# KARTHIK KOLAMURI

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## Professional Summary

Backend-Focused Full Stack Developer with 2+ years experience designing, developing, and optimizing scalable SaaS applications using Node.js, MySQL, MongoDB, and Typescript. Proven track record in API design, database optimization, and cloud deployment across AWS, Render, and Vercel. Skilled in microservices architecture, security best practices (JWT, bcrypt, CSRF protection), and collaborating with frontend teams to deliver robust, high-performance solutions. Recognized at MSME National Hackathon 3.0 for building an AI-integrated healthcare platform.

## Education

**SASI Institute of Technology and Engineering**                                    Tadepalligudem, India
*Bachelor of Technology in Computer Science and Engineering*                *Aug 2022 – Expected Jun 2026*
- **CGPA:** 8.5 / 10
- **Relevant Coursework:** C Programming, Python, Data Structures and Algorithms (C), Introduction to Computer Science II, Operating Systems, Computer Networking

**Narayana Junior College**                                                                          Kakinada, India
*Intermediate (Mathematics, Physics, Chemistry)*                                              *2020 – 2022*
- **Percentage:** 81%

## Internship

**Web Developer Intern**                                                                        Jan 2025 – Mar 2025
*Aadi Foundation (Remote)*
- Developed and deployed scalable RESTful APIs using Node.js and Express, enabling seamless integration between services and reducing request latency by 25%.
- Built a robust authentication system using bcrypt and express-session, supporting 1,000+ concurrent user sessions with secure credential management.
- Maintained Git-based workflows, managing over 10 feature branches; enforced pull request standards and resolved merge conflicts to ensure CI/CD stability.
- Refactored API architecture with modular middleware and asynchronous handlers, improving backend efficiency and reducing server response time by 30%.
- Implemented centralized error logging with custom middleware, accelerating issue identification and cutting bug resolution time in half.

## Projects

**Medicare - The Health Care Platform** | *MERN Stack, Stream API, REST, AWS, JWT, RBAC*
- Selected for **MSME National Hackathon 3.0** and awarded a **7 Lakh grant** to develop this government-backed healthcare platform prototype.
- Developing a secure, role-based telemedicine app offering real-time chat, video consultations, appointment scheduling, and blood bank locator.
- Integrated **Stream Chat and Stream Video APIs** to enable HIPAA-compliant doctor-patient communication with encrypted session handling.
- Executed **Role-Based Access Control (RBAC)** for Admin, Doctor, and Patient accounts to enforce data privacy and authorization logic.
- Architected scalable backend using modular Express middleware and asynchronous workflows, ensuring high system responsiveness under load.

**BlogNest - Write, Share, Inspire** | *MERN Stack, JWT, SendGrid, MVC Architecture*
- Developed a blog platform with full CRUD functionality, rich text editing, and admin moderation dashboard.
- Designed and implemented secure password recovery using SendGrid, token expiration, and encrypted routes.
- Adopted MVC architecture to ensure maintainable, testable code with clear separation of concerns.

**Book Store Management System** | *Node.js, Express.js, MongoDB, EJS, CSRF Protection, Nodemailer*
- Built a secure and scalable e-commerce platform for managing books, users, and orders with user authentication and session control.
- Designed user account features including signup, login, logout, and password reset, secured with bcrypt hashing and express-session management.
- Added pagination and dynamic search/filter functionality using MongoDB queries to support efficient browsing across large datasets.
- Incorporated CSRF protection and server-side input validation to mitigate common security threats and protect user data integrity.
- Integrated email notifications using Nodemailer for password recovery and transactional alerts (e.g., order confirmation).
- Designed MongoDB schema to support order tracking, user roles, and inventory management with future scope for admin dashboard and analytics.

## Technical Skills

**Languages:** JavaScript (ES6+), TypeScript, Python, C, Java, SQL
**Backend & Frameworks:** Node.js, NestJS, Express.js, RESTful API Design, Microservices, MVC Architecture, Modular Middleware
**Frontend Collaboration:** React.js, EJS, Pug, Bootstrap, HTML5, CSS3
**Databases:** MySQL (Optimization & Query Tuning), MongoDB, PostgreSQL, Firebase
**Auth & Security:** JWT, bcrypt, CSRF Protection, express-session, Role-Based Access Control (RBAC)
**Cloud & DevOps:** AWS (EC2, S3, RDS), Azure (basics), Docker, Jenkins, Git, GitHub, Postman, Vercel, Render
**Integrations & APIs:** Firebase Hosting, Slack API (conceptual), Webhooks, SendGrid, Nodemailer, Stream Chat/Video APIs
**Practices:** CI/CD Pipelines, Agile/Scrum, Async Workflows, Centralized Error Logging, Scalable Architecture

## Certifications

**NodeJS - The Complete Guide (MVC, REST APIs, GraphQL, Deno)** – Udemy
View Certificate

**Software Engineer Certificate** – HackerRank
View Certificate

**Problem Solving Certificate** – HackerRank
View Certificate

**Technology Virtual Experience Program** – Deloitte Australia (Forage)
View Certificate

**Full Stack Developer Certification** – Oneroadmap
View Certificate

## Achievements & Recognitions

Selected for **MSME Nationwide Hackathon 3.0** and awarded a **7 Lakh grant** for proposing an innovative tech solution addressing real-world healthcare challenges.

Recognized for problem-solving capabilities and entrusted with scaling the prototype under a government-backed initiative.