Ali Aboelela

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Education

University of Toronto **Sep. 2019 – May 2023**
Bachelor of Applied Science in Computer Engineering *Toronto, ON*

Relevant Coursework

- Computer Architecture **(ARM, C)**
- Computer Networks **(C)**
- Software Communication & Design **(C++, GitHub)**
- Applied Fundamentals Machine Learning **(Pytorch)**
- Intro to Machine Learning **(Tensorflow)**

Experience

Peapod **September 2021 – Present**
Software Developer *Toronto, ON*

- Peapod is a cloud-connected isolated and automated plant growth environment; it optimizes the growth environment using control parameters such as humidity, temperature, light, etc. Won phase 1 of of the NASA/CSA Deep Space Food challenge.
- Wrote JavaScript code in node.js to collect control data and send instructions to the Micro controller (Arduino Nano).

Reshift Media **June 2021 – August 2021**
Software Developer Intern *Toronto, ON*

- Assisted the software team to resolve client facing issues and test new features for functionality. Worked primarily with Firebase to manage user inputted data across multiple platforms including web and mobile apps.
- Wrote documentation to integrate HubSpot's CRM with existing middleware to improve customer relations. This was done using HubSpot's API, node.js and firebase serverless functions.
- Collaborated with team members using Git and Gitlab to organize modifications and assign tasks.

Projects and Activities

Portfolio Website | *HTML, CSS, React* **December 2021**

- A personal portfolio website to show off projects I've worked on as well as discuss career and personal interests.
- Website is designed to be responsive using media queries and responsive unit sizes. UX is also prioritised with a Day/Night mode and a soft color palettes. Currently implementing a photo gallery with filters using React components.

Text Conferencing App | *C* **October 2021**

- Wrote a text conferencing app in C using TCP sockets. Users connect to a server by passing its IP address & the port number. Once connected users can send messages and transfer files. File transfer was implemented using UDP sockets.

Geographic Information System | *C++, Github* **December 2020**

- Built a geographic information system using C++ in a team of 3. Geographic information was collected using the OpenStreetsMap API. Graphics were rendered using the GTK library. The GIS also provided pathfinding capabilities using Djkstra's Algorithm.
- The GIS was tested on many cities such as Tehran, Cairo, New Delhi, Tokyo, NYC, and more to measure usability and responsiveness using metrics researched and used by Google Maps.

De-1-soc Board | *ARM, C* **November 2020**

- Built a simple processor on the De-1-soc board. The code was written in Verilog and controlled flow using a FSM machine. The processor was debugged and tested using modelsim.
- Built the game Mastermind with a partner which ran on the board. Users input was taken through the board's keys and the game was displayed on the board's VGA display. C code was used in order to access the board's memory directly to read/write to the I/O.

UofT ECE Ambassador **October 2020 - May 2021**

- Represented the computer engineering community to prospective students, parents, and alumni.
- Provided assistance with lower year students with their coursework (Primarily C)
- Planned and coordinated social events to assist prospective engineering students with their transition to university life.
- Facilitated social and networking events between alumni and fourth year students.

Skills Summary

Languages: C, C++, HTML/CSS, JavaScript, Python
Technologies: Sass, React, Node.js, Express, Firebase, Numpy, Pytorch, Tensorflow
Soft skills: Report & Documentation writing, Engineering Design, Critical Thinking