

# Salim Mansour

SOFTWARE ENGINEERING · GAME PROGRAMMING

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## Work Experience

### Centre for Addiction and Mental Health

NEUROIMAGING RESEARCH ANALYST (PYTHON, MATLAB, R)

June 2020 - present

- Implementing imaging preprocessing pipelines for a diverse group of neuroscience researchers, efficiently preparing data for several studies investigating mental health totalling **over 1000 subjects**.
- Redesigned large projects in the neuroscience community including **dmriprep** using Nipype, and created tractography pipeline **tractify** to decrease nerve tract image generation time for patients from an **hour to 15 minutes**.

### Geosoft Inc.

AUTOMATED TEST ENGINEER (C#, RANOREX, RUBY)

January 2018 - August 2018

- Tested main product Oasis montaj through Ranorex by managing over 1000 tests for each release and reporting results, decreasing the **average failure rate for each build by 30%**.
- Presented results in weekly meetings, communicating with coworkers in other departments to boost understanding of **automated testing**.

## Education

### University of Toronto

HBSC SPECIALIST IN SOFTWARE ENGINEERING, GPA 3.7/4.0

September 2016 - April 2020

- Studied Algorithm Design and Analysis, Operating Systems, Artificial Intelligence, Computer Graphics, and Machine Learning.
- Awards: Dean's List 2016-2020, UofT Entrance Scholarship.

## Projects

### Cat and Mouse A.I.

ARTIFICIAL INTELLIGENCE, UNIVERSITY OF TORONTO (C, PYTHON, MATLAB)

January 2020 - April 2020

- Programmed artificial intelligence framework for a cat and mouse game where the AI mouse must collect all the cheese while avoiding the cats chasing it, applying techniques like **A\***, **minimax**, and **feature-based q-learning** to train the most competitive mouse in the course.

### Ray Tracer

COMPUTER GRAPHICS, UNIVERSITY OF TORONTO (C)

September 2019 - December 2019

- Used **C** to quickly produce photorealistic scenes, combining linear algebra, physics, and programming concepts to implement advanced features including **multithreading**, **texture mapping**, **anti-aliasing**, **depth of field**, and **refraction**.

### Tractify

NEUROIMAGING, CENTRE FOR ADDICTION AND MENTAL HEALTH (PYTHON)

May 2019 - August 2019

- Designed and built an efficient tractography generation pipeline using **software design principles** to greatly decrease runtime and provide increased functionality for complex problems, and containerized it using **Docker** for increased accessibility and reproducibility.

## Extracurricular Activity

### Game Development Club

EXECUTIVE

January 2019 - April 2020

- Coordinated with a team to gather resources and projects to showcase in **biweekly meetings** concerning game development at the University of Toronto.
- **Created and presented lectures** to explain the logic behind popular game mechanics to guide beginners, engage in deep game design discussions, and discuss career paths in the game industry.

## Skills

<b>Programming</b>	C++, C, Python, C#, Java, R, HTML, Matlab, SQL
<b>Game Development</b>	Unity, GameMaker:Studio, C++
<b>Testing</b>	Ranorex, JUnit, Selenium
<b>Digital Art</b>	Clip Studio Paint, Aseprite