Mark Mounir

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EDUCATION

Bachelor of Computer Science — Giza, Egypt
Cairo University - GPA:2.99 — Aug. 2022 - Expected July 2026

SUMMARY

Software Engineering student with hands-on experience designing and developing RESTful web services using Java and Spring Boot. Eager to deepen expertise in scalable back-end architecture and contribute to impactful, fast-response web systems within collaborative engineering teams.

PROJECTS

MiniSocial - RESTful Web Service | Java EE,JAAS,JMS,JAX-RS, JSP,JDBC

- 1 - Designed and implemented core back-end logic for a social networking web application featuring groups, posts, friend requests, timelines, and user management.
- 2 - Developed and secured RESTful web services using JAX-RS, with role-based access control using JAAS.
- 3 - Built a JMS-based messaging service to handle asynchronous notifications
- 4 - Contributed to business logic implementation (e.g., timeline generation, friendship state management).
- 5 - Used Postman to test, validate, and debug RESTful APIs throughout the development lifecycle.

Booking App - RESTful Web Service | Java, Spring Boot, Spring Data JPA, REST APIs, Mock APIs

- 1 - Developed a RESTful web service for a booking system using Spring Boot, with endpoints for creating, viewing, and managing bookings.
- 2 - Integrated with external services using mock APIs to simulate real-world API interactions.
- 3 - Implemented persistence logic using Spring Data JPA, with in-memory data storage for demonstration purposes.
- 4 - Led most of the back-end development, including controller, service, and data layers following clean architecture principles.
- 5 - Focused on building modular, testable, and maintainable code for future scalability.

Gomoku AI Game | Python, Tkinter, Minimax, Alpha-Beta Pruning

- 1- Developed a complete Gomoku game with an interactive Tkinter GUI supporting Human vs AI and AI vs AI gameplay modes.
- 2- Engineered an AI opponent using the Minimax algorithm with optional Alpha-Beta Pruning to optimize decision-making efficiency.
- 3- Designed a heuristic evaluation function to assess board states, incorporating strategic weights for offensive and defensive patterns.
- 4- Implemented localized move filtering to significantly reduce the search space and enhance performance on large boards.
- 5- Leveraged multithreading to run AI logic asynchronously, ensuring a responsive user interface during intensive computations.

Technical Skills:

Languages: Java, MIPS ASSEMBLY, C/C++ , SQL, HTML5/CSS3, Python.
Frameworks and libraries: JAVA EE, Java spring ,Tkinter, Numpy.
Concepts: Object-Oriented Programming (OOP), Structural Programming, Clean Code , Data Structures , Algorithms , Software Engineering Principles, Databases RESTful APIs ,Algorithm design, Testing, Software modeling ,problem solving , software Requirements Analysis .
Developer Tools: Git , Github , SQL Server Management Studio , VS Code , Visual Studio, PyCharm .