Michael Elliot Wong

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Education

Bachelor of Engineering Science, Computer Engineering **Sept 2019 - April 2024**
Western University, Dean's Honour List (1st Year) *London, Ontario*

Technical Skills

Languages: C/C++, Python, Java, VHDL, ARMv7, Arduino, MATLAB and Simulink
Developer Tools: Windbg, JTAG Hardware Debug Tool, VS Code, IntelliJ, Quartus Prime, EAGLE PCB, MicroCap
Hardware Prototyping: Simulation Waveform Analysis, Oscilloscope, Multimeter, Soldering, Breadboard Circuits

Capstone Project

Western Autonomous Racing: AI-Driven, Vision-Based Self-Driving Car **Sept 2023 - April 2024**
Machine Learning, Python, C++, Linux Ubuntu, ROS

- Responsible for implementing path prediction which defines car's speed and trajectory when navigating a course
- Developing ML Reinforcement Learning in finding the optimal path in a given race track
- Utilizing ROS nodes to perform real time computations and corrections in optimal path finding
- Applied Agile Methodology for project timeline tracking and member responsibilities

Employment Experience

Radeon Technology Group Software Quality Assurance **May 2022 - August 2023**
Advanced Micro Devices, Inc. *Markham, Ontario*

- Developed, defined, and executed automated and manual test plans which covered functionality, performance, reliability, and usability for Navi3x programs
- Utilized JTAG, Windows Debugger (WinDbg), and registry-level tools to assist in performing first-level debugging and triaging
- Automated System setup processes using power shell and batch files which reduces system setup time by 50%
- Learnt PPLib functional features to streamline and improve first level debugging and triaging efforts
- Mentored new co-ops and provided feedback to streamline the new-hire onboarding process
- Received Multiple Spotlight and Co-Op Recognition awards

Engineering Projects

Water Absorption Data Parser | *Python* **March 2023**

- Created a program to parse water absorption data to be compared to government drinking water quality guidelines
- Analyzed datasets by sorting, filtering, and grouping pertinent information using the Python Pandas Library
- Utilized the Python Matplotlib library to display relevant data through tables, charts, and graphs
- Consulted and proposed numerous solutions for desired data formatting with the client

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
- Implemented interrupts, timers, counters, and 7-segment displays into final design using ARMv7

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
- Implemented transmitter and receiver using 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

Project Retina | *Java, Arduino* **Jan 2020 - April 2020**

- Developed a system to improve quality of life for clients with severe intellectual disabilities
- Designed and created a GUI interface in Java
- Generated a wireless communication system to receive input from an eye tracker and to deliver signals to external hardware subsystems
- Managed a team of students to ensure deadlines were met and the project stayed within budget

Interests

Esports, Bouldering, Self-Teaching Musical Instruments, Producing Music