

# SAIF FADHEL

SOFTWARE ENGINEER

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## SKILLS

**Programming Languages** - Python, Java, C, C++, HTML/CSS, JavaScript, SQL, Assembly (NASM), Kotlin, MATLAB

**Technologies and Concepts** - GIT, Unity (2D/3D), Databases, LaTeX, Bash, Doxygen, Android Studio, Node.js, React, AWS, Jira

**Algorithms and Data Structures** - Stacks, Queues, Bubble Sort, Quick Sort, Depth-First Search

**Linux-Based Developer Tools and Debugging Environments** - GCC, GDB

**Microsoft Office Administration Tools** - Microsoft Word, Microsoft Excel, Microsoft PowerPoint

## EDUCATION

**McMaster University - Bachelor of Engineering (B.Eng.) - Software Engineering (Co-op)**

Sept. 2017 - Apr. 2022

Relevant Coursework:

- Engineering Computation (A+)
- Software Project Management (A+)
- Software Design (A+)
- Software Engineering Capstone (A+)
- Software Testing (A)
- Computer Networks and Security (A-)

## EXPERIENCE

**Ericsson - 5G Software Test Developer - Ottawa, ON K2K 2V6**

Jan. 2021 - Dec. 2021

- Verified the deployment and stability of 4G/5G Network Radio Software on over 50 tracks by applying quality management skills
- Utilized a test-driven development approach to create robust test cases and applied principles of agile methodology
- Designed and deployed automated test scripts for clusters of nodes on Jenkins to monitor the success of builds

## PROJECTS

**Fibonacci Fractal Generator (C) - [GitHub](#)**

Feb. 2019

- 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 (C) - [GitHub](#)**

Mar. 2019

- Developed a program that receives a PPM image as input and applies a kernel filter 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 3840 x 2160 resolutions to be generated in under 3 minutes

**Personal Website (HTML/CSS) - [GitHub](#)**

Jan. 2020

- Built a website using HTML and CSS from scratch utilizing bootstrap elements and hosted on GitHub at <https://saiffgit.github.io>
- Constructed a dynamic Projects section listing featured academic and independently developed projects
- Incorporated problem-solving skills to produce the most efficient implementation possible for the website

**Connecting Autonomous Vehicles (Python) - [GitHub](#) - [DevPost](#)**

Sept. 2020

- Achieved 1st place in Delta Hacks VI for creatively using environmental data to connect autonomous vehicles using Innovation Factory's system
- Helped train a Deep Learning Yolo model using a CNN to identify snow patches to dynamically reduce the speed limit of an Autonomous vehicle
- Communicated effectively with team members to adhere to Agile Methodology during the project's development

**CrimeCheck (Java)**

Mar. 2020

- Developed an app using depth-first search to indicate recommended walking paths for civilians in the NYC area; avoiding crime-ridden areas
- Demonstrated leadership by managing a group of 4 colleagues and delegating the required activities according to individuals' area of expertise
- Took the initiative to collaborate with each team member to develop ideas to optimize the front-end and back-end of the application

## EXTRACURRICULAR ACTIVITY

**McMaster AI Club - Core Member**

Oct. 2019 - 2020

- Attended various Artificial Intelligence tutorial sessions and engaged in Google Colab coding sessions
- Learned about the mathematics used in convolutional neural networks

## HONORS & AWARDS

**Delta-Hacks VI - McMaster University's Annual Hackathon - 1st Place**

Feb. 2020

- Placed 1st for the ITE Challenge in McMaster's Annual Hackathon, Delta-Hacks VI