MARWAN JALALEDDINE

Electrical and Computer Engineer

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📍 Montreal, Canada in linkedin.com/in/marwanj

EXPERIENCE

Web & Game Development
Cherpa.io

📅 June – August 2018 (2 months) 📍 Beirut

- Developed using Phaser3 HTML5 game platform interactive games capable of interfacing with the Arduino microcontroller.
- Implemented a user friendly interface to facilitate coding for inexperienced programmers.

Electronics Instructor
TeensWhoCode

📅 June – August 2018 (2 months) 📍 Beirut

Instructed core electronics and coding concepts to young adults.

PROJECTS

Dynamic Power Estimation using Accelergy

- Adjusted the Eyeriss Machine Learning Architecture code written in SystemC to account for Accelergy Dynamic Energy Estimation Methodology
- Created a cost accounting structure in a performance simulator to export action counts from the MIT Eyeriss Architecture actions.

FRUBOT: A Vineyard Management Robot

Built a robotic platform capable of identifying diseases on grape vines. Data gathered by the ground robot is later interpreted using a convolutional neural network machine learning algorithm to detect diseases on the ground.

LQRI Control of a Quanser Aero Platform

Implemented LQRI control to achieve tracking for the Quanser Aero Platform using Simulink.

Digital Signals and Image Processing

- Developed an algorithm to automatically detect heart arrhythmia using spectral analysis.
- Localized the source of a specific sound by using random signal analysis and the auto covariance method.

Hardware Architectural Development

- Implemented a complete single cycled RISC-V processor in VHDL
- Implemented a 5-stage pipelined processor datapath in VHDL
- Implemented a Machine Learning accelerator in Verilog

EDUCATION

Masters in Electrical Engineering
McGill University

📅 2019 – Ongoing 📍 Montreal Quebec

Supervisor: Professor Warren Gross

Bachelor's in Electrical and Computer Engineering
American University of Beirut

📅 2015 - 2019 📍 Beirut, Lebanon

High Distinction Grade - 91.5/100

LANGUAGES

English & Arabic (Bilingual Proficiency)

French (Limited Working Proficiency)

ORGANIZATIONS

TEDxAUB
Logistics Team Leader

📅 2018 – 2019 📍 AUB

Managed the logistics for the TEDxAUB events

Robotics Club
Engineering Design Challenge 3.0 Secretariat

📅 2017 – 2018 📍 AUB

- Organized the largest robotics competition in the MENA region
- Contacted sponsors to help fund the event

AUB Secular Club
Syndic Committee Chair

📅 2018 – 2019 📍 AUB

Managed Elected Student Representatives and guided them with writing proposals.

TECHNICAL KNOWLEDGE

C++/C Python JavaScript VHDL
Verilog SystemC MATLAB Simulink
LabVIEW PCB Design MS Office
Technical Report Writing