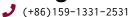
Zihong Zhou



https://hearwindsaying.github.io/

Summary

I am strongly interested in computer graphics, especially in physically based rendering. I attempt to learn and understand the principles behind natural phenomena appearing in the physical world. I could then synthesize realistic images in a virtual world fabricated by math and code.

Education

2017.9 – 2021.6 B.Sc. Computer Science, South China Agricultural University, China

GPA: 4.14/5 (Rank: Top 5%)

Research Publications



Zhou, Z., & Wei, L.-Y. (2020). Spherical light integration over spherical caps via spherical harmonics. In *Siggraph asia 2020 technical communications*. SA '20. *6* doi:10.1145/3410700.3425427

Research

Analytical Area Light Integration via Spherical Harmonics

2020.2-2020.8

- Advised by Dr. Li-Yi Wei through his Open Mentor program.
- Done research on investigating state-of-the art methods for efficient polygonal and spherical area light integration.
- Implemented two SIGGRAPH/ToG 2018 papers: Integrating Clipped Spherical Harmonics Expansions, Analytical Spherical Harmonics Coefficients for Polygonal Area Lights.
- Published my first SIGGRAPH short paper Spherical Light Integration over Spherical Caps via Spherical Harmonics.

Experience

4D ShoeTech, Rendering Engineer

2020.9 - present

- Worked on in-house renderer designed for footware manufacturing. Implemented Eric Heitz's Linearly Transform Cosine, a technique for realtime shading polygonal area lights.
- Several bug fixes to offline renderer SDK.
- Integrated a brand-new DirectX 12 renderer backend to the existing RHI (Render Harware Interface), being compatible to the current rendering pipeline and APIs.
- Implemented a new physically based reference ray tracer with high visual fidelity based on DirectX 12 backend and DXR (DirectX Ray Tracing) API.

SIGGRAPH Research Career Development Committee

2021.2 - present

A committee member in undergraduate mentorship program, aimed at encouraging undergraduates who are passionate about computer graphics to join and become a part of graphics research community by exploring, researching and preparing for future applications!

Side Project

Colvillea: A Physically Based GPU Ray Tracer

2018.7-Now

Colvillea is a physically based global illumination renderer running on GPU. It relies on Nvidia's OptiX to achieve parallelism by leveraging GPU resources, resulting in high performance ray tracing rendering.

Living Room in Unity

2019.11-2019.12

A course project work for Virtual Reality which explores Lightmapping techniques with the newest High-Definition Rendering Pipeline in Unity. With prebaked global illumination using ray tracing methodology, it brings the Living-Room scene to the word-class game engine.

Simple Photoviewer

2019.3-2019.5

A simple photoviewer written for OOP course using C++/WinRT deployed at Universal Windows Platform. Standard C++17 and XAML language are used for the project. Several optimization techniques are employed to provide the user with a smooth interaction when previewing large image files.

Skills

Coding

C/C++, C++/WinRT, CUDA, C#, XAML

Framework

OptiX, DirectX RayTracing, NSight, Mitsuba

Foolkit.

Language

Mandarin/Cantonese (Native), English (TOEFL 103)