

EDUCATION

Quantum University

Bachelor of Technology, Computer Science

May, 2024

Roorkee, Uttarakhand

- CGPA: 8.4/10.0
- First position in Inter-College Hackathon
- Participated in TCS IT WIZ (IIT Delhi), FSSAI Animation Competition, and technical presentations
- Active in competitive programming and technical societies with a focus on software engineering excellence

Colonel's Central Academy School

High School Diploma

Jan, 2019

Gurugram, Haryana

- 2nd place university website design competition, 1st place interhouse IT quiz
- Won I.T. Wizard prize, 3rd place in interschool web development competition (Blue Bells)
- Strong foundation in mathematics, science, and computer programming fundamentals
- Created professional vector animations for school using Adobe After Effects

SKILLS

Backend & APIs: Node.js, Express.js, [Nest.js](#), Django, FastAPI, REST APIs, WebSockets, GraphQL, Microservices, Role-Based Access Control

Databases & Caching: MongoDB, PostgreSQL, Redis, GraphQL

Testing & Quality Assurance: Jest (JavaScript), PyTest (Python), unit testing, integration testing, API testing

Frontend (Supporting): React, Next.js, [Vue.js](#), JavaScript, HTML, CSS

Mobile Development: React Native, Expo

Cloud & DevOps: AWS, Google Cloud Platform, Docker, Jenkins, Github workflows, Nginx, Linux, Basic CI workflows

Async & Background Processing: Celery, Redis Queue, Cron Jobs

Architecture & Concepts: Multi-Tenant Architecture, Real-Time Systems, API Design, Scalable Backend Systems

Languages: English, Hindi