

Mahijith K Menon

Backend Software Engineer

menon.mahijith@gmail.com | +91 7838132197 | linkedin.com/in/mahijithmenon | github.com/mahijithmenon

Profile

Backend-focused Software Engineer with 3+ years of experience building scalable APIs, middleware systems, integrations, and data pipelines using Node.js, TypeScript, MongoDB, SQL, Redis, and AWS. Experienced in owning features end-to-end, making pragmatic architecture decisions, handling high-concurrency traffic, and delivering reliable production systems with a strong focus on performance, maintainability, and delivery quality.

Technical Skills

- **Languages:** JavaScript, TypeScript, Python, Java
- **Backend:** Node.js, REST APIs, Middleware Architecture, Authentication (JWT), Background Jobs, API Integrations
- **Databases:** MongoDB, SQL, Query Optimization, Indexing, Aggregation Pipelines
- **Performance:** Redis, Caching, Rate Limiting, High-Concurrency Request Handling, API Optimization
- **Cloud & DevOps:** AWS (S3, IAM), GitHub Actions, Jenkins, CI/CD
- **Engineering Practices:** System Design, Software Architecture, Agile Development, Code Reviews, Automated Testing
- **Other:** WebSockets, Cron Jobs, Production Debugging, Monitoring, Error Handling

Experience

Software Development Engineer (SDE-I) | Univo Education Pvt Ltd

Feb 2025 – Present

- Built and maintained fault-tolerant middleware services processing 20k+ daily requests, with retry workflows, monitoring, and automated failure recovery.
- Designed scalable request pipelines to route, validate, transform, and synchronize data between Salesforce and multiple third-party platforms.
- Took ownership of backend features from requirement discussions through implementation, testing, deployment, and production support.
- Implemented resilient integration workflows and error-handling mechanisms that improved reliability of business-critical API operations.
- Optimized backend services handling high-concurrency traffic through caching, validation improvements, and efficient request processing.
- Developed cron-based data pipelines to automate synchronization of large operational datasets across internal systems.
- Improved MongoDB performance through indexing strategies, aggregation optimization, and query tuning for large datasets.
- Integrated AWS services including S3 and IAM for secure file storage, access control, and document-processing workflows.
- Led migration from Next.js 13 to Next.js 16, improving build stability, rendering performance, and maintainability.

Full Stack Developer | NoidaSe Digital

Feb 2023 – Feb 2025

- Developed and maintained multiple production-grade web applications using Next.js, React, Node.js, and MongoDB for client-facing and internal business platforms.
- Built lead management workflows and backend APIs that captured user data and synchronized leads with external CRM systems, enabling automated sales and customer engagement processes.
- Designed and implemented an AI-powered text chatbot using OpenAI APIs and Retrieval-Augmented Generation (RAG), delivering context-aware responses from custom knowledge bases.
- Implemented caching strategies and optimized LLM request flows to reduce API costs and improve chatbot response performance.
- Developed microfrontend architectures using Vite Module Federation, enabling independent deployment and scalability across frontend applications.

- Created reusable frontend components and SSR-enabled pages in Next.js, improving application performance, SEO, and maintainability.
- Designed REST APIs, database schemas, and service integrations while collaborating with cross-functional teams in an Agile development environment.
- Debugged, monitored, and optimized production systems, improving application reliability and user experience across multiple products.

Projects

Lead Synchronization Middleware (LSQ to Salesforce)

- Designed and developed a middleware platform using Node.js and MongoDB to synchronize lead data between LSQ and Salesforce, eliminating frontend transformation logic by exposing a unified API layer.
- Implemented centralized data mapping, validation, and transformation pipelines, allowing frontend applications to switch integrations with minimal code changes through endpoint configuration alone.
- Processed and routed 20,000+ API requests daily while maintaining high availability and reliable lead synchronization across systems.
- Optimized MongoDB queries through indexing strategies, aggregation improvements, and schema tuning, significantly reducing query execution times and improving throughput.
- Built caching mechanisms for frequently accessed GET endpoints, reducing external API calls and improving response latency.
- Implemented retry mechanisms, failure recovery workflows, and detailed logging to handle transient Salesforce and LSQ integration failures.
- Developed concurrent processing workflows to ensure lead creation, updates, and synchronization tasks were executed efficiently while maintaining data consistency.
- Leveraged Grafana dashboards and application monitoring to track API health, error rates, and production metrics, enabling proactive detection and resolution of 5xx failures and performance bottlenecks.
- Collaborated with DevOps teams on observability initiatives, using logs, metrics, and monitoring alerts to improve production stability and incident response.

AI Chatbot (OpenAI + RAG)

- Built an AI chatbot using OpenAI Assistants API with retrieval-augmented generation (RAG) for context-aware responses.
- Implemented prompt pipelines, guardrails, and structured response handling to reduce hallucinations and improve reliability.
- Added function calling for dynamic actions, lead capture, and workflow automation.
- Developed backend services for context management, response orchestration, and reusable API integration.

Automated Scheduling & Booking Engine

- Designed a backend scheduling system with concurrency-safe booking logic.
- Prevented race conditions and double bookings using controlled allocation strategies.
- Implemented cron-based pipelines to dynamically manage time-slot availability.
- Optimized MongoDB queries and indexing for fast lookups at scale.

Amity Online Admissions Platform

- Developed and maintained key modules of a high-traffic admissions platform using Next.js, React, GraphQL, and Node.js, supporting the complete student enrollment journey.
- Built end-to-end application workflows covering lead capture, email verification, OTP authentication, profile creation, and multi-step admission processes.
- Implemented Google OAuth authentication and cookie-based session management to improve user onboarding and authentication experience.
- Leveraged Next.js SSR, dynamic rendering strategies, and optimized data-fetching patterns to improve page load performance and SEO.
- Optimized GraphQL queries and frontend data-fetching workflows to reduce unnecessary network requests and improve application responsiveness.
- Improved React application performance through component optimization, memoization techniques, and efficient state management practices.
- Contributed to a lead-generation funnel handling approximately 10,000+ leads daily, supporting large-scale student acquisition and enrollment operations.

- Collaborated with product, backend, QA, and business teams to deliver production features, troubleshoot issues, and enhance platform reliability.
- Monitored production performance, resolved critical bugs, and participated in continuous improvements for scalability and user experience.

Communication OTP Verification Service

- Designed and developed a centralized communication service using Node.js and MongoDB for email-based OTP generation, delivery, and verification workflows. ““
- Integrated Falcon email APIs to automate transactional email delivery as part of the student onboarding and lead acquisition journey.
- Implemented secure OTP generation, expiration handling, validation logic, and database-backed verification workflows.
- Added rate-limiting mechanisms to prevent abuse, brute-force attempts, and excessive email requests.
- Designed reusable APIs consumed across multiple application flows, reducing duplication and simplifying authentication-related development.
- Implemented error handling, retry strategies, and monitoring to improve delivery reliability and operational stability.
- Supported high-volume user onboarding workflows as part of a large-scale admissions and lead-generation platform. ““

Education

B.Tech, Computer Science Engineering

AKTU

2019 – 2023