

# 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

### U.S. ARMY

Honorable Discharge

9/99 - 9/02