Raed Joumaa

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Raed's Portfolio Website

EDUCATION

German University in Cairo (GUC) — New Cairo, Egypt
Bachelor of Science in Computer Science and Engineering — *Oct 2021– Jun 2026 (Expected)*
- GPA: 1.6 (equivalent to an "A-" in the German grading system)
- Received an A+ (100%) on bachelor thesis titled:"Integrating Logical Constraints in Multimodal AI Assistant Outputs"

EXPERIENCE

Junior Computer Science Teaching Assistant — Sep 2022– Present
German University in Cairo (GUC) — *Cairo, Egypt*
- Tutored students individually or in small groups to help them master learning concepts.
- Established positive relationships with students, leading by example and addressing classroom needs.

Java Developer — Sep. 2023 – May 2024
Code Alpha — *Remotely*
- Created a grade tracker program for students with a user-friendly Graphical User Interface (GUI), making academic tracking more efficient.
- Designed and implemented a mini hotel reservation system with a comprehensive GUI, simplifying booking and management processes.

Software Developer — Sep 2024 – Present
Study Vista — *Cairo, Egypt*
- Developed and deployed a fully functional website using Next.js, ensuring responsiveness, user-friendliness, and adherence to best coding practices.
- Implemented features to improve website performance and accessibility, resulting in an enhanced user experience.
- Worked with email web services, streamlining communication workflows and integrating email functionality into the application.
- Collaborated with the team to deliver the project on time while maintaining high-quality standards.

PROJECTS

Multimodal AI Assistant | *FastAPI, MERN Stack, Docker, RAG* — Feb 2025– May 2025
- Developed an Agentic AI system for bachelor thesis, integrating logical constraints and Prompt Chaining for structured text and image generation.
- Implemented microservices with FastAPI, Stable Diffusion for text-to-image, and CLIP for validation, deployed via Docker for scalability and portability.
- Enhanced the system with Retrieval-Augmented Generation (RAG) to improve response accuracy by leveraging document retrieval, alongside real-time notifications for itinerary updates.
- Integrated bearer token authentication to ensure secure user sessions and data access.

Virtual Trip Planner | *MongoDB, Express, React, Node* — Sep 2024– Nov 2024
- Developed a comprehensive travel planning platform featuring personalized trip customization based on user preferences like budget, destinations, and activities.
- Integrated seamless booking functionalities for flights, hotels, and transportation using trusted third-party services within the app, enhancing user convenience.
- Implemented real-time notifications for itinerary updates and integrated bearer token authentication to ensure secure user sessions and data access.

Interactive Portfolio | *HTML, CSS, JavaScript* — Sep 2024– Oct 2024
- Designed and developed a responsive portfolio website to showcase skills, experience, and projects, with a professional and modern aesthetic tailored for optimal viewing across all devices.
- Implemented an AI-powered chatbot using JavaScript, enabling conversational interactions to provide personalized insights into qualifications, work experience, and skills.

- Built dynamic project galleries and skill showcases that seamlessly integrate frontend design with backend functionality, highlighting hands-on experience in full-stack development across diverse technologies.
- Demonstrated a focus on user engagement and accessibility, combining functionality and interactivity to create a compelling digital presence.

Book Management App | *MongoDB, Express, React, Node*   Aug 2024– Sep 2024
- Designed and developed a book management platform with a responsive user interface, enabling users to view books in both table and card formats.
- Implemented core CRUD functionalities, allowing users to add, edit, delete, and view detailed information about books.
- Ensured robust backend performance by structuring RESTful APIs and managing data with MongoDB.

Donation Platform | *React, JavaScript, Git*   Feb 2024– May 2024
- Developed a platform using React JS to deliver a seamless and dynamic user experience.
- Delivers an intuitive and responsive interface that allows users to effortlessly navigate the platform, explore causes, contribute donations, and volunteer for jobs with just a few clicks, ensuring a smooth and engaging user experience.

Database Engine | *Java, Git*   Mar 2024– Apr 2024
- Implemented core functionalities including table creation, tuple insertion, updating, selecting, and deletion.
- Designed a B+ tree index to optimize search operations and dynamically created indices as needed.
- Leveraged object serialization for efficient data storage and retrieval across binary page files..

Modified Advising System | *SQL, ASP.NET*   Oct 2023– Dec 2023
- Developed a system to identify advising criteria such as late major declarations and missed courses.
- Assignment of courses to students, and making graduation plans ensuring compliance with course prerequisites.
- Implemented functionality to check student eligibility for makeup exams based on university policies.

The Last of Us: Legacy (Game) | *Java, JavaFX*   Feb 2023– May 2023
- Created a Java-based single-player survival game in a zombie apocalypse setting with turn-based gameplay.
- Developed game graphics using JavaFX and implemented strategic elements like limited action points.
- Collaborated with a team of three to design and implement the project, following object-oriented principles.

ACTIVITIES

El Warsha x Darb 1718   Sep 2024– Nov 2024
- Ushering in something Else Exhibition 2023 at Salah Eldin Alayoubi Citadel.

Egyptian Food Bank   Jun 2023– Aug 2023
- Volunteering in packing the food boxes.

IEEE Students Branch   Feb 2023– May 2023
- Member in Machine Learning Committee.

TECHNICAL SKILLS

Presentation and Communication: Arabic (Native), English (Fluent), German (Basic)
Languages: Java, Python, Dart, C, C++, HTML, CSS, JavaScript, SQL, TypeScript
Frameworks: ASP.NET, .NET Core, Flutter, Angular, MERN Stack (MongoDB, Express.js, React.js, Node.js)
Developer Tools: Git, GitHub, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse
AI/ML Frameworks: Hugging Face Transformers (Stable Diffusion, CLIP, Whisper, VITS)
Soft Skills: Problem Solving, Leadership, Flexibility, Teamwork