Saif **Fadhel**

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Skills

Programming Languages

Java, C, Python, HTML/CSS, Bootstrap, JavaScript, Assembly (NASM), SQL, Kotlin

Technologies and Concepts

LaTeX, MATLAB, Bash, GDB, Algorithms, Databases, Valgrind, Doxygen, GIT, Android Studio

Education

McMaster University

Bachelor of Engineering (B.Eng.) in Software Engineering (Co-op) *Expected Graduation: 2022*

Experience

Python, Java, HTML and CSS Instructor

50 Lockridge Ave, Markham, ON L3R 7R6

Sunny Mandarin School *May 2018 - August 2018*

- Successfully managed and taught 3 groups of students Python, Java, HTML and CSS through interactive lectures.
- Constructed a creative course curriculum to help beginners learn to code and allow more experienced students to enjoy programming freely.
- Lead 28 students who were able to create their own programs in Python, Java, and build a basic website successfully after my lessons.

Projects

Fibonacci Fractal Generator

Written in C

- Created a program that generates Fibonacci fractals from n values of 30 to 100 within a 2 to 20 minute time interval.
- Stored and represented fractals as bitmap images in order to preserve high resolution image quality.
- Utilized a user's specified image width, height, and fibonacci fractal start and end points to accurately depict the fractals

PPM Image Filter Convolution

Written in C

- Developed a program that receives a PPM image as input and applies a kernel filter to it using convolution to produce an output image.
- Included support for many different image processing filters including the mean filter, Gaussian blur filter and the sharpen filter.
- Implemented memory management techniques to allow images with up to 3840x2160 resolutions to be generated in under 3 minutes.

Personal Website

Written in HTML/CSS

- Built a website using HTML and CSS from scratch utilizing bootstrap elements and hosted on GitHub at https://saiffgit.github.io
- Constructed an interactive featured projects section demonstrating the top 6 projects I have previously worked on extensively.
- Used Adobe Photoshop to render custom image icons representing projects and supplied them with visual animations using CSS.

Autonomocity - Connecting Autonomous Vehicles

Written in Python

- Achieved first place in Delta Hacks VI for creatively using environmental data to connect autonomous vehicles using Innovation Factory's system.
- Collaborated with team members to follow the Agile Methodology during the project's development
- Trained a Deep Learning Yolo model and used a CNN to identify snow patches to reduce the speed limit of an Autonomous vehicle dynamically.

Extracurricular Activity

McMaster AI Club

McMaster University

Core Member *October 2019 - PRESENT*

- Attended various discussion sessions regarding Artificial Intelligence and engaged in Google Colab coding sessions.
- Learned about the mathematical equations used in convolutional neural networks.

Honors & Awards

Delta-Hacks VI ITE Challenge

2020 **1st Place,** ITE Challenge in Delta-Hacks VI (McMaster's Annual Hackathon)