

# Mustafa Choueib

SOFTWARE ENGINEER

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## Education

### MCMaster UNIVERSITY

*Hamilton, Ontario*

B.SE IN SOFTWARE ENGINEERING AND MANAGEMENT, GPA: 3.0/4.0

- Expected graduation April 2022
- Entrance Scholarship (90+ average)
- Finished first year on the Dean's list

## Skills

**Languages** C#, C++, Java, HTML, CSS, JavaScript, Python, C, SQL, BASH, Latex

**Tools and Frameworks** Unity2D, Unity3D, Matlab, Maple, Verilog, Git, JUnit, Pytest

## Work and Leadership Experience

### Hamilton Tiger-cats

*Hamilton, Ontario*

C.A.T TEAM

*2015 - 2016*

- Prepared and managed the facility for upcoming events.
- Organized parking for individuals attending the events.
- Communicated and interacted with customers and other staff members.

### Pioneer Energy

*Port dover, Ontario*

MANAGER

*2017 - 2019*

- Handled complaints, stock, and processing orders.
- Provided information about the organization's products and services.
- Managed customer complaints to ensure each customer had a joyful experience.

## Projects

### ThreatDetect

JAVA

- ThreatDetect is a project that uses a government issued database that includes information on every incident of gun violence in the United States from 2013-2018.
- Use of a Google geocoder API in order to convert an address into longitude and latitude coordinates.
- User inputs a state, address, and integer radius (in km), and the program will return information based on the incidences that reside in the radius.
- This program uses Dijkstra's algorithm, red-black trees, and several world renowned algorithms.

### Image Mutation Algorithm

C

- This project was a final assignment for my Principles of Programming class. The language used in this is C and runs on terminal.
- Thorough analysis and use of memory allocation and de-allocation. Use of a genetic algorithm in order to display an image that resembles a given target image.
- Algorithm creates a population of images where each entity has randomized pixels. It will then sort the entire population based on fitness.
- It will repeat the process with the bottom 75 percent of entities by further randomizing the pixels. It will eventually display the image with the lowest fitness to a new .ppm file.

### Tower Defense Game

C# AND UNITY2D

- This is a personal project where I created a tower defense game using C# and Unity2D.
- Created enemy spawn points and fire rate mechanics.
- Implemented real time health and scoring systems and designed user interface, scenes, and Sprites using Unity2D.
- The user gets to place different types of towers as defense and enemies are spawned. Each tower has a different damage and different enemies have different amounts of health.