Salma Mohamed Omar

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Summary

Highly versatile computer engineering student with strong programming skills in multiple languages with experience with hardware and software projects alike. Well-versed in full-stack software implementation and efficient, algorithmic problem-solving. Seeking a summer internship or job in application or software development.

Education

German University in Cairo — Sep 2023 – Present
B.Sc. Computer Science Engineering — **GPA: 1.78 (B+)**

Green Heights International School — 2010 – 2023
Secondary Education: IGCSE Diploma — **Graduating Score: 99.4%**

Technical Skills

Programming:	Java, Python, C, C#, VHDL, Bash, Haskell, XHTML, SQL
Frameworks/Tools:	ASP.NET, MS SQL Server, JavaFX, Node.js, MongoDB, PSPICE, Git
Core Concepts:	OOP, Data Structures, Algorithms, Signal Processing, Digital Logic

Languages & Soft Skills

- **Languages:** Arabic (Native), English (C2), French (B2), German (A2)
- **Soft Skills:** Effective Communication, Team Coordination, Strategic Analysis, Flexibility

Software Projects

University HR Management System (ASP.NET & SQL)
- **Engineered** a relational database for a university system, optimizing queries for employee management.
- **Constructed** a responsive web portal using C# and ASP.NET to handle secure data entry and retrieval.

Travel Website (Node.js & MongoDB)
- **Architected** a client/server travel platform using Node.js for backend interactivity.
- **Integrated** a NoSQL MongoDB schema to store and manage registered user profiles.

Jackaroo Game (JavaFX)
- **Programmed** a 2D strategic board game with full state management and player turn logic.
- **Devised** path-finding algorithms for marble movement and a custom UI via JavaFX.

Audio Signal Processing (Python)
- **Executed** a noise cancellation program using Fourier Transform to enhance signal filtration.

Hardware Projects

Smart Car (VHDL & FPGA)
- **Designed** a system for collision, lane, and obstacle detection using multiple hardware sensors.
- **Synthesized** logic into VHDL code for real-time processing on an FPGA board.

Band-pass Sallen Key Filter
- **Assembled** an active filter circuit, achieving a gain optimized to near-maximum theoretical levels.
- **Validated** hardware performance through comprehensive software simulations in PSPICE.

Encryption-Decryption Circuit
- **Streamlined** a logic circuit with randomly generated keys using gate-level minimization techniques.
- **Produced** a functioning 3-bit BCD decoder for a seven-segment display output.

Interests

Cybersecurity (White-hat Hacking), Creative Fiction Writing (Novel development).