MAHIR KHANDAKER

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HIGHLIGHTS OF QUALIFICATIONS

- 4th year student in **Electrical and Biomedical Engineering**
- 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 full stack applications**

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) **Expected Graduation April 2022**
McMaster University, Hamilton, ON

- 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

Full-Stack Web Developer & Manager **June 2019 - Present**

Fit For Life, Hamilton, ON

- Designed a full-stack web application to showcase the restaurant's menu using **HTML**, **CSS**, and **JavaScript**
- Implemented a merchant portal for the owner to create/update/delete their menu item's name, price and image
- Used the **NodeJS** environment and the **Express.js** framework to build the back-end of the application
- Established **strong teamwork** and c**ollaborative 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

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PROJECTS

COVID-19 Telemedicine Group Initiative **May 2020 - Present**

- 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, CSS, JavaScript, PHP, APIs 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