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 Scolarship.

Projects

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**.

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.

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

Programming	C++, C, Python, C#, Java, R, HTML, Matlab, SQL
Game Development	Unity, GameMaker:Studio, C++
Testing	Ranorex, JUnit, Selenium