

# Muhammad Saad Ibrahim

## Software Engineer

+201156996498 | [linkedin.com/in/muhammad-saad-ibrahim](https://www.linkedin.com/in/muhammad-saad-ibrahim) | [github.com/MuhammadSaadd](https://github.com/MuhammadSaadd)  
Alexandria, Egypt | [mu7ammadsa3dd@gmail.com](mailto:mu7ammadsa3dd@gmail.com)

### Education

#### Kafrelsheikh University

Bachelor's Degree in Computer Science – Information Systems Department, CGPA: 2.95

Egypt

Aug 2020 – June 2024

### Experience

#### Backend Developer

@Techno Island, Software House

Nov 2024 – Present

Maadi, Cairo

- Developed 3 modules from scratch for the *E-Clinic* SaaS application.
- Developed 6 modules from scratch for the *NewLoanz* third-party banking CRM system.
- Worked on the Transactions Allocation background job and managed the Promises to Pay workflow.
- Integrated the *NewLoanz* API with internal and external jobs to process CSV files from the Core Banking System (CBS).
- Integrated an online API to retrieve daily currency exchange rates.
- Analyzed user stories, BRD documents, and Figma designs to gather requirements.

#### Backend Developer

@Zellige, Product-Based Startup

Feb 2023 – Aug 2024

Alexandria, Egypt

- Designed and developed over 45 features, delivering them to customers.
- Refactored and optimized the existing codebase, resolving bugs efficiently.
- Conducted end-to-end testing with front-end developers to ensure a seamless user experience.

### Projects

#### Custom Shell | Codecrafters Challenge

May 2025

- Developed a custom shell in C# as part of the Codecrafters challenge.
- Implemented core built-in commands (echo, pwd, exit, type) and support for external commands via environment variables.
- Enabled directory navigation with cd and implemented robust quoting (single, double, and escape characters).
- Added output/error redirection (including append mode) and advanced command auto-completion.
- Built modular components: custom input reader (Tab, Backspace, Enter), state machine tokenizer, token parser, and a unified command executor.

#### Teams Maker | Graduation Project

June 2024

- Led a team of nine developers, ensuring smooth collaboration and efficient workflows.
- Developed a robust backend with ASP.NET Core, creating over 70 APIs for mobile and web clients.
- Designed a comprehensive ERD with 20+ tables, following best practices in database design.
- Analyzed client needs to ensure the project met all requirements.
- Technologies:* ASP.NET 8 Web APIs, EF Core, Microsoft SQL Server, Docker, Swagger.

### Technical Skills

**Languages:** C#, SQL, C++

**Frameworks:** ASP.NET Core, Entity Framework Core, Dapper, LINQ

**Databases:** Microsoft SQL Server, PostgreSQL, MongoDB

**Methodologies:** Domain-Driven Design, Modular Monolith, OOP, SOLID Principles, RESTful API Design, ERD Design, CQRS

**Developer Tools:** Git, GitHub, Docker, Azure Boards, Rider

**Libraries:** Hangfire, FluentResults, RabbitMQ, MassTransit, CAP, MediatR

### Certificates

- ACM ECPC Contest: Qualified for the ECPC Finals in the 2023 season after securing second place in the university qualification round.