# William Ho

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# University of Pennsylvania

School of Engineering and Applied Sciences - Senior
*Philadelphia, PA | Undergrad Graduation: May 2018*
BSE in Digital Media Design (Department of Computer and Information Science)
Major GPA: 3.5

## Experience

**Summer 2017**

**Cesium, Analytical Graphics Inc. |** *Real-Time Graphics Internship – Exton, PA*
- Worked on 3D Tiles pipeline for open-source JavaScript virtual globe engine
- Implemented adaptive subdivision to optimize massive model tiling efficiency
- Streamlined out-of-box compatibility with photogrammetry software PhotoScan

**Spring 2017**

**Pixar Global Technology |** *Technical Director Internship on "Coco" – Emeryville, CA*
- Developed C++ plug-in for Pixar's Presto software to visualize ground/terrain data as point clouds to assist crowds and animation departments
- Implemented Python tool to assist data retrieval of crowd simulations
- A/B tested optimizations for shot computation

**Fall 2016 / Fall 2017**

**Interactive Computer Graphics TA |** *University of Pennsylvania*
- Teach graphics software development concepts in recitation for 50+ students
- Grade assignments and assist students with learning topics during office hours

**Summer 2016**

**Virtual Reality Development |** *SIG Center for Computer Graphics at UPenn*
- Developed tests using Oculus Rift headset outfitted with SMI EyeTracker
- Investigated attention and awareness in virtual reality
- Scripted in C# for Unity 3D, implemented CMA-ES Optimization

## Projects

**Pollux Renderer |** *Swift, Metal, XCode*
2-person team project: Monte Carlo path tracer to run on both MacOS and iOS. Built GPU compute shader pipeline using Metal API. Implemented parallelized stream compaction and physically realistic lighting schemes

**Mini Minecraft |** *C++, OpenGL, Qt Creator*
Voxelized terrain-editing game. Implemented graphics pipeline features, including render optimizations, shadow mapping, and gameplay mechanics. 3-person team

**Real Estate Crowd Fund App Design Proof |** *Java, Android Studio*
Assisted client for Wharton Business Plan Competition. 3-person group project programming framework for demo application. Implemented user log-in activities and database interaction

## Relevant Skills

**Coursework:**
- Software Engineering: Software Design, Applications of Scientific Computing, Data Structures and Algorithms
- Computer Graphics: Interactive Computer Graphics, Computer Animation, GPU Programming

**Programming:** C++*(E)*, Java*(E)*, JavaScript*(F)*, Python*(F)*, Swift*(F)*
**GPU Shader APIS:** Metal*(E),* CUDA*(E),* OpenGL*(F)*
*E – Experienced, F – Familiar*

## Leadership

**Summer 2017 – Present**
**Spring 2016**
**Spring 2015 – 2016**

**University City Swing |** *Social Dance Event Organizer*
**ACM SIGGRAPH UPenn Chapter |** *Board Member*
**West Philly Swingers Dance Troupe |** *Communications Director / Choreographer*

## Background

Grew up in New York City, graduated Hunter College High School.