MUHAMMED SINAN

MERN Stack Developer

+91 8089507749 | muhammedsinan0549@gmail.com | GitHub | LinkedIn
Portfolio | LeetCode

Profile Summary

Results-oriented MERN Stack Developer with practical expertise in designing, building, and deploying scalable web applications. Skilled in crafting robust, secure, and user-centric solutions leveraging MongoDB, Express.js, React.js, and Node.js. Committed to optimizing performance, maintaining clean architecture, and integrating emerging technologies to drive impactful results.

Skills

- **Languages:** JavaScript, TypeScript, SQL, HTML, CSS
- **Frameworks:** Node.js, Express.js, Nest.js, Next.js, TailwindCSS
- **Database:** MongoDB, PostgreSQL
- **Libraries:** React.js, Socket.io, WebRTC, Jest, Redis, Redux, React-query, Three.js, Framer Motion, Axios, JWT, GoogleAI, OpenAI, OAuth 2.0, Nuqs
- **Platforms:** AWS, GitHub, Render, Vercel, Firebase, Cloudinary
- **Tools:** Docker, Git, GitHub Actions, DevOps, CI/CD, Winston, ESLint, NPM
- **Concepts:** Clean Architecture, MVC Architecture, SOLID Principles, Agile Methodologies
- **Others:** Self-driven, Leadership, Multitasking

Projects

- **AVM Ayurvedic: Hospital Management Platform** Live Link | GitHub | Demo
  - Developed a wellness platform offering AI-powered health insights and Ayurvedic consultations. It features video consultations, secure payments, real-time notifications, and role-based access for different users. The platform ensures a seamless and secure experience for users seeking Ayurvedic wellness services.
  - Enhanced frontend with **Next.js** and **TailwindCSS**, achieving 90+ scores in **Google Lighthouse**.
  - Earned **20+ stars** and **4+ forks** on GitHub, gaining **community recognition** for clean code and architecture.
  - Enabled real-time video consultations using **WebRTC** and SimplePeer, improving user engagement.
  - Added real-time notifications and chat with **WebSocket** and generative AI via **Gemini Flash**.
  - Designed a secure backend architecture using **Node.js**, **Express.js**, and **MongoDB**, adhering to **Clean Architecture** principles.
  - Deployed the platform on **AWS** and **Vercel**, implementing CI/CD pipelines via **GitHub Actions**.
  - Integrated **role-based access control (RBAC)** to manage user authentication and permissions.
  - **Technologies used:** Next.js, TypeScript, WebRTC, Socket.io, TailwindCSS, Node.js, Express.js, MongoDB, Stripe, JWT, OAuth 2.0, Gemini, AWS, ShadcnUI, S3 Bucket, GitHub.
- **Trends: E-commerce Platform** Live Link | GitHub | Demo
  - Created an e-commerce platform that provides secure shopping experiences with features like easy product management, secure payments and personalized cart and wishlist. The platform also includes an admin panel for efficient sales and product management.
  - Streamlined payment integrations using **Razorpay** with order tracking and coupon management.
  - The platform is fully customizable, featuring dynamic filters and banners.
  - Built an **admin panel** for product, category, and order management, incorporating sales analytics and PDF invoice generation.
  - Enhanced customer support with real-time communication via **Polling**.
  - **Technologies used:** Node.js, Express.js, MongoDB, EJS, Razorpay, PDFKit, JWT.

Mini Projects

- **Shortify: URL Shortener API** GitHub
  - Engineered a high-performance URL shortening RESTful API achieving 99.9% uptime and reducing response times by 75% through **Redis caching** implementation.
  - Developed comprehensive test suite with **Jest**, achieving 90% code coverage across unit tests, integration tests, and end-to-end testing.

- Optimized database queries and implemented connection pooling, reducing average API response time from 300ms to 50ms.
- Enhanced security through **rate limiting**, achieving 100% protection against DDoS attacks and implementing **JWT authentication** with refresh tokens.
- Designed scalable analytics system processing 10,000+ daily requests, tracking geolocation data, device information, and real-time click metrics.
- Automated deployment pipeline with **continuous integration** and testing, reducing deployment time by 60% and eliminating production bugs by 85%.
- **Technologies used:** TypeScript, Node.js, Express.js, MongoDB, Redis, Jest, JWT, OAuth 2.0, Nginx, AWS, Passport.js, Geolocation API.

• PTM Kalari: PWA Website

Live Link | GitHub

- Created a progressive web application showcasing PTM Kalarisangam - bridging ancient Indian martial arts and healing traditions with modern technology.
- Achieved first ranking in Google search for 'PTM Kalari' through optimal SEO practices.
- Achieved Lighthouse scores: 97/100 Performance, 100/100 Accessibility, 100/100 Best Practices, 100/100 SEO.
- Enhanced user experience with modern animations using **Framer Motion** and optimized image delivery using WebP/AVIF formats.
- **Technologies used:** Next.js 15, React, TypeScript, TailwindCSS, Radix UI, Framer Motion, shadcn/ui, Nuqs, Figma.

• Readify: Article Management Platform

Live Link | GitHub

- Built a **content discovery platform** enabling users to discover, post, and engage with articles anonymously.
- Incorporated **Cloudinary** for seamless image handling and optimized performance with **Next.js 15** and **TailwindCSS**.
- Leveraged **Nuqs state management** for efficient pagination and improved user interaction.
- Secured platform access via **JWT**, ensuring data protection and privacy.
- **Technologies used:** Next.js, TypeScript, Cloudinary, MongoDB, JWT, React Hook Form.

• Sahithyolsav Manager: Event Management Tool

Live Link | GitHub | Demo

- Designed an **event management tool** supporting participant/team registration and performance tracking.
- Enhanced performance by reducing API calls by 80% through efficient state management.
- Applied **lazy loading** and **code splitting** to improve load times.
- **Technologies used:** React, Redux, Node.js, Express.js, MongoDB, JWT.

• URL Shortener

Live Link | GitHub

- Developed a **URL shortening platform** that allows users to generate and manage short links effortlessly.
- Enhanced performance and scalability by leveraging **NestJS** for the backend and **MongoDB** for data storage.
- Included link analytics to track clicks, expiration dates, and usage trends.
- **Technologies used:** NestJS, React, MongoDB, JWT.

Open Source Contributions

• Strapi: Security Improvements

Website | GitHub

- Developed a critical **security enhancement** to strengthen compliance with modern security standards.
- Submitted a **pull request** under review, addressing security vulnerabilities in the authentication mechanism.

• Impler.io: Authentication Enhancements

Website | GitHub

- Identified and resolved **2 critical vulnerabilities** in password hashing, improving platform security.
- Submitted and merged **2 pull requests**, implementing stronger password validation and optimized hashing algorithms.

• Origin UI: Component Development

Website | GitHub

- Contributed **2 new UI components**, enhancing the library's usability and accessibility for developers.
- Designed and implemented **custom button components**, broadening the component library offerings.

Education

- **MERN Stack Development** — *2023 - Present*
  Brototype, Kozhikode, Kerala
- **Higher Secondary (Science)** — *2021 - 2023*
  SNGHSS, chelannur, Kozhikode, Kerala