Samer Rustum

| (226) 978-9298 | Waterloo, ON | www.rustum.me | https://www.linkedin.com/in/samerrustum/ | samer.rustum@uwaterloo.ca |

Skills

Programming Technologies	Ruby (Rails), PostgreSQL, React.js, Redux, HTML/CSS/JS, Python, Java (Processing), Firebase, Git, PICBASIC PRO, C++
Software	AutoDesk Fusion 360, Figma, Traxmaker 3 Pro
Hardware	PCB Designing, PCB Etching, Machining, Soldering, Woodworking

Projects

8-Bit Computer (In progress)

- Assembling an 8-Bit computer entirely on breadboards with simple logic gates.
- Includes a clock, output register, several registers, memory, an Arithmetic Logic Unit (ALU), memory, and a program counter.
- Programmable to do simple arithmetic and instructions.
- Utilizes common ICs including the **555 timer IC, 74LS161 binary counter IC, 74189 64 ram IC, 74LS283 4-bit adder IC, and 28C16 EEPROM chip**.
- Currently finished developing the clock, registers, and ALU.

Firefighter Robot

- Designed and developed a firefighter robot using **BASIC**, **sensors**, **PIC microcontrollers**, **custom PCBs**, and **CAD software**.
- Programmed a smart algorithm in **GreatCowBasic** that can navigate any maze and extinguish a flame within it.

Botanical Workspace

- A productivity web app that motives the user into finishing their to-do list items by overwatering their plants as a punishment for not completing their tasks.
- Programmed and set up an **Arduino** using **C++, solenoid valves, and breadboarding** to take input from a server and deliver water to a plant whenever a task is not completed, this resulted in the Best Hardware Hack award at Backyard Hacks MLH.
- Created an automatic plant waterer using a **DHT11 Temperature and Humidity sensor** to regularly read the soil's moisture and temperature levels and automatically send data to the computer through serial and determine whether the plant needs water.

Covid Control

- A service consisting of a wireless camera system and web application aimed to help business owners by detecting whether customers are wearing a mask alongside displaying useful information related to COVID.
- Developed the front-end using **React.js** and **Bootstrap** to display a friendly dashboard for business owners to keep track of customers and the latest COVID numbers and news.
- Integrated **News API** and a **covid-data API** using **Axios** to regularly fetch news and covid numbers from news sources and government websites in **JSON** format to display on the dashboard.
- Presented at STEM Comp 2020 and won first place.

Experience

Full Stack Developer | Kinme Technologies 01/2022 – 04/2022

- Worked as a full stack developer with a **React/Rails/Postgres** stack, maintaining the tech stack while simultaneously fixing bugs and past issues.
- Added several new features to remove hardcoding and make the application scalable.
- Designed, tested, and implemented functionality to expand the app outside of Ontario, Canada, including writing a **custom API** that grabs the latest provincial tax rates.
- Created **scheduled jobs** to regulate and check users' validity on the platform and remind users of expiring documents through email, automating a portion of the moderator's administrative tasks.
- Regularly participated in **code reviews** to ensure code quality and receive mentoring from senior developers.

Contact Robert Kin | rkin@superiorhomeinspectors.ca

Logistics Lead | Hack the Earth 11/2019 – 07/2021

- Worked as the head of logistics to organize Canada's largest environmental hackathon.
- Secured partnerships and support from numerous organizations and individuals such as **Ocean Wise**, the **Kitchener-Waterloo Optimist Club**, **the Honourable Jonathan Wilkinson**, and **the Honourable Bardish Chagger** to deliver an excellent experience for 200+ participants.
- Acted as the main contact point for sponsors and partners.

Contact Matthews Ma | matthewsma21@gmail.com

Manufacturing Team Lead | Sir John A Macdonald Secondary School's Electric Vehicle Club 09/2020 – 06/2021

- Built an electric car leading a team of 10+ using advanced machinery such as CNCs, lathes, and mills, resulting in two second-place finishes.
- Spearheaded development on a new chassis, incorporating more computer aid designs and CNC fabricated parts to increase accuracy.
- Acted as the intermediary between the teacher body and the manufacturing team by dividing up tasks and relaying important information to ensure good communication and timely completion of the project.

Contact Dean Henderson | dean_heanderson@wrdsb.ca

Education

Candidate for Bachelor of Applied Science in Computer Engineering | University of Waterloo 2021-Present

- Recipient of the Kothari Family Entrance Scholarship awarded to two outstanding students.
- Relevant Courses | Digital Circuits, Linear Circuits, Intro to Programming in C++

Awards

3rd Place | Masseyhacks VI – Vincent Massey S.S	2020
1st place | STEM Comp 2020 – Waterloo Region	2020
Best Hardware Hack | Backyard Hacks – Major League Hacking	2020
Best UI Path Hack | Hack the 6ix – University of Toronto	2020
Finalist | Hack the North 2021 – University of Waterloo	2021