**Richard Palacio**

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**OBJECTIVE**

Position in the area of computer graphics, rendering, shading, or game engine development

**WORK EXPERIENCE**

**Daybreak Game Company, LLC** Jul 2021 - Aug 2024

**Senior Software Engineer, Graphics**

* Performed shader bug fixes, post-processing effects, water caustics, tessellation for Gerstner waves, PBR direct light implementation, AMD FSR 1.0 implementation, derivative and normal biasing, PCF filtering
* Improved in-house engines, implemented reverse-z depth, added pipeline stages and multi-render target effects, added ability to apply effects to a specific bone attachment, LOD texture loading, animation loading, rendered viewports to texture for UI Avatars, added orthographic view for parallel-split shadow maps, cascaded shadow maps bug fixes, transformed mouse positions to screen coordinates (picking)
* PS4 performance, bug fixes and crash analysis using Razor

**Consolidated Wonder** Apr 2020 - Mar 2021

**Director of Engineering**

* Scope, design, develop and analyze PiP streaming. Main camera output and the output of multiple secondary cameras are rendered to a texture, audio is mixed to make the frames of a live stream. (Similar to UE Pixel Streaming)

**Kuma Reality Games** Apr 2013 - Mar 2020

**Game Programmer**

* Code analysis, remote debugging , server-client communication
* Added server rules for IP routing, firewalls, DNS, TLS/SSL, and SSH
* Setup and maintained local version management infrastructure, SVN and Git
* Installed and maintained CI / CD systems for the build/release process, Jenkins, JIRA, Bitbucket, and Confluence
* Added backup and recovery strategies to the MySQL database
* Used RabbitMQ message broker, for sending and receiving events

**Tournament One Corp.** Dec 2010 - Mar 2013

**Game Programmer**

* Designed immersive and complex gameplay systems, libraries, and innovative UI solutions
* Developed simulations for inelastic collisions, Perlin noise, and kinematics of projectile motion

**OnlineWorlds.Org** Sep 2009 - Dec 2009

**Intern**

* Refactored legacy MUD title. Worked collaboratively with team members, managing development

**AAA Games**

* Planetside 2, Lord of the Rings Online, Dungeons and Dragons Online

**TECHNICAL SKILLS**

**Programming Languages, Markup, and APIs**:

* C/C++, DirectX, OpenGL, HLSL, GLSL, Win32API, DXGI, COM, Orbis OS

**Software**:

* Visual Studio, RenderDoc, NSight, PIX, Razor GPU/CPU, Git, SVN, Jenkins, Jira, Bitbucket, CMake, WinDbg, 3DS Max

**Engines**:

* Turbine G3, ForgeLight

**PROJECTS**

* Graphics Engine: created my own graphics engine without APIs that does rendering, culling, clipping, and .obj file parsing
* 3D World: created my own 3D world in C++ with DirectX and HLSL with Phong Shading and Phong lighting
* VFX Particle System: confetti cannon and fire effects in C with OpenGL and GLSL
* WebGL Borderlands Render: Gouraud Shading with Phong lighting and a point light rotating about a cylindrical coordinate system

**EDUCATION**

**Binghamton University, State University of New York** - Bachelor of Science, Computer Science 2010

**Colorado Boulder University** - Non-degree GRAD courses - Advanced Computer Graphics - 2015

**RELEVANT COURSES**

Advanced Computer Graphics, Linear Algebra, Calculus, Physics, GUI/Windows Programming, 3D Animation

**MILITARY** Honorable Discharge

**U.S. ARMY** 9/99 - 9/02