MARWAN JALALEDDINE

Electrical and Computer Engineer

@ marwanjalaleddine@gmail.com   📞 +961 76900611   📍 Montreal, Canada   in linkedin.com/in/marwanj

EXPERIENCE

Teaching Assistant
McGill University

📅 January – April 2021   📍 Montreal, Canada

- Lead the lab and tutorial sessions for Computer Organization and Digital Systems courses at McGill University.

Web & Game Development
Cherpa.io

📅 June – August 2018   📍 Beirut, Lebanon

- Developed interactive educational tools capable of interfacing with the Arduino microcontroller using the Phaser3 HTML5 game platform.

Electronics Instructor
TeensWhoCode

📅 June – August 2018   📍 Beirut, Lebanon

- Taught core electronics and coding concepts to young adults.

PROJECTS

Partitioned Guessing Random Additive Noise Decoding

- Designed and implemented a bit-accurate model of Segmented GRAND which was able to improve on the performance of its GRAND counterparts.

Dynamic Power Estimation using Accelergy

- Created a cost accounting structure using Accelergy to account to the dynamic power dissipation in the MIT Eyeriss architecture.

Design of a Vineyard Management Robot

- Built a robotic platform capable of identifying diseases in grape vines. The robotic platform boasts a camera that captures images and tags them with the GPS location.
- Data gathered by the ground robot is later interpreted using a convolutional neural network machine learning algorithm to detect diseases on the ground.

Other Hardware Design Projects

- Implemented a bitonic sorter using SystemVerilog
- Implemented a complete single cycled RISC-V processor using VHDL.
- Implemented a 5-stage pipelined processor using VHDL.
- Implemented a Machine Learning accelerator using Verilog.

RELEVANT COURSES

| Analog Design | Digital Design | Critical Systems |

| Multiprocessor System-On-Chip | Machine Learning |

| Optimization & Optimal Control | Instrumentation |

| Biomedical Signal and Image Processing |

| Technical Report Writing |

EDUCATION

PhD in Electrical Engineering
McGill University

📅 2021 – Ongoing   📍 Montreal, Canada

Supervisor: Professor Warren Gross

Master's in Electrical Engineering
McGill University

📅 2019 – 2021   📍 Montreal, Canada

Supervisor: Professor Warren Gross - Grade A

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 & Cabinet Member

📅 2018 – 2019   📍 AUB, Beirut

- Insured smooth functioning of all TEDxAUB events by leading a team of volunteers

Students for Sustainable Energy for All (SSEA)
Technical Team

📅 2017 – 2018   📍 AUB, Beirut

- Designed the street lighting system for an underdeveloped village in the south of Lebanon, significantly reducing the accident rate for commuters in the village

Robotics Club
Engineering Design Challenge 3.0 Secretariat

📅 2017 – 2018   📍 AUB, Beirut

- Organized the largest robotics competition in the MENA region

SOFTWARE & LANGUAGES

| C++/C | Python | VHDL | Assembly |

| Verilog | SystemVerilog | SystemC |

| MATLAB | Simulink | Spice |