Marisa Patel

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Education

McMaster University Hamilton, Ontario

Bachelor of Electrical Engineering *Sept. 2021 – May 2026 (Expected)*

- **Relevant Coursework**: Electronic Devices and Circuits, Microprocessor Systems, Logic Design, Electromagnetics, Signals and Systems, Principles of Programming, Energy Conversion, Communication Systems, Control Systems

Experience

Tutor and Data Entry Operator Oct. 2018 – Sept. 2021

Kumon *Hamilton, Ontario*

- Employed tailored instructional strategies to provide comprehensive academic support spanning from preschool to Grade 12, fostering proficiency in mathematics and reading comprehension through innovative teaching methodologies
- Conducted assessments and documented performance metrics to inform personalized learning plans
- Utilized proficiency in **Microsoft Excel** to meticulously manage and analyze student performance data, facilitating informed decision-making processes and enhancing program effectiveness

Projects

Spatial 360 Mapping | *C/C++, I2C/UART, MATLAB* Jan. 2023 – Apr. 2023

- Developed a data acquisition device that used distance measurements for indoor mapping
- Employed **C/C++** programming to integrate a **Microcontroller** with a **Time-of-Flight (TOF) Sensor** via **I2C/UART** communication
- Used **MATLAB** to create visual representations of data

Kitchen Cutting Device | *Autodesk Inventor, 3D Printing, Woodworking* Mar. 2022 – Apr. 2022

- Designed a kitchen cutting device using **Autodesk Inventor** for a case study to aid a client diagnosed with Ehlers-Danlos syndrome
- Used **3D Printing** and **Woodworking** to build and assemble the device

Recycling Sorting System | *Python, Autodesk Inventor, 3D Printing* Jan. 2022 – Mar. 2022

- Created a system that used **Python** and a physical device that categorized waste and recyclables from a hopper into designated bins
- Used **Autodesk Inventor** to design a mechanism that facilitates the movement of the hopper to dispose of recyclables
- **3D Printed** and assembled the mechanism

Remote Sensing Sterilization System | *Python, Autodesk Inventor, Quanser Interactive Labs* Nov. 2021 – Dec. 2021

- Developed a **Python** code to be used in a **Quanser Interactive Labs** simulated environment interfaced with a robotic arm that picks up, transfers, and drops off various containers holding surgical tools
- Used a **Raspberry Pi** to demonstrate the code and move the containers in the simulated environment

Leadership

McMaster Google Developer Student Club Sept. 2023 – Apr. 2024

Incubator Team Member

- Collaborated with diverse teams to advance projects for the Google Solutions Challenge 2024
- Orchestrated technical workshops and events, fostering an environment conducive to skill development and collaboration
- Facilitated experiential learning through hands-on activities and practical applications

McMaster IEEE Sept. 2023 – Apr. 2024

Computer Chapter Member

- Participated in programming projects utilizing Arduinos, sensors, keypads, LCDs, and other hardware components
- Engaged in workshops to construct systems and devices, leveraging theoretical knowledge to create tangible solutions

Technical Skills

Languages: Python, C/C++, JavaScript, HTML, CSS, MATLAB/Simulink, R, Verilog, Assembly
Developer Tools: GitHub, Visual Studio Code, Eclipse, Keil uVision, Quartus II
CAD: Autodesk Inventor, AutoCAD, PSpice, LTSpice
Equipment: Soldering, Oscilloscopes, Breadboarding, Analog Discovery 2