

# Muhammad Hasan Farouk

[muhammadhasanfarouk@gmail.com](mailto:muhammadhasanfarouk@gmail.com) | [LinkedIn](#) | [GitHub](#) | [LeetCode](#)

I am a fourth-year Computer Science student at Cairo University with a strong foundation in programming, competitive programming, and backend technologies. Throughout my academic journey, I have demonstrated leadership and teamwork by successfully guiding and contributing to multiple projects, ensuring their success through diligence, effective collaboration, and clear communication. My adaptability and technical proficiency allow me to efficiently work with various technologies to meet project requirements. I am committed to excellence and continuous learning, striving to exceed expectations and make meaningful contributions to any team I am part of.

## Education

**B.Sc. in Computer Science**, Cairo University (2022-2026)

GPA: 3.27

## Areas Of Expertise

### Technical Skills:

Backend: Java, Python, Spring Boot, Django, SQL Server.

Frontend: HTML, CSS, JavaScript.

General Software Engineering & Tools: Object Oriented Programming (OOP), SOLID Principles, Design Patterns, clean code, GitHub, Postman.

### Soft Skills:

Strong teamwork and collaboration abilities.

Analytical problem-solving and critical thinking.

Effective time management and adaptability.

Creativity in designing and implementing solutions.

Receptiveness to constructive feedback and continuous improvement.

## Projects

### Learning Management System – GitHub Repository

web-based application for managing and organizing online courses, and assessments from the perspective of students and instructors.

- Developed RESTful APIs for end user.
- Implemented user authentication using JWT, enhancing account security and session management.
- Developed an automated email notification system using SMTP, enabling seamless user communication for updates.
- Built a data model and implemented it in a PostgreSQL Database.
- Implemented a custom caching layer using Spring Boot's @Cacheable to optimize user data retrieval and improve performance during peak usage.

### Restaurant Management System – GitHub Repository

Desktop application for managing restaurant operations, including user management, table reservations, and order tracking.

- Utilized Entity Framework Core to interact with the database, implementing migrations and class models for real-time data updates and data integrity.
- Built with C# for the application logic and SQL for managing and storing data.
- Applied foreign key relationships for managing data consistency between users, orders, tables, and menu items.

### Web Book Shop – GitHub Repository

web-based application for online book discovering and purchase from the perspective of students and admins.

- Built a user-friendly UI using HTML, CSS and JavaScript.
- Used Django to build the website using MVC Architecture.
- Used migrations and class models to manipulate the Database.

### Other Projects:

- Implemented multiple Compression algorithms including: Huffman Coding, Floating Point Arithmetic, LZ77, LZW.
- Image editing C++ application applying different filters (Invert, Blur, Rotate, etc...).
- Unconventional XO (Pyramid XO, 5\*5 XO, Connect 4) games using OOP.
- Optimized Fibonacci computation in C++ using matrix exponentiation O(log n), showcasing advanced OOP design.