Giovanni Perez Colon

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Education

University of Florida Gainesville, FL
Bachelor of Science, Computer Science | Minor, Digital Arts and Sciences *May 2025*
Coursework: Computer Graphics, Operating Systems, Game Content Production, A.I. for Computer Games

Experience

Fall Software LLC Miami, FL
3D Generalist & Technical Artist *January 2025 – Present*
- Designing and optimizing shaders in Godot's shading language to enhance custom 3D assets and visual effects
- Modeling, texturing, rigging, and animating 3D assets, including humanoid characters and props

UF SurfLab Gainesville, FL
Research Assistant for VascularVR *August 2024 – February 2025*
- Developed an HLSL Unity Shader utilizing Dual-Layer Depth Peeling for optimized transparency rendering
- Evaluated shading algorithms to enhance Voxel Cloud visualization of DICOM MRI scans for surgeons

Skills

Languages: C/C++, C#, Java, Python, TypeScript, JavaScript, HTML, CSS, GLSL, HLSL
Libraries/Frameworks/APIs: Modern OpenGL, WebGL, ImGui, Node.js, React, Express, ENet, OracleDB, Vite, Tailwind CSS
Tools: Unity, Godot, Unreal, Blender, Maya, Substance 3D Painter, Git/GitHub, Adobe Creative Suite, Linux

Projects

Lava Engine WebGL | *HTML, Typescript, WebGL, Assimp, Ammo.js Physics* September 2025
- Built a WebGL 3D game engine featuring custom Entity-Component System architecture for modular object management
- Implemented advanced post-processing, including HDR, modern bloom, tone mapping, and a custom MSAA solution
- Integrated the Ammo physics engine to support real-time, multithreaded object dynamics and accurate collision detection

M.A.S.S. | *Unity, C#, Photon* April 2025 – June 2025
- Built an arena-style multiplayer first-person shooter technical demo using Photon Unity Networking (PUN)
- Programmed a modular gameplay architecture to handle player movement, interaction, input, and animation
- Designed a real-time inverse kinematics system to synchronize first-person and third-person character views

Voxel Rendering Project | *C++, OpenGL, ImGUI, Assimp, Jolt Physics* January 2025 – April 2025
- Built an open-source 3D voxel game engine, featuring procedural world generation and path-traced lighting
- Made a multi-threaded model importer that uses conservative rasterization to voxelize meshes for game world integration
- Implemented an API inspired by Unity's Entity-Component System, enabling streamlined entity creation and management

Giggles Goofy Gameshow | *Unity, C#, Blender* January 2025 – April 2025
- Collaborated with a small team to create a 3D third-person puzzle platformer in Unity
- Optimized lighting and player mechanics to meet performance constraints of URP and Unity's New Input System
- Led art direction; created and implemented all player animations; handled animation integration within the scripts

First-Hit Ray Tracer | *C++, GLM, OpenGL* January 2024 – February 2024
- Developed a purely ray traced 3D renderer capable of displaying primitive shapes with physically accurate reflections
- Implemented ray intersection algorithms for collision detection, supporting materials with diffuse and specular properties
- Integrated GLM for world and camera matrix calculations, and rendered scenes directly into TGA images

Leadership

Vice-President | *UF GatorVR* August 2023 – May 2025
- Led 3D art direction and served as the technical art lead for all of our Unity VR projects
- Handled game optimization, code efficiency, and time-management for our Unity VR projects