

Richard Lee

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University of Pennsylvania – School of Engineering
PHILADELPHIA, PA | CLASS OF 2017

BSE Digital Media Design, minor in Fine Arts
Cumulative GPA: 3.79/ 4.0, *magna cum laude*
Awarded the Dawn and Welton Becket Digital Media Design Achievement Award

Skills

Languages – C++, Java, Javascript, GLSL

APIs – OpenGL, WebGL, Three.js

Tools and Tech – Unreal Engine 4, Unity, Maya, Houdini, Renderman, glTF

Proficiencies – virtual reality, game development, computer graphics, pipeline tools

Experience

SUMMER 2016

Oculus Story Studio – CG Generalist Intern

SAN FRANCISCO, CA | STORYSTUDIO.OCULUS.COM

- Implemented various pipeline tools for the shading, lighting, and animation departments.
- Built a plugin for Mari with Python to export to the Granite SDK file format.
- Implemented an analytical fog shader in a UE4 Material Function.
- Built a batch animation reimport plugin for UE4 in C++.

SUMMER 2015

Pixar Animation Studios – Pixar Undergraduate Program (PUP)

EMERYVILLE, CA | WWW.PIXAR.COM

- Played a Global Technology role in a nine person group project, creating vegetation networks and providing pipeline support.
- Created a procedural favela in Houdini as the final two week independent project.

SPRING 2015 – SPRING 2016

Teaching Assistant – UPenn School of Engineering

PHILADELPHIA, PA

- Game Design Practicum, Computer Graphics Techniques, Introduction to Computer Programming.
- Graded assignments and assisted students with material during office hours outside of class.

FALL 2013 – SPRING 2015

Penn Play – Co-Founder & Marketing Director

PHILADELPHIA, PA

- Co-founded start Penn's first ever game jam to spread interest in game development.
- Organized the creation of marketing materials such as the logo, posters, and assets for the website.

Recent Projects

INTERACTIVE

Pippa's Pan

UNREAL | FALL 2016 - PRESENT

Interactive VR experience merging animation and world building with motion capture and live-action lightfield rendering.

Played the lead technical director role, building the project pipeline and realizing the creative vision of the project in Unreal Engine 4 and virtual reality. Took third place in the 2017 AT&T VR/AR Challenge. Selected to showcase at the Marché du Film NEXT VR Library during the 2017 Cannes Film Festival.

Obscura

UNITY | SPRING 2016

First person puzzle game where the player must manipulate the sun and navigate the shadows cast by the level.

Worked on the game design concept and gameplay implementation.

Took first place in the Penn Play 2016 Game Jam.

GRAPHICS

WebGL Unified Particle System

JAVASCRIPT, WEBGL | FALL 2016

Unified particle and rigid body simulation in WebGL, using the discrete element method to calculate interparticle forces and representing rigid bodies as sets of particles to accelerate simulation.

BioCrowds Foraging

C++, STEERSUITE | SPRING 2016

Crowd simulation of an ant colony foraging for food, combining the BioCrowds space colonization algorithm for local collision avoidance and a robot swarm algorithm for global navigation.