DIVYA THAKKAR
3rd Year McMaster Computer Engineering (Co-op)

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TECHNICAL SKILLS

Python, Java, C/C++, HTML, CSS, Javascript, Git, System Verilog, Matlab, PSpice

EDUCATION

Bachelor of Engineering, Co-op, Computer Engineering, McMaster University, Hamilton, ON   **2018 – 2022**
- **Relevant Coursework:** Object Oriented Programming, Data Structures, Algorithm Time & Space Complexity Analysis, Software Documentation, Statistics & Data Analysis, Digital Systems Design
- **Awards:** Won **1st place** at the 2020 McMaster Engineering Competition, qualified for the Ontario level competition

PROJECTS

Covid-19 Data Website
- Designed a website using **HTML** & **CSS** that presented countries' sorted data on infection, mortality and recovery
- Used **Python** and **Flask** to process input statistics and identify concentrations, trends and warnings
- Leveraged a **GeoJSON API** to visually display a Heat-Map of the concentration of cases

Pacemaker Prototype Software Design
- Developed a model-based **MATLAB Simulink** program to help control abnormal rhythms on an artificial heart
- Implemented a **GUI** on **Python** using **Tkinter** to communicate with the pacemaker
- Added **hardware hiding** and safety critical detection to prevent possible malicious heart damage from the **GUI**

Hardware Implementation of an Image Decompressor
- Implemented a custom image decompression specification in hardware which resembled the .jpeg compression
- Used **System Verilog** in **Quartus** to perform lossless decoding, dequantization, inverse signal transformation, and colourspace conversion with strict restrictions on the hardware logic resources available

Student Database with Hash Tables
- Leveraged **pointers, hash tables**, and efficient **search algorithms** in **C** to manage a class's grades
- Implemented efficient **dynamic memory allocation and deallocation** as students enroll/unenroll in courses

PROFESSIONAL EXPERIENCE

Basketball League Youth Facilitator, The Town of Oakville   **Jun 2017 – Sep 2019**
- Tracked player statistics in Excel to balance teams and maintained the league website with weekly updates
- Led three seasons of a non-profit basketball league for 60+ disadvantaged youth
- Positive feedback resulted in a visit from Oakville's mayor, the opportunity for participants to meet Toronto Raptors' athletes courtside, funding from Food for Life and funding from Canadian Tire's Jumpsmart

2018 Provincial Election Information Assistant, Elections Ontario   **Jun 2018**
- Completed logic and accuracy testing for the tabulator machine which read and tallied 750+ votes

Tutor/Data Entry Clerk, Kumon   **Oct 2016 – Dec 2017**
- Performed data entry of information for over 50 students using Kumon's grade database