

Karim Hesham

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Education

Al Wadi International School

IGCSE

Jeddah, Saudi Arabia

2008 – 2020

German University in Cairo

BACHELOR OF ENGINEERING, SCIENCE IN COMPUTER SCIENCE AND ENGINEERING

Cairo, Egypt

2020 – present

Projects

Marvel Game (Java, JavaFX)

- Developed a 2-player battle game using Java OOP with a focus on creating a hierarchy of classes and objects.
- Created an interactive GUI for the game using JavaFX, which received an award for outstanding design.
- Implemented approximately 6,000 lines of code and conducted testing to ensure stable and efficient gameplay.
- Collaborated with team members to ensure the project was completed on time and within budget.

Match Management relational Database System (SQL, C#, ASP.NET)

- Designed an EERD and created a relational database model using MS SQL to store and extract data for a sports management system.
- Implemented 32 stored procedures, functions, and views to enable efficient manipulation of data in the database.
- Developed a user-friendly web application using C# and ASP.NET that connected seamlessly to the database.

Client/server-based web application (JavaScript, Node.js, Express, MongoDB)

- Designed and developed a client/server-based traveling website using JavaScript, Node.js, Express for the backend implementation.
- Implemented user registration and login functionality, as well as other relevant features to enhance the user experience.
- Ensured seamless integration between the frontend and backend, providing users with a smooth and intuitive experience.
- Deployed the website on Render, ensuring high availability and scalability for the end-users.

Medication Scheduler FPGA System (VHDL, Intel Quartus Prime)

- Developed a medication scheduler to improve medication adherence and ensure timely dosage dispensation.
- Utilized FPGA hardware, an IR sensor, DC motor, transistor, and buzzer to create an accurate and reliable medication dispenser.
- Implemented a clock in the FPGA to alert patients at the correct time for medication dosage
- Demonstrated strong hardware design skills and a focus on improving patient outcomes.

Music Creation and Audio Processing program (Python, NumPy, Matplotlib)

- Developed a music creation and audio processing program using Spyder to manipulate frequency and cancel noise.
- Employed advanced techniques such as Fourier transforms to accurately plot graphs in frequency and time domain
- Demonstrated strong signal processing skills and a deep understanding of music creation and audio processing techniques.

Extracurricular Activities

Game Design Development member at VGS (Vector Game Studios)

2022 – present

- club for teaching game development on unity using C# programming language
- attended weekly session to learn C# and game development
- working on developing a major game project with members of the club

HR member at IEEE student branch

2022 – present

- Created reports for club meetings
- monitor members performance and tracking their interactions in the club
- Interacted with people from different majors and got to study their personalities

HR member at Google Development Group (GDG)

2022 – present

- created a google documents file to keep track of all members activities
- write reports on every meeting to ensure improved meetings and give feedback to members and heads

Ushered in The GUC-Ulm quantum technologies conference and workshop

21/11/2022 – 23/11/2022 (3 days)

- professors from Germany, Egypt gave lectures and workshops related to quantum technologies
- was responsible for welcoming German professors from the university of Ulm, Stuttgart and other universities
- made sure the conference went smoothly and was responsible for helping any foreigners

Skills

Programming Languages: Java, Python, JavaScript, C#, SQL, VHDL, HTML

Languages: Arabic: native language, English: fluent read, written, spoken, German: Fair read

Programming Applications: Eclipse, Spyder, PsPice, Unity, Visual Studio, Git, Modelsim, Quartus Prime, MongoDB