

MICHAEL WONG

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Education

Candidate for B.E.Sc., Computer Engineering, Dean's Honor List

Sept 2019 - April 2023

Western University

London, Ontario

Engineering Projects

COVID Safety Smart Room Controller | *C, ARMv7*

Feb 2021 - April 2021

- Developed a solution to track and maintain the number of occupants in a room to adhere to COVID safety guidelines
- Using the ARMv7, the final design was implemented with interrupts, timers, counters, and 7-segment displays

Error Correcting Transmitter and Receiver | *Quartus Prime, VHDL*

March 2021

- Implemented a PISO shift register to transmit a 20-bit encoded message to a SIPO shift register
- Applied the Hamming code algorithm to detect error with parity bits
- Transmitter and receiver was implemented with VHDL

Multi-FA Security Lock | *Arduino, Soldering, Breadboard Prototyping, EAGLE PCB*

March 2021 - April 2021

- Designed a prototype utilizing actuators and sensors to improve the standard design of a digital safe
- Implemented the design on Tinkercad, then soldered and constructed all components on a breadboard
- Designed an Arduino shield layout using EAGLE PCB schematic and board

Network Attached Storage | *FreeNas, Linux, PC Building*

June 2020

- Configured and built a PC with power-efficient parts designed to be active 24/7
- Installed a Linux based server utilizing FreeNas as well as setup multiple drives in a RAID 1 array
- Created multiple private user accounts including private and hidden directories

Project Retina | *Java, Arduino, Onshape*

Jan 2020 - April 2020

- Developed a system to improve quality of life for clients with severe intellectual disabilities
- Designed and created a GUI, in Java, to receive input from an eye tracker to wirelessly communicate with external hardware subsystems
- Led a team of students and ensured that the project followed the timeline and stayed within budget

Extracurricular Experience

External and Esports Executive

Oct 2021 - Present

Western Electronic Gaming Association

London, Ontario

- Communicated new collaboration opportunities with the Vice-President
- Moderated the discord server, integrated new members, and help promote WEGA during events

Grounded Low Voltage Team member

Sept 2021 - Present

Western Formula Racing

London, Ontario

- Learning the implementation of a CAN bus for the wiring harness

Data Challenge Team member

Feb 2021 - March 2021

Lighthouse Labs 21-Day Data Challenge

London, Ontario

- Analyzed datasets by sorting, filtering, grouping pertinent information using the Python Pandas library
- Utilized the Python Matplotlib library to display relevant data through tables, charts, and graphs
- Explored the forums to find creative, more efficient algorithms and solutions

Team Captain, Strategist, and Analyst

Dec 2020 - Feb 2021

UWO Valorant JV Esports Team

London, Ontario

- Conducted post-game analyses to uncover winning critical plays; designed new tactics that tailor to the team's strengths after post-game review
- Determined winning strategies and default positions for the team during high pressure plays; recognized, adapted, and exploited opponents' weaknesses in their playstyle to win games
- Competed through Collegiate Starleague, brought the team's first win, and have been undefeated until the end of the season

Technical Skills and Interests

Languages: Java, C, VHDL, ARMv7, Arduino, Python, MATLAB and Simulink

Developer Tools: VS Code, IntelliJ, Quartus Prime, EAGLE PCB, MicroCap, Onshape

Hardware Prototyping: Oscilloscope, Multimeter, Soldering, Breadboard Circuits

Interests: Esports, Producing Music, Self-Teaching Musical Instruments, Snowboarding