MATHEW AL-DABBAH

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(416) – 809 - 2925

SKILLS

ELECTRICAL/HARDWARE

- Authored various **Verilog** projects with testbenches. For example, Edge Detector, Sequence Detector, RAM, Alarm Clock.
- Robotic arm project using **VHDL**.
- PCB Design using **KiCAD.**
- Designed schematics, constructed PCBs, and wrote STM32 code for a Home Security System.
- Significant knowledge regarding networking protocols, terminology, and concepts.
- Great interest in electronic and digital circuit design.

SOFTWARE

- Authored a program that computed the Minimum Spanning Tree (MST) of a Graph, using Prim's Algorithm. (C++)
- Implemented autocomplete feature using Tries. (C++)
- Created a simplified version of Minesweeper. (C++)
- Experienced in implementing projects involving Microcontrollers, such as automatic window blinds shutter.
- Object-oriented programming.

LANGUAGES

- C, C++, Verilog, SystemVerilog, Python, VHDL, Bash, HTML/CSS

TECHNOLOGIES

- Linux/Unix, Vim, KiCAD, Proteus, LTSpice, MATLAB, Visual Studio, Git, Synopsys Tools

EDUCATION

UNIVERSITY OF WATERLOO

BASc in Electrical Engineering
September 2019 - April 2024

- Dean's Honours List in (2020, 2021, 2022)
- Cumulative GPA: 88.14%

SUMMARY OF QUALIFICATIONS

- An energetic, punctual, and reliable worker who is results-oriented in a professional environment.
- Achieved the 5th highest GPA across all six first-year electrical engineering courses.
- Strong critical thinking and problem-solving skills applied through various high-paced engineering co-op positions.
- Developed an Entrepreneurial Mindset through running various online stores through Shopify as well as investing in stocks and crypto.
- Highly experienced in implementing C/C++ and Python code through a variety of school and personal side projects.
- Gained excellent hardware development experience through a digital design position and a significant amount of personal side projects.

EXPERIENCE

Watonomous | Powers Systems Member | Waterloo, ON

May 2022 - Present

- Working on schematic layout for RADAR and GPS unit PCBs.
- Responsible for mechanical mounting, installation, testing, manufacturing, and design of **PCBs**.
- Researching the feasibility of designing a GPU on an **FPGA** to avoid purchasing from a manufacturer.
- Developing FPGAs to run machine learning architectures and more.

NXP Semiconductors | Digital Logic Design | Ottawa, ON

January 2022 - May 2022

- Assisted in design of breakthrough Ethernet/networking IP to be integrated into next-generation **SoCs** for automotive, industrial and edge computing markets.
- Consistently utilized **Verilog** and **SystemVerilog** to aid in digital design of networking ICs.
- Helped with micro-architecture, logic synthesis and timing closure.
- Worked closely with IP design verification engineers on planning and execution, to ensure the IP was delivered on time and with highest quality.
- Gained strong knowledge on L2 and L3 networking protocols (e.g. IP, ETH, UDP).
- Created a subroutine to streamline the TCAM for varying "table types".
- Implemented "multiple command per cycle" support for the TCAM to increase its efficiency.

Ausenco | Electrical Engineering Intern | Burlington, ON

May 2021 - August 2021

- Worked in a consulting firm specializing in mining-related engineering projects.
- Used knowledge in three phase power systems to aid in the electrical design of several construction projects.
- Prepared several engineering deliverables related to the design process of electrical loads, equipment, and cables.
- Utilized sizing software to assess various generators to choose the optimal design for a specific project.
- Researched electrical equipment required for certain projects and reached out to multiple vendors for quotes.
- Experienced the practical and professional aspects of working in a high-paced engineering environment.

Trillium Health Partners | Project Analyst | Mississauga, ON

January 2020 - April 2020

- Used critical-thinking and logical skills to develop complex formulas, functions, and macros for Microsoft Excel.
- Used **VBA** and **Python** to write code that automated the formatting/populating process of several Microsoft Word and Excel files.