Peter Whidden

14petewhidden@gmail.com
peterwhidden.com
360-941-4363

Professional Experience

Spacefiller - Permanent Art Installation / Interactive Video Wall
Freelance Creative Coder
Seattle, December 2018 - March 2019

Participated in the design, implementation, and installation of a 20' wide interactive video wall in a public space. Uses four cameras and computer vision to create an interactive virtual ecosystem that evolves over time.

Some Place Studio, Vizcaya Museum
Freelance Interactive 3D Developer
New York, March 2019

Developed a 3D interactive display tool for use in the Vizcaya Museum. Allows users to interact with the display items using touch screen displays. 3D content can easily be uploaded to a website for public display.

Amazon
Software Development Engineer Intern
Seattle, June - August 2018

Worked with Amazon video to improve the efficiency of their machine learning powered content moderation system. Developed an interface for visualizing the content of feature films with computer vision models.

Bitsee
Software Engineer & Consultant
Seattle, February - May 2018

Consulted on the design of a video search and indexing framework. Implemented and tested a high performance parallel kmodes clustering algorithm.

Dirac Institute
GPU Computing Research
Seattle, January - September 2017

Developed GPU algorithms and software used to discover over forty new minor planets in the outer solar system. This was possible due to a 600x performance improvement over a previous implementation. Results published (2019) in the Astronomical Journal.

CERN / Google Summer of Code
Software Developer,
Seattle, May - August 2016

Through their Summer of Code program, Google funded my work on CERN's web based data science software JSRoot. Used webgl to visualize particle accelerator models with millions of components.

Focus
Real-time graphics, generative art, gpu-programming/shaders, particle systems, computer vision, VR/AR

Education

UNIVERSITY OF WASHINGTON, Seattle
Astronomy, 2015-2019

Selected Projects

ShaderPark
Online Gallery for 3D shader artwork
May 2018 - Present

A virtual online gallery for creating and displaying 3D models and animations. Uses the technique of raymarching signed distance fields to create complex shapes and animations using very small amounts of code. Collaborated with three.js creator Ricardo Cabello for experimental WebVR support.

Computer Graphics and Pretty Pictures
Creative coding community - uwc.graphics
October 2016 - November 2018

Founded a creative coding community focused on computer graphics. Organized and taught dozens of workshops on threejs, webgl, shaders, and more. Featured a guest lecture from Oculus technical director Inigo Quilez on procedural modeling.

WebVR Experimental SoundCloud Interface
November 2016

An experimental interface that allows the user to choose any soundcloud artist, and walk/fly through a generated virtual discography. Songs are placed throughout 3D space, and the UI is automatically colored based on track album artwork.

Skills

Languages: javascript, c++, glsl, java, python, haskell

Tech: WebGL, three.js, OpenGL, CUDA, processing, p5, Openframeworks, Unity, Node, yarn, socket.io, AWS, Intellij, linux, git, vim, cmake, pybind11, openCV
Software: Ableton, Final-cut, Adobe Premiere, Blender, Solidworks, Photoshop, Unity
Other:
- 100+ original shaders on shadertoy.com
- 100+ original 3D shaders on our "Shaderpark" project
- 50+ original sketches on openprocessing.com
- Best visualizer in Whitestone Interactive music visualizer contest
- Contributor to open-source webgl library threejs