

# Mohamed Awad

Backend Engineer (Node.js | Express | NestJS | TypeScript)

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## Professional Summary

Computer & Control Systems Engineering student with hands-on experience in backend development. Specialized in Node.js, Express, NestJS, TypeScript, and databases (MongoDB, MySQL, PostgreSQL). Proven ability to build scalable REST and GraphQL APIs, secure authentication systems, and optimized data models. Familiar with Docker basics and AWS (EC2, S3). Strong problem-solving mindset, passionate about delivering efficient, secure, and high-performance backend solutions.

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## Technical Skills

**Languages:** JavaScript (ES6+), TypeScript, C, C++

**Frameworks:** Express.js, NestJS

**Databases:** MongoDB, Mongoose, PostgreSQL, MySQL, Sequelize

**APIs & Security:** REST API Design, GraphQL API, JWT Authentication, Zod Validation, Encryption, Error Handling, Helmet, CORS, OAuth2 (login)

**Cloud & Tools:** AWS (EC2, S3), Docker (basics), Git, PM2, Redis, Cloudinary, Socket.io

**Other:** System Design Basics, Networking Fundamentals, Data Structures, OOP

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## Professional Experience

**Backend Intern – Route** (04/2025 – 10/2025 | Remote)

- Developed and maintained backend services using Node.js, Express, and TypeScript.
  - Designed and optimized REST APIs, improving scalability and performance.
  - Implemented JWT authentication and authorization for security.
  - Worked with MongoDB & MySQL for structured and unstructured data.
  - Deployed and tested apps on AWS EC2, managed S3 storage, and containerized with Docker.
  - Participated in code reviews and team collaboration to improve productivity.
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## Projects

**Social Media Backend App** – Node.js, Express, TypeScript, MongoDB, Redis, Socket.io, AWS S3, GraphQL, Zod, BullMQ, Real-time Notification

Developed a Facebook-like backend using OOP and Repository Pattern with a clean modular architecture. Implemented advanced features like user system (friends, blocks), posts with reactions & shares, nested comments, and real-time chat using Socket.io. Used Redis for caching and managing relationships, AWS S3 for media storage, and Zod for request validation. Integrated GraphQL, BullMQ for background jobs, and live notifications system.

GitHub Repo

**E-commerce Platform (Backend)** – Node.js, Express.js, MongoDB, AWS (EC2), Stripe, BullMQ, Redis, Swagger, Joi, Helmet, CORS, OAuth2

A mini Amazon / Shopify-style e-commerce API featuring orders, wishlist, and cart modules. Includes a complete Admin Dashboard for managing users and orders. Integrated Stripe payments and Redis queues with BullMQ for performance optimization and automatic order cancellation.

GitHub Repo

**Sarahah-Style Anonymous Messaging App** – Node.js, MongoDB Atlas, Redis, JWT, Email OTP, Google OAuth

Built a secure system for anonymous messaging and replies with strong focus on privacy, confidentiality, and trust. Integrated Google OAuth for login, OTP verification, and Redis caching for

performance and session management.

GitHub Repo

**Course App** – Node.js, Express, PostgreSQL, Sequelize, Multipart, Cloudinary, node-cron  
Course booking & management system with Google login, transactions, validation, image uploads, and scheduled cleanup jobs.

GitHub Repo

**Clinic Booking System** – Node.js, Express, MongoDB, Mongoose, Cloudinary  
Medical booking management with daily/monthly scheduling, reminders, media uploads, and phone encryption.

GitHub Repo

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## Education

Faculty of Engineering – Mansoura University

BSc in Computer & Control Systems Engineering | Expected Graduation: 2028

Relevant Courses: Database Systems, Computer Networks, Web Development, Control Systems

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## Certificates

- SQL Course – Maharah
- MongoDB Course – Maharah
- Backend Development Training – Route Academy