Masud Rana

Backend Engineer (Node.js)

Rupganj, Narayanganj, Bangladesh
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Professional Summary

Backend Engineer with hands-on experience designing and building secure, scalable, and production-ready backend systems using Node.js. Strong foundation in API design, authentication and authorization, data modeling, and asynchronous processing. Experienced in translating complex requirements into reliable, maintainable backend services with clear system boundaries.

Technical Skills

Backend & APIs: Node.js, TypeScript, Express.js, RESTful APIs, JWT Authentication, RBAC

Databases: MongoDB, PostgreSQL, Mongoose, Schema Design, Indexing, Query Optimization

Asynchronous Systems: BullMQ, Background Jobs, Queues, Workers

Validation & Reliability: Zod, Centralized Error Handling, Input Validation

Tools & Platforms: Git, GitHub, Postman, Docker, Vercel

Foundations: Data Structures, Algorithms, DBMS, Operating Systems, Computer Networks

Projects

AI-Powered Recruiting and Job Search [GitHub Backend]   *28 Dec 2025 - Ongoing*

- Designed RESTful APIs for job ingestion, filtering, and retrieval and consistent versioning.
- Implemented JWT-based authentication with role-based access control (RBAC).
- Centralized request validation and error handling at API boundaries ensure predictable responses.
- Built a distributed background job processing system using BullMQ for long-running AI tasks.
- Implemented a global rate-limiting mechanism using Redis to manage external AI API quotas.
- Implemented job and candidate profile embeddings to enable semantic similarity matching.
- Designed a customizable, weighted applicant ranking system for employer-specific hiring criteria.

Technologies: Express.js, TypeScript, BullMQ, Redis, Bottleneck, Gemini APIs, MongoDB, Zod, JWT

Travel Tips & Destination Guides [GitHub Backend] [Live Site]   *12 Oct - 23 Oct 2024*

- Implemented JWT based authentication and role-based access control for secure user access.
- Built RESTful APIs with structured validation, error handling, and consistent response formats.
- Implemented transactional and rollback strategies to ensure data integrity during payment processing.
- Integrated external services e.g., email notifications and media uploads via Nodemailer and Cloudinary.
- Integrated payment gateway verification before upgrading user premium access.

Technologies: TypeScript, Express.js, MongoDB, JWT, Zod, bcrypt, AmarPay, Nodemailer, cloudinary

Experience

Software Quality Assurance [Academic Internship]   *24 July - 4 Sep 2025*

- Gained hands-on experience in test case design, bug reporting, and end-to-end testing life cycle.
- Practiced manual and automated testing using Playwright and API testing tools.

Education

Bachelor of Science in Computer Science and Engineering (BSC in CSE)
Green University of Bangladesh, Dhaka, Bangladesh   *2021 - 2025*
Academic Honors: Vice-Chancellor's Award (Spring 2022), Dean's Award (Summer 2022, Fall 2023)

Languages

English (Professional), Bengali (Native)

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