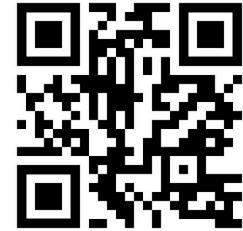# Omar Fawzy

Junior Backend Engineer | ASP.NET, Laravel, MySQL |
Passionate about Performance & Scalable Systems

✉ omarfawzyy90@gmail.com   📞 +201002836928   📍 Cairo

○ github.com/omarfawzy90   in linkedin.com/in/omar-fawzy-6029b6177

🔗 omarfawzy.tech

SUMMARY

Self-taught backend engineer with hands-on experience building secure, scalable APIs and full-stack web applications using Node.js, Express, Laravel, ASP.NET, MySQL and PostgreSQL. I'm passionate about performance optimization, system design, and clean architecture.
Having transitioned from dentistry to engineering, I've developed a strong analytical mindset and a deep focus on precision and reliability, essential for building systems where every millisecond counts.

Professional Experience

Full Stack Intern, *DigiCrafterz* ⧉   01/2025 – Present
- Building APIs with ASP.NET ⧉ Core.   Cairo, Egypt
- Building Frontend by Next.JS

PROJECTS

URL Shortener ⧉
Tech Stack: ASP.NET ⧉ Core 8.0, MySQL, Entity Framework Core, Redis, RESTful API Architecture.

Developed a production-ready URL shortening service enabling efficient link management and rapid redirection. The system leverages Redis distributed caching for high-performance URL resolution and MySQL for persistent storage, with comprehensive input validation and error handling for enterprise-grade reliability.

• **RESTful API architecture** with secure endpoints for URL shortening and redirection with comprehensive input validation (HTTP/HTTPS scheme enforcement, empty string checks, and malformed URL detection).
• **Redis caching layer** achieving sub-second response times with 24-hour TTL optimization, implementing cache-first strategy for frequently accessed URLs.
• **Dual-layer storage strategy** with Redis for hot data and MySQL for persistent storage, ensuring data durability and high availability.
• **Entity Framework Core integration** with MySQL using Pomelo provider for scalable URL storage, automatic migrations, and optimized database queries.
• **Separation of concerns architecture** with modular design separating controllers, data access, and domain models for maintainable and testable code.
• **GUID-based URL generation** creating 8-character unique identifiers for shortened URLs, ensuring collision-free operation at scale.
• **Comprehensive error handling** with structured JSON responses for validation errors, not-found scenarios, and server errors.

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Feature Flag Management System ⧉
Tech Stack: Node.js, Express.js, Supabase (PostgreSQL), Redis, JWT-ready Architecture.

Developed a production-ready feature flag management system enabling dynamic feature control without code deployments. The system leverages Redis caching for high-performance flag evaluation and Supabase for persistent storage, with multi-criteria evaluation based on user roles, subscription plans, and environments.

• **RESTful API architecture** with secure endpoints for feature flag evaluation and management.
• **Redis caching layer** achieving sub-millisecond response times with 60-second TTL optimization.
• **Multi-criteria feature evaluation** supporting role-based access (admin, beta-tester, user), plan-based gating (free, pro, enterprise), and environment-specific configurations.
• **Supabase integration** with PostgreSQL for scalable flag storage and JSONB rule configuration.
• **Modular service architecture** with separated concerns for database operations, caching, and business logic.

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Task Manager API Backend ⊡
Tech Stack: PHP Laravel MySQL JWT Authentication

Developed a secure and scalable backend API for a task management application using the Laravel framework. The project features a complete set of RESTful endpoints for user authentication and full task management, all built upon a clean MVC architecture.

- **Implemented** user registration & login functionality secured with JWT-based authentication.
- **Designed** and built secure RESTful APIs for full CRUD (Create, Read, Update, Delete) operations on tasks.
- **Structured** the application using the MVC design pattern for a maintainable and scalable codebase.

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Subscription Tracker Web App ⊡
Tech Stack: Node.js Express.js MongoDB JWT Authentication

Developed a full-stack application to track subscriptions, featuring JWT authentication, secure CRUD APIs, and a MongoDB schema. The responsive frontend, built with React and Material UI (MUI), includes a calendar and renewal notifications.

- **User** registration login with JWT-based authentication.
- **Secure** APIs for CRUD operations with renewal tracking.
- **Responsive UI** using React.js and Material UI with role-based access.

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Full-Stack Dentist Portfolio ⊡
Tech Stack: Next.js Tailwind CSS TypeScript Supabase Upload Thing
Designed and deployed a responsive full-stack web app for managing and showcasing dental case studies. Implemented image uploads via Upload Thing and real-time data handling with Supabase, including authentication. Developed dynamic routing for detailed case pages and optimized SEO using the Next.js App Router. Leveraged server-side rendering and Incremental Static Regeneration (ISR) for fast, scalable performance.

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Web Developer Portfolio ⊡
Tech Stack: React.js Tailwind CSS
Interactive personal portfolio showcasing web development projects, skills, and professional journey in tech.

SKILLS

Languages — Proficient
JavaScript (Node.js), PHP (Laravel), Python, C#, Rust (Learning), SQL

Databases — Proficient
PostgreSQL, MySQL, MongoDB

Concepts — Proficient
REST API Design, Caching Strategies, Performance Optimization, Scalability, Authentication (JWT), Microservices (introductory), Clean Architecture

Soft Skills — Proficient
Team Work, Fast learner and Problem solver

Frameworks — Proficient
Express.JS, Laravel, ASP.NET, Django (basic)

Performance Tools — Competent
Redis (caching), Nginx (basic setup), Chrome DevTools for backend profiling

DevOps Basics — Competent
Docker, GitHub Actions, Render/Vercel deployment

CERTIFICATES

The Complete Full-Stack Web Development Bootcamp ⬈
Instructor: Dr. Angela Yu
View Certificate

SQL (Intermediate) ⬈
The bearer of this certificate has passed the HackerRank skill certification test
View Certificate

Problem Solving (Basic) ⬈
The bearer of this certificate has passed the HackerRank skill certification test
View Certificate

CSS (Basic) ⬈
The bearer of this certificate has passed the HackerRank skill certification test
View Certificate

SQL (Basic) ⬈
The bearer of this certificate has passed the HackerRank skill certification test
View Certificate

JavaScript (Basic) ⬈
The bearer of this certificate has passed the HackerRank skill certification test
View Certificate

Languages

- English
- Arabic

EDUCATION

Bachelor's Degree in Dentistry, *The British University in Egypt*
(GPA: 3.0/4.0)