Karim Kaouk

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EDUCATION

2019 - Present   **Lebanese American University – Honors Student**   **Byblos, Lebanon**
BE in Mechatronics Engineering, GPA 3.62

2004 - 2019   **Lebanon Evangelical School for Boys and Girls – High Distinction**   **Baabda, Lebanon**
Vice President of the Students Affairs Organization (SAO), 2016-2019

PROJECTS - *main components/software are in brackets*

1. Built a Sound-Sensitive LED system using Arduino, where according to the sound intensity detected by a sound Detector, a series of LEDs light up in the shape of a bar that fills up as intensity alternates. *{ Arduino Uno , Sparkfun Sound Detector , C/C++}*
2. Designed and coded a total of 23 webpages, websites and interactive pages. *{ HTML , JavaScript , Visual Studio Code }*
3. Designed and Simulated a Dollar to LBP Currency Convertor using logical components forming a final state machine structure, where the user chooses the desired exchange rate and inputs the currency value which is then converted to LBP. *{ Altera Quartus II }*
4. Designed a 555-timer chip timer circuit assembled on a soldering board, where an LED flashes depending on the inputs to the timer chips. *{ 555-Timer Chip , Soldering Board }*
5. Designed, simulated, and 3D Modelled a sensing device used in the detection of the Esterus Cycle in cattle, which utilizes the Estrotect Heat Detection bands color changing property to identify true esterus and reduce the effort put into the detection. In addition, a research was carried out in order to identify optimal day/night time for the usage of the sensor due to the short esterus cycles in cattle. *{ NI Labview , Blender }*
6. Modelled and assembled a full V6 Engine, and simulated the forces and stresses acting on the engine's pistons for this specific model. *{ Solidworks }*
7. Programmed, constructed, and tuned a color and shape-based sorting system using raspberry pi 3b and its V2 camera, which is fed objects on a controlled conveyor belt and are carried into specified boxes after sorting using motors and self-made mechanical parts. *{ Stepper Motor , Servo Motor , Raspberry Pi 3b , V2 Camera , 4 Motor Rover (conveyor belt) }*
8. Designed a prototype for a device used to observe the needed hydrostatic pressure to separate certain cells, chemicals, or substances from a defined gel layer; usually used in the medical field and targeted at simulating the blood flow through the gel (prototype is being built upon). *{ Solidworks }*

SOFTWARE PROFICIENCY

- Altera Quartus II
- LT Spice
- MATLAB
- Eclipse
- NI LabView
- Visual Studio Code
- Solidworks (Certified)
- AutoCAD
- Blender
- MS Excel
- MS PowerPoint
- MS Word

GENERAL EXPERIENCE

Jan 2022 - Present   **Lebanese American University**   **Byblos, Lebanon**
Research Assistant, LAU MEPI Tomorrow's Leaders (TLP) VIP+ Program
- Researching microchip arrays, their feasibility, manufacturing, and possible design approaches.
- Developing a micro-array chip that uses urine for the early detection of kidney damage, prior to the development of usual signs and symptoms of chronic kidney dysfunction.

Jan 2022 - Present   **Lebanese American University**   **Beirut, Lebanon**
Administration Officer, LAU Simulation Programs
- Prepared and organized the required material, hardware, and equipment.
- Secured sponsors (mainly in the form of meals) for the organizing members of the program.

Sep 2021 - Present   **Lebanese American University**   **Beirut, Lebanon**
Logistics and Event Manager, LAU Hult Prize
- Handling communication and coordination between the different teams and the campus director
- Setting up Hult events, and training/info sessions

Nov 2019 - Apr 2020   **Lebanese American University**   **Beirut, Lebanon**
Logistics and Operations Coordinator, GC LAU MUN
- Prepared and organized the required material, hardware, and equipment and other logistical tasks.

Sep 2019 - Apr 2020   **Lebanese American University**   **Beirut, Lebanon**
Assistant, Outreach and Civic Engagement
- Managed the printing, scanning, and storing of personal and corporate documents along with data sorting and storing.
- Performed basic repairs to malfunctioning electronic devices

Jul 2018 - Sep 2018   **Lebanon Evangelical School for Boys and Girls (LESBG)**   **Baabda, Lebanon**
Student Employment
- Handled the printing, sorting, binding, and storing of all prepared academic textbooks and workbooks for middle school and high school students.

MEMBERSHIPS & AWARDS

- MEPI TLS SCHOLAR *(with scholarship)*
- IEEE MEMBERSHIP
- LIFE SCHOLAR *(with scholarship)*
- DIPLOMACY AWARD – GC LAU MUN *(with scholarship)*

LANGUAGES

Fluent English (Spoken & Written), Fluent Arabic (Spoken & Written), Learning Latin, Beginner French