CARL SULTANEM

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EDUCATION

LEBANESE AMERICAN UNIVERSITY (LAU)   Beirut, Lebanon
BE in Computer Engineering   *Sep 2020 - Present*
- **Distinction list** in *Fall 2024*(semester GPA > 3.5)
- Member of the Logistic Automation Club – IEEE

GRAND LYCEE FRANCO-LIBANAIS DE BEIRUT (GLFL)   Beirut, Lebanon
French Baccalaureate (S) [Specialized in Computer Science]   *Sep 2005– Jun 2020*
- Graduated with **Honors**

WORK EXPERIENCE

VICTOIRE INSURANCE COMPANY   Beirut, Lebanon
Local insurance company
Internship in marketing, accounting, and actuarial science   *April 2018*
- Learned the basics of marketing and created an online advertisement to promote an insurance product.
- Assisted in the preparation of the annual balance sheet, getting familiar with accounting standards and technical terms.
- Conducted data analysis and learned how to price insurance premiums using actuarial science models.

MULTILANE INC.   Houmal, Lebanon
Multinational tech company
Internship in software testing   *May-July 2024*
- Analyzed signal integrity, jitter, and noise in big data centers using digital sampling oscilloscopes and eye diagram.
- Gained proficiency in unit testing for .NET applications and mock testing using FakeItEasy.
- Developed a .NET demo application using XAML.
- Worked on buck regulators using LTSpice and WEBENCH-Circuit-Designer.

CERTIFICATES & TRAINING

CREW AI CERTIFICATE   Completed a course on AI agents designed to collaborate like a team, interacting with each other. Each agent is equipped with unique capabilities and tools tailored to optimize task performance, supported by comprehensive background knowledge to fulfill specific objectives effectively. (certificate upon request)

PROJECTS

AUTOMATED PARKING CAR USING RASPBERRY PI AND PIC18 MICROCONTROLLER

Designed and implemented an automated parking system using the ROVER 5 robot platform, integrating UART communication between a Raspberry Pi and a PIC18 microcontroller. Developed the system using Python for the Raspberry Pi and C++ for the PIC18, utilizing MPLAB X IDE with the XC8 compiler for microcontroller programming. Implemented an object detection algorithm using a camera connected to the Raspberry Pi to identify parking spaces between two objects. Soldered and integrated an LCD display with the PIC18 to provide real-time feedback. Employed a PICkit3 programmer to program the PIC18 microcontroller.

ESCAPE ROOM ON AN FPGA

Developed an interactive escape room game using a DE2-115 FPGA programmed in Verilog. Integrated hardware components including an IR remote and sensor, switches, push buttons, an LCD, seven-segment displays, and a VGA interface for visual feedback on a monitor.

AUTOMATIC GUITAR TUNER ON A RASPBERRY PI

Conducted extensive research and developed a model for an automatic guitar tuner using a Raspberry Pi, USB microphone, and servo motor. The algorithm, written in Python, accurately calculated the required motor rotations to tune the guitar. Additionally, 3D-printed components were created using SolidWorks to complete the project.

LANGUAGES

English (Fluent)   **French** (Fluent)   **Arabic** (Native)

SKILLS & OTHER

Programming: Python, easy68k assembly language, Verilog, C++
Familiar platforms: MPLAB, LTspice, MATLAB, Simulink, Altera Quartus, Quartus II, Wireshark, Arduino IDE, Click Up, Notion,