

# MALAK SOLIMAN

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## OBJECTIVE

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I am a passionate third-year Computer Science engineering student at GUC, actively seeking opportunities to broaden my knowledge and gain practical experience early in my academic journey. I am also dedicated to improving my personal skills, including communication and problem-solving, to further my growth both professionally and personally.

## EDUCATION

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| <b>Bachelor of Computer Science Engineering</b> , German University In Cairo (GPA:1.1) | 2022 | - |
|  | 2027 |   |
|  | 2019 | - |
|  | 2022 |   |

### **High School British (IGCSE) Diploma**, Egyptian Language School

Graduated with a GPA of 4.0 and was awarded with a high honors certificate.

## SKILLS

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**Technical Skills** Java , Python , JavaFx , C , prolog , haskell , Microsoft,sql,mongodb,nosql,,html,css,vhdl

**Core Competencies** Collaborative Problem Solving , Team Work , work under pressure

## EXPERIENCE

### ATOS

#### **Java Full Stack Developer Intern**

- Completed a structured internship focused on full stack development using Spring Boot (backend) and Angular (frontend).
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- Designed and implemented a **Document Management System**, allowing users to upload, manage, and securely access documents.
  - Utilized **MongoDB (NoSQL)** for data storage, enabling flexible document and user data handling.
  - Built and consumed **RESTful APIs**, implemented secure authentication and authorization using **Spring Security** and **JWT tokens**.
  - Gained practical experience in modern debugging techniques, frontend-backend integration, and user session management.
  - Overcame real-world challenges in connecting application layers and enforcing data security, strengthening problem-solving skills.
  - Worked closely with mentors and senior developers, gaining deep exposure to full stack technologies and best practices.
  - Applied academic knowledge from GUC in a professional context, reinforcing a strong foundation in software development.

## PROJECTS

**Attack on Titans** Developed a one-player endless tower defense game inspired by the *Attack on Titan* anime, using Java for both backend logic and frontend design with JavaFX. The game is set within the anime's universe, where players defend humanity's last stronghold—three concentric walls (Wall Maria, Wall Rose, and Wall Sina)—against waves of titans. The project involved implementing game mechanics, state management, and user interaction features to create an engaging and immersive experience, combining storytelling elements with real-time strategy gameplay.

**Noise Cancellation and Frequency Domain Conversion** Collaborated on a lab project in Signals and Systems Theory (COMM401) involving the generation and manipulation of audio signals using Python. Created a custom song by combining frequencies from piano octaves, introduced random noise, and successfully implemented noise cancellation through frequency domain conversion.

**Basic Computer Simulation** Implemented a subset of a basic computer to simulate a memory system, arithmetic/logic unit, and a group of registers, all connected via a common bus with control select lines. Developed the control and timing mechanisms for instructions such as LDA, MUL, ADD, STA, DIV, ISZ, and BUN. Enhanced the system with additional hardware components like decoders and counters.

**Single-Player Board Game Implementation (Haskell)** Developed a Haskell program for a single-player board game involving flipping the color of pieces on a '+' shaped board. Created functions to initialize the board, generate possible states, validate moves, and check for win conditions.

**Band Pass Filter Design and Implementation** Collaborated on a project to design, simulate, and implement a band pass filter. Including selecting component values to achieve performance, simulating the circuit using PSpice, constructing the hardware circuit, and ensuring its performance. Documented the design process, simulation results, and hardware implementation in a report and presented it.

**Telecom Customer Data Management System** Developed a comprehensive Telecom Customer Data Management System using JavaFX and CSS for the graphical user interface and SQL queries for backend database operations. The system streamlines subscriber information handling, service usage tracking, and payment management. It features automatic account creation upon SIM card purchase, enabling immediate access to personalized digital services. A centralized database stores customer profiles, service plans, usage metrics, payment history, and support ticket logs. Designed to enhance user experience, the system supports efficient data retrieval for customer service operations, plan subscriptions, wallet transactions, and issue resolution—ultimately driving customer satisfaction and loyalty.

**Smart Packaging System** Designed and implemented a Smart Packaging System on an FPGA board using VHDL, integrating components such as push buttons, seven-segment displays, and proximity detection. The system automates product packaging by counting magnetic products on a conveyor belt, displaying the count in real-time, and halting the belt upon reaching a predefined threshold of five items. It then checks for nearby worker presence and, if absent, triggers an alert to notify packaging completion. A manual switch allows the worker to reset the system and resume operation. The design was functionally verified through simulation using ModelSim before deployment on hardware.

**Travel Website** Developed a full-stack web application for a travel recommendation platform using Node.js, Express, and MongoDB, deployed initially on localhost. The application allows users to create accounts, search for travel destinations, and manage a personalized “want-to-go” list. Implemented user session management using express-session and dynamic content rendering with Embedded JavaScript (EJS). The backend utilized MongoDB (with `myDB` and `myCollection`) to store user data and destination information, while the frontend was built using HTML, CSS, and EJS templates within Visual Studio Code. The project was based on a client/server architecture and emphasized real-time interaction and persistent data handling.

## LANGUAGES

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**Proficient :** Arabic , English

**Intermediate Proficiency :** German