

Mohamed Gadalla

Game Engine Developer

CONTACT

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PROFESSIONAL EXPERIENCE

C++ Game Engine And Tools Engineer

Freelancing: Jun/2022 – Present

- Upgraded and refactored a legacy proprietary game engine from DX9 to DX11.
- Converted a custom proprietary 3D animation binary format into FBX for use with the Unity Game Engine.
- Wrote a scalable CMake build system with test integration, replacing legacy MSBuild, enabling full cross-platform deployment.
- Wrote Python, Bash, and PowerShell scripts to automate tests and build pipelines across Linux and Windows, ensuring ease-of-use and efficiency.
- Integrated the NuGet package manager with CMake to enhance usage of third-party libraries.

PROJECTS

Nikola

A custom game engine made using C++ and OpenGL specifically for level-based games with emphasis on speed, efficiency, and ease-of-use

- A fully-featured and modular OpenGL-based renderer, supporting PBR shading, post-processing effects, simple shadow maps, particles, and instancing.
- Designed a proprietary binary format for optimized asset loading, reducing load times by almost 40% across all assets.
- An integrated 3D physics system, using the Jolt physics library.
- A robust 2D UI system featuring animation for each widget (sliders, checkboxes, buttons, and more).

Ymir

A lightweight CLI C++ project generator for Linux and Windows

- Streamlined project setup processes, reducing development time by 50%.
- Including an easy-to-use GUI interface using ImGui and OpenGL.

SKILLS

Languages

- C++
- Python
- C#

Graphics

- OpenGL
- Direct3D 11
- ImGui

Build Systems

- CMake
- Make
- MSBuild

Tools

- RenderDoc
- Visual Studio
- Unity