

Amr Ghoneim

Contact



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Work Experience

Machine Learning Intern

May 2023 – May 2024

Modest Tree - Halifax, NS

- Conducted extensive research on 2D to 3D modelling techniques using Neural Radiance Fields, Gaussian Splatting, and Convolutional Neural Networks in TensorFlow & PyTorch.
- Designed and trained deep learning models for video to 3D mesh reconstruction, with point cloud segmentation using PointNet and SAM3D.
- Optimized algorithms for scalability and efficiency to handle large-scale datasets and real-time processing using both TensorFlow and PyTorch.

Computer Programming Lab Instructor

Sept 2022 – Jan 2023

Saint Mary's University - Halifax, NS

- Develop and maintain curriculum, course descriptions, and lab exercise standards
- Maintain and update student records
- Prepare students for exams and programming assignments

Full Stack Developer

Nov 2020 – May 2022

AutoMedic - Halifax, NS

- Designed and built scalable web applications using modern web application technologies, including React Native/JS, MongoDB, and Node.js
- Work closely with QA and DevOps teams to ensure quality and build process automation

Education

Master's in Applied Science, Machine Learning

May 2024

Saint Mary's University

Bachelor of Science, Computing Science

April 2022

Saint Mary's University

Projects/Achievements

State of the Art Image Composition Model

Developed DepGAN, a state-of-the-art Generative Adversarial Network model for image composition. This model proficiently combines foreground and background images, handling transparency and occlusion to produce seamless composite images. This work has been submitted to the WACV 2025 conference for publishing.

Instance Segmentation – Python/TensorFlow

Conducted the development and training of a UNet-based model with the capability to proficiently classify and segment images into 23 distinct segments. Code available @ github.com/amrtsg/instance-seg

Object Insertion into Images with AI – C++/Python/TensorFlow

Developed a new approach to 3D object placement semantics within images using Conditional Generative Adversarial Networks (cGANs).