Arji Ahamed Thaiyib

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EDUCATION

McMaster University Sept 2020 – May 2024

Bachelor of Computer Engineering (Co-op)

- **GPA: 3.8/4.0**
- McMaster Honour Award (2020) & Dean's Honour Role (2020-2022)

PROJECTS

Stylised Personal Site | *HTML, CSS* December 2022

Live Website | Code

- Designed a **responsive**, professional personal site with an elegant **user interface**, including a contact me feature using **HTML** and **CSS**. The website utilizes **CSS Grid** to ensure functionality and ease of access across different platforms and screen sizes.
- Utilized CSS grid in addition to its various properties, including grid template, columns, and rows to incorporate a modern horizontal media scroller with scroll snapping functionality. Achieved a **97%** performance rating using **Google Lighthouse**.

Spacial Mapping System | *Python, C, Keil, MSP 430 Microcontroller* March - April 2022

Project Demo

- Created a spacial mapping system using a time-of-flight sensor and stepper motor to acquire information about the device's surrounding environment and allow for communication between the ToF sensor and MCU via **I2C serial communication protocol**.
- Data collection algorithm was programmed using **Keil** software in **C** to perform sampling of distance coordinates, resulting in a **90%** image reconstruction accuracy rate of the environment.
- Measurement data is collected using **UART** communication and then processed using a method in **Python**, which makes use of the **Open 3D** library to visualize the measurements as coordinates in a 3D interactive environment.

Pacemaker | *Python, PyQt5, MATLAB Simulink* November - December 2022

Code

- As a team of 5, developed a safety-critical, real-time, adaptive pacemaker system which can take user inputs and pace the heart accordingly in varying conditions.
- Programmed a GUI using **PyQt5**, which allows for user inputs and viewing the devices' current status through **UART** communication using **Python**.
- Implemented eight rate-adaptive pacing modes for varying levels of activity by developing the necessary requirements table and Stateflow diagrams using **MATLAB Simulink**.

System for Sorting & Recycling Containers | *Python, Raspberry Pi, Quanser Labs* January - March 2021

Project Demo

- Programmed a system that can efficiently sort recyclables and transfer them to their corresponding bins.
- Created an algorithm using **Python** to classify containers using data from a virtual environment (**Quanser Interactive Labs)** and transfer them to bins depending on their level of contamination in under 30 seconds.
- Led a team of four by organizing team meetings, creating **Gantt charts**, and delivering weekly progress reports as the **project manager**.

EXPERIENCE & LEADERSHIP

Google Developer Student Club Hamilton, ON

Workshop and Team Member *Sept 2022 - Present*

- Led team recruitment and event coordination alongside other Google Developer Student Clubs in North America.
- Assisted in running Coding and Web Development seminars for **Java**, **HTML** and **CSS** to **20+** beginner students interested in learning Programming and Front-End Web Development.
- Co-hosted workshops involved in teaching the basics of **Git** and **Github** to **100+** students.

TECHNICAL SKILLS

Programming Languages: Java, Python, C, C++, MATLAB, HTML/CSS

Technologies & Tools: Git, Github, Visual Studio, Markdown, LTSpice, Waveforms, Simulink, Autodesk Inventor, Raspberry Pi, Analog Discovery 2, Keil uVersion 5, Quartus II, MSP 430 Microcontroller, Quanser

Other: Agile Work Methodology, Scrum Framework