


Jingtao Huang

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EXPERIENCE

Activision Blizzard, Inc. Jun. 2022 - Present
Graphics R&D Intern Los Angeles, CA

- Work on hand motion capture.

Adobe Inc. May 2021 - Aug. 2021
Research Intern - C++, Substance 3D, Github Remote, CA

- Improved rendering capabilities of an internal geometry library.
- Mentored by *Dr. Jérémie Dumas, Dr. Vojtěch Krs, and Giorgio Gori.*

University of Southern California Jan. 2021 - May 2022
Teaching Assistant Los Angeles, CA

- *Computer Graphics*, CSCI 420, Spring 2021 and Spring 2022.
- *Computer Animation and Simulation*, CSCI 520, Spring 2022.

Detour Bus (A VR comedy Game) May 2020 - May 2021
Engineer - C#, Unity, FMOD, Perforce Remote, CA

- Developed and maintained game features and tools.
- Collaborated with writers, designers, and artists to build 8 levels.

SELECTED PROJECTS

Volume Renderer for Hand Anatomy - C++, Embree, TBB Spring 2022

- Implemented ray casting algorithm to visualize hand MRI data.
- Improved image quality by utilizing geometry of interior structures.
- Devised transfer functions for hand tissues.

3D Human Shape and Pose - C++, OpenGL, ImGui, Git Fall 2021

- Incorporated statistical human shape model into graphics pipeline.
- Designed graphical user interface to manipulate its shape and pose.

IK with Skinning - C++, Eigen, ADOL-C, Git Spring 2021

- Implemented and compared different skinning methods.
- Wrote an inverse kinematic solver to deform characters.

Prime Engine Development - DirectX, Maya, Fall 2020

- Performed frustum culling to optimize rendering performance.
- Built skeleton animation blending system and physics component.
- Implemented toon shading, reflection and plant animation.

CPU Ray Tracer - C++, OpenMP Spring 2020

- Implemented primitive intersection and illumination.
- Supported anti-aliasing, soft shadows and recursive reflection.
- Optimized rendering speed with BVH and multiprocessing.

EDUCATION

University of Southern California

Jan. 2020 - Aug. 2022 (exp.)

Master of Science in Computer Science

Advised by *Prof. Jernej Barbic*

Beijing Jiaotong University

Sep. 2014 - Jun. 2018

Bachelor of Engineering in Computer Science

Bachelor of Economics in Finance

Outstanding Graduate

Relevant Coursework

Calculus, Linear Algebra

Data Structure, Algorithms

Computer Architecture

High Performance Computing

Augmented, Virtual and Mixed Reality

Computer Graphics

Game Engine Development

Computer Animation and Simulation

SKILLS

Languages

C++, C#, GLSL, \LaTeX

Tools

OpenGL, DirectX

Maya, RenderMan, Unity,

CMake, OpenMP, TBB, ImGui

Vim, CLion, Visual Studio

Git, Perforce

Technical

VR Development

Skeletal Animation

Shader Programming

Version Control and Build System

GPU Architecture and Graphics Pipeline

Troubleshooting and Optimization

Game Engine Development

Environments

macOS, Windows 10, Ubuntu

ACTIVITIES

SIGGRAPH 2020 Student Volunteer

USC SIGGRAPH Student Chapter

Viterbi Graduate Mentor