Shubham Sachdeva

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Objective
Objective – Game Developer and Graphics Programmer seeking a position with a focus on using and implementing cutting-edge computer graphics techniques. Available from May 2022.

Education
Rochester Institute of Technology (RIT), Rochester, NY

BS/MS, Game Design and Development   Expected May 2022

GPA – 4.0

Relevant Courses: Game Graphics Programming (DirectX11, HLSL), Independent Study on Advanced Graphics (DirectX12, DirectX Raytracing), Systems and Concepts for Games and Media (Systems, Memory, Caching, Threading, Assembly), Console Development (PS4 development, Gnm, Razor), Global Illumination, Linear Algebra.

Skills
- **Programming** – C++, C, HLSL, GLSL, C#, CUDA C++, Python, Julia
- **APIs** – DirectX12 and DirectX11, OpenGL, Gnm

Certifications
- Programming in CUDA C++, Nvidia Deep Learning Institute   June 2019 – Present

Work Experience
Iron Galaxy Studios, Chicago, IL

Graphics Engineering Intern   May 2021 – August 2021
- Worked as a graphics engineer to facilitate the porting of Uncharted 4 and Uncharted: The Lost Legacy from the PS4 to Windows.
- Ported several rendering features from the Gnm API to D3D12 and wrote the entire D3D12 implementation of the legacy flash UI renderer, 'Iggy' by RAD game tools.
- Translated over 500 in-game shaders from the PlayStation Shader language to HLSL.

Velan Studios, Troy, NY

Graphics Programming Intern   May 2020 – August 2020
- Worked in the graphics team on current generation consoles and PC to facilitate the development of Velan Studio's games, *Mario Kart Live: Home Circuit* and *Knockout City*.
- Implemented improvements to radial blur, distortion, IBL probes, and other systems for Velan's in-house game engine.
- Supported gameplay integration of improvements; provided additional graphics related support for UIX and gameplay teams.

Nickelodeon Games, Burbank, CA

Software Engineering Intern   June 2019 – August 2019
- Worked in the PlayLab division of the Games team to help create a streaming service for Nickelodeon Games' interactive content
- Worked with Nvidia Encoder and Frame Buffer Capture SDK, native WebRTC C++, Websockets, and Node.js to implement an encoder and signaling server for the streaming service in an Ubuntu Linux environment

Projects
DirectX12 Rendering Engine   January 2020 - Present
- Working on a DX12 rendering engine using C++ and the D3D12 Rendering Pipeline
- Implemented features including PBR, particles, forward+ rendering, LTC area Lights, and subsurface scattering
- Integrated a hardware accelerated ray tracer, which supports the GGX material model and global illumination, using the DirectX Raytracing API, and other advanced features like ReSTIR.

DirectX11 Rendering Engine   August 2019 – May 2020
- Working on a DirectX rendering engine using C++, Win32 API, and HLSL shading language
- Implemented real-time graphics features such as PBR, water, terrain, particles, and FFT oceans
- Implemented post processing techniques like bloom, FXAA, and sharpening.