

# Trung Le

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## Education

**University of Pennsylvania**, PA – MSE Computer Graphics, May 2017,                    GPA: 3.65/4.0

**University of Washington**, WA – BS Electrical Engineering, June 2012,                    GPA: 3.51/4.0

## Skills

**Graphics:** CUDA, Vulkan, WebGL, OpenGL, threejs, VR

**Programming:** C/C++, Python, C#, Javascript

**Software:** git, QT, Visual Studio, JIRA, Unity, Unreal, Maya, Houdini, iOS

## Experience

### **INSTRUCTOR, VR DESIGN CLASS - JAN 2017 - PRESENT ([HTTP://PENNV.R.COM/](http://pennvr.com/))**

Co-teaching a graduate level course in VR design and programming at the University of Pennsylvania. Lectured on computer graphics concepts, VR design principles and its limitation. Designed tutorials for threejs and Unreal Engine 4 targeting at Oculus DK2 and HTC Vive. This course encourages exploration in novel VR interaction and experience.

### **TOOLS PROGRAMMER, EPIC GAMES - JUNE 2016 - SEPTEMBER 2016**

Implemented VR editing tools for the Unreal Engine 4. The tools include terrain editing, virtual keyboards, and foliage painting for level editing. These tools are introduced in Unreal 4.13 and 4.14 releases.

### **WEBGL PROGRAMMER, INDEPENDENT – 2016-PRESENT ([HTTPS://GITHUB.COM/WEBGLSAMPLES/WEBGL2SAMPLES/](https://github.com/webglsamples/webgl2samples/))**

Contributed to developing the first WebGL2 Samples Pack. Invited speaker at Khronos event in GDC 2016 on WebGL2.

### **TEACHING ASSISTANT, COMPUTER SCIENCE DEPARTMENT, UNIVERSITY OF PENNSYLVANIA – 2016-PRESENT**

Assisted with Intro to Interactive Graphics. Helped students understand concepts such as camera, transformations, skinning, OpenGL, shaders, and other introductory graphics concepts. This course contains significant C++ programming.

### **FIRMWARE ENGINEER, JAWBONE, SEATTLE WA – 2012-2014**

Developed infrastructure and applications for the UP3 fitness wristband on ARM Cortex and iOS platforms. This includes the BTLE protocol, authentication and encryption between device and mobile app, activity classification collection tools, peripheral drivers, USB interface, and UX.

### **RESEARCH ASSISTANT, UW SENSOR LAB+INTEL LAB, SEATTLE WA – 2010-2012**

Designed a GUI with Python QT for the systems used in Wireless Resonant Energy Link (WREL) research. The software supports data collection, data visualization, wireless control, and power diagnostics. Over the years, this software has been forked and extended for use in other research and at startup company Wibotic.

## Projects

(please see more at [www.trungtuanle.com](http://www.trungtuanle.com) for a complete portfolio)

### **VULKAN HYBRID RENDERER, RENDERER - 2016**

Implemented in Vulkan a hybrid renderer that combined deferred shading for primary ray intersections and the used GPU ray tracing to render the scene. The approach allowed for shadow feelers, reflection, and refraction, on top of a rasterizer.

### **PROJECT EM, AN VOICE-CONTROL 3D PLATFORM GAME IN UNREAL WITH ALEXA – 2016**

Lead Unreal programmer. Second place of PennApps XIV. Winner of the use for Alexa. Winner of best AR/VR application.

### **CARROLL, AN ALICE-IN-WONDERLAND-ESQUE VR EXPLORATORY GAME IN UNITY – 2016**

Lead Unity programmer. Implemented gameplay and physics. Winner of PennApps XIII for Best Design.

### **CUDA RASTERIZER WITH K-BUFFER AND GLTF, COURSE PROJECT – 2016**

Programmed in C++ and CUDA. Parallelize rasterization per primitive triangle with k-buffer support for transparency.

## Invited talks

### **WebGL2 Samples Pack**

Khronos event, GDC 2016

*Trung Le and Shuai Shao*

### **WebGL2 Samples Pack**

NYC WebGL Meetup 2016

*Trung Le and Shuai Shao*