

Mahir Khandaker

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HIGHLIGHTS OF QUALIFICATIONS

- Strong **analytical, time-management, and problem-solving abilities** displayed through several projects and by working as a full stack developer and manager.
- Excellent **interpersonal and communication skills** established through courses and work experience.

Software:

- Experienced in programming in **Python, C, C++, C#, Java, HTML, CSS, JavaScript, MATLAB, ARM Assembly, and Verilog**.
- Well experienced with **object-oriented and firmware programming**, as well as **developing**
- Proficient in using **Autodesk Inventor and Solidworks**, as well as **PC troubleshooting**.

Electrical:

- Well experienced with **microcontroller systems, analog/digital circuit analysis, function generator, oscilloscopes, power spectrum analyzer, volt/am/ohmmeter, and other lab equipment** through projects and lab sessions.
- Experienced in **developing schematics and layouts for simulating circuits using PSpice and PartSim**.
- Trained in **breadboard wiring, and in-board and surface mount soldering**.

EDUCATION

Bachelor of Engineering & Biomedical & Health Sciences (Co-op)
McMaster University, Hamilton, ON

Expected Graduation April 2022

- Currently Enrolled in Level 4 of a 5-year engineering program (**Biomedical & Electrical Engineering stream**)

Relevant University Coursework

- Data Structures & Algorithms
- Logic Design
- Microprocessor Systems Project Course
- Electronic Devices & Circuits 1
- Circuits and System

Online Coursework

- JavaScript Masterclass
- SQL Boot-camp

Certificates

- Web Developer Boot-camp

WORK EXPERIENCE

Freelance Developer and Front-Line Worker

June 2019 - Present

Fit For Life, Hamilton

- Designed a full-stack web application to showcase the restaurant's menu using **HTML, CSS, and JavaScript**
- Used the **NodeJS** environment and the **Express.js** framework to build the back-end of the application
- Established **strong teamwork and collaborative skills** while working with a team of line workers and cooks
- Gained **organizational skills** from coordinating just-in-time delivery with suppliers to keep inventory replenished

PROJECTS

COVID-19 Telemedicine Group Initiative

May 2020 -July 2020

- Collaborating in a group of 4 to create a website to assist users in determining their likelihood of having COVID-19 based on their age, gender, location, symptoms, and travel information by implementing a deep-learning neural network using **Python** (Keras and Pandas).
- Developing the **front-end** and **back-end** aspects of the website using HTML APIs , CSS, JavaScript, and PHP to allow users to complete the questionnaire and provide **real-time data** on daily cases from Ontario, individualized to each public health unit.

Chrome Extension - Netflix Rating App

July 2020

- Utilizing **DOM manipulation**, the chrome extension allows the user to view the ratings of any Netflix show/movie once they hover over it
- Used the **omdb API** and multiple **JavaScript libraries** such as **jQuery** and **p5.js**

Embedded Spatial Measurement System Individual Project

January 2020 - April 2020

- Soldered a time-of-flight sensor to a unipolar motor and obtained 360 degrees of spatial data within a single geometric plane using a MSP432E401Y micro-controller
- Performed analog-to-digital-conversion for the spatial information from the sensor to be stored onto the microcontroller's onboard memory using firmware programming in **C**

Android App/IoT Device - Rehabilitation Progress Tracking App and Device January 2020 - April 2020

- Designed an Android app to obtain Bluetooth data using multiple sensors to analyze a patient's progress over time
- Recorded patient's range of motion and force exertion on various exercises using a gyroscope, force sensor and an ESP32 microcontroller

Deltahacks Competition

January 2020

McMaster University, Hamilton, ON

- Collaborated with 3 other students to design a convolutional neural network using Python (Keras and Pandas) that can perform image detection on fingernails and classify them based on their appearance.
- Developed an app on Java using object-oriented programming to take pictures of the user's fingernails and inform them of any potential health deficiencies based on the predictions from the machine learning model.
- Gained valuable teamwork skills and successfully completed the project within a day by achieving an overall accuracy of 90% for image detection and classification.

SKILLS

Programming

- C, Python, Java, JavaScript, jQuery, Node.js, Express.js, C#, HTML, CSS, SQL, MongoDB, MATLAB, Verilog

Software

- Android Studio, Arduino, Autodesk Inventor, Microsoft Office Suite, Quartus, AutoCAD