

Umar Javaid

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EDUCATION

Mcmaster University

Bachelor of Computer Engineering (CO-OP)

Hamilton, ON

Sep 2022 - Mar 2027

- Awarded with an Entrance Scholarship of \$3000 (Engineering Award of Excellence).

WORK EXPERIENCE

Osmows | Crew Member

May 2023 - Sep 2023

- Provided exceptional customer service and managed high-volume tasks in a fast-paced environment.

PROJECTS

Autonomous Spatial Mapping and Data Acquisition | Academic Project

Jan 2023 - April 2024

- Developed a LIDAR-based **3D scanning system** using a Time-of-Flight sensor, stepper motor, and ARM Cortex-M4F microcontroller for precise indoor mapping.
- Implemented data acquisition and visualization using **I2C** and **UART** communication protocols, enabling real-time distance measurements and 3D graphical reconstruction with **Python**.

Nand to Tetris | Personal Project

Nov 2023 - April 2024

- Built a computer system from basic **logic gates** to a functional **operating system**.
- Implemented the fundamentals of Boolean logic, arithmetic operations, memory design, **machine language**, **assembly language**, and **high-level language**.
- Developed a **virtual machine**, **compiler**, and simple **operating system** as integral components of the project.

Snake Game - C++ | Academic Project

Nov 2023 - Dec 2023

- Integrated **random generation** of snake food, strategically placing food at non-repeating random locations on the **game board**.
- Implemented responsive **snake movement** with **four-directional control** through **keyboard input**, enabling **free navigation** and **boundary wrapping** for an immersive gaming experience.

McMaster Engineering Showcase | Academic Project

Feb 2023 - April 2023

- Developed a capacitive **infrared television remote** tailored to meet the needs of a client with **Multiple Sclerosis**.
- Using **C++** we programmed the **Arduino** to change the reading on the **digital pin** when a touch is detected.
- Used **CAD** to design the **remote shell** and used an **Ender pro 3** to prototype and 3D print it. Established a stable **power supply** to all components, using a 12 V.

DeltaHacks IX McMaster University | Hackathon

Jan 2023 - Jan 2023

- Developed a comprehensive online platform catering to the needs of new Middle Eastern immigrants, offering features such as **up-to-date news**, **weather updates**, information on **places of worship**, and more.
- Implemented with **Html/CSS**, **JavaScript** and **Figma**.

SKILLS

Programming Languages: Java, Csharp, Python, C/C++, Verilog, VHDL, CSS/Html, JavaScript, and Assembly.

Technical Skills: PowerPoint, Excel, Word, Multisim, Soldering, Arduino circuits, Analog circuits, Autodesk Inventor, Solidworks, 3-D printers.

RELEVANT COURSES

- Logic Design
- Principles of Programming
- Data Structures, Algorithms
- Circuits and Waves
- Microprocessor Systems
- Electronic Circuits and Devices