Caleb Biasco ENGINE PROGRAMMER

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Education

CARNEGIE MELLON UNIVERSITY, ENTERTAINMENT TECHNOLOGY CENTER · Pittsburgh, PA
Master of Entertainment Technology · GPA: 3.88 **Expected Spring 2019**
· *Lead Tech Teaching Assistant for Building Virtual Worlds*

UNIVERSITY OF MINNESOTA – TWIN CITIES · Minneapolis, MN
Bachelors of Science, Computer Science · GPA: 3.88 **Spring 2017**

Skills

Programming Languages: C · C++ · C# · Python · FBScript · Java · JavaScript · x86 Assembly · MEL · LISP
Game Engines: Frostbite · Unity · Unreal Engine
Platforms: HTC Vive · Oculus Rift · Microsoft HoloLens · Leap Motion
Graphics-Related Skills: Physical simulation · Motion planning · Raytracing pipeline development · OpenGL development
Source Control: Perforce · GitHub

Relevant Experience

BioWare · Austin, TX
Tech Art Intern **Summer 2018**
· Designed and implemented a large tech art project directed at live support of the game *Anthem*, involving automation in Frostbite among many systems and considerable UX design to support several potential workflows

Liberal Arts Technologies & Innovation Services · Minneapolis, MN
Student Tech **September 2016 – August 2017**
· Researched ways to support digital humanities projects in interactive mediums like Unity and Unreal using VR and AR

Academic Projects

***Isetta Engine*, Programmer · Entertainment Technology Center** **Fall 2018**
· Architecting and developing a game engine over a semester in a team of 4 programmers and a producer
· Documenting the engine development process to share online for similarly ambitious programmers

***Music in Motion*, Programmer · Entertainment Technology Center** **Spring 2018**
· Prototyped new VR interactions to use in our experience using the Vive and Leap Motion
· Researched and implemented graphics techniques, including GPGPU particle systems and water simulation

***Building Virtual Worlds*, Programmer · Entertainment Technology Center** **Fall 2017**
· Implemented the programming side of interdisciplinary projects through rapid prototyping
· Collaborated on a team of five to create entertainment experiences within one to two weeks on many platforms

***Slime Apocalypse* · University of Minnesota** **Spring 2017**
· Researched and integrated the Chainmail 3D mesh deformation algorithm in a crowd-type mob simulation using OpenGL

***Raytracer* · Computer Graphics** **Fall 2016**
· Built an offline raytracer from scratch with primitives, Phong lighting, textures, model support, and reflection/refraction

Personal Projects

***Project Bespin* · Unity Neon Challenge** **Winter 2018**
· Adapted a cloud raymarching solution from ShaderToy to work with Unity's renderer at full screen and optimized the shader to a fraction of its initial execution time utilizing down-sampling and volume rendering techniques.

***EarthBeat* · Global Game Jam 2017** **Winter 2017**
· Developed an asymmetric multiplayer VR game for the Vive in 48 hours on an eleven-person team using Unity

Selected Extracurricular Activities

***Member and President*,** Video Game Development Club at the University of Minnesota **Fall 2014 – Spring 2017**
· Managed club officers and membership, oversaw daily operations, supervised event planning, and maintained club relations
· Contributed to club projects in programming in Unity and GameMaker: Studio and art using Inkscape and GIMP