MOSTAFA HANY

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Portfolio | Linkedin | GitHub

EXPERIENCE

Unify AI | Software Engineer   Remote | Aug 2022 - Jan 2024

- Led the testing team.
- Designed and implemented a proof of concept for a source-to-source transpiler to convert code between different deep learning frameworks, e.g., TensorFlow to PyTorch.
- Redesigned the testing framework to enhance modularity and readability, achieving a 50% reduction in code size and making the code multi-processing friendly.
- Designed and implemented functionality to support importing multiple instances of the framework with different backends at runtime, reducing the average test runtime from 120 seconds to 10 seconds.
- Designed and implemented an API backend generation feature using Python's AST (Abstract Syntax Trees), allowing developers to generate a new API backend with only a few lines of configuration.
- Extended the integration of fuzzy testing (Hypothesis) in the testing framework to specifically meet our requirements with less runtime overhead and reduced code.
- Extended and maintained the Ivy framework support on Windows.
- Added support for GPU testing in the testing framework.

PUBLICATIONS

Accelerating Deep Learning using Ivy | Link   *NeurIPS, 2023*

*Guillermo Sanchez-Brizuela, Ved Patwardhan, Matthew Barrett, Paul Anderson, **Mustafa Hani**, Daniel Lenton.*

RELATED SKILLS

Programming Languages: C++, C, GLSL, Python, Lua, Bash
Libraries / Frameworks: OpenGL, ImGUI, Assimp, GLM, GLFW, SDL, Unity
Tools / Platforms: RenderDoc, CMake, Premake, Docker, git, gdb

EDUCATION

Faculty of Computers & Artificial Intelligence - Cairo University   Giza, Egypt
Bachelor of Science Degree in Computer Science - Artificial Intelligence Major   Sep 2024

PERSONAL PROJECTS

Software Raytracer | Link   *C++, Lua C API, STB, Premake*

Cross-platform software raytracer from scratch in C++. Supports lighting, shadows and reflections. Embedded Lua C API for scene configuration using Lua file.

3D Renderer (Aker) | Link   *C++, OpenGL, ImGui, Assimp, SDL, CMake*

Cross-platform 3D renderer with OpenGL. Supports lighting, shadows, and model loading. Full scene editor with ImGUI.

CS:GO Object Detection | Link   *Python, YoloV5, PyTorch, OpenCV*

Detecting CS:GO objects using YOLOv5 with a custom OpenCV annotation script.

The Office (Game) | Link   *C#, Unity*

Brackey's Game Jam 2021 submission. Built with Unity in 6 days.

BingoBango (Game) | Link   *C#, Unity, Steamworks SDK*

Platformer game published on Steam. Utilized Steamworks SDK for Steam Achievements and Leaderboards.

CERTIFICATIONS

- **Fundamentals of Deep Learning workshop** - NVIDIA DLI
- **Machine Learning Cross-Skilling Nanodegree Program** - Udacity