

Siyu Zhang

Portfolio: siyu-zhang.com

Github: github.com/CU2018

Email: c.u@berkeley.edu

EDUCATION

- **University of California, Berkeley** Berkeley, CA
Master of Engineering - Electrical Engineering and Computer Sciences; GPA: 3.95 08/2021 - 12/2022
- **University of Pittsburgh** Pittsburgh, PA
Bachelor of Science - Computer Sciences; GPA: 3.99 09/2017 - 12/2020

PUBLICATIONS

- **GPU Cloth Simulation Pipeline in Lightchaser Animation Studio:** Haowei Han, Meng Sun, **Siyu Zhang**, Dongying Liu, and Tiantian Liu. *SIGGRAPH Asia Technical Communications*. 2021.

EXPERIENCE

- **Tencent America** Los Angeles, CA
Game Client Engineer (Full-time) 01/2023 - Present
 - **Water & Sand Simulation:** GPU optimization and physics-based simulation in games
- **Tencent America** Los Angeles, CA
Physics Simulation Programmer (Intern) 05/2022 - 12/2022
 - **Fluid Simulation:** Developed a fluid simulation solver using compute shaders in Unreal Engine 4
 - **Water & Sand Simulation:** Developed water and sand simulation solver using CUDA
- **Moore Threads Technology Co., Ltd.** Remote
R&D Engineer (Intern) 02/2022-05/2022
 - **Cloth Simulation:** Developed new features for existing cloth simulation solver
- **Light Chaser Animation Studio** Beijing, China
R&D Engineer (Intern) 01/2021 - 07/2021
 - **Cloth Simulation:** Developed a GPU-based (using CUDA) cloth simulation solver in Houdini
- **Huawei Technologies Co., Ltd.** Shenzhen, China
Cloud Computing Engineer (Intern) 05/2020 - 08/2020
 - **Augmented Reality Application:** Developed (individually) an AR/VR prototype application for internal rendering testing and demo-use

PROJECTS

- **Cloth Wrinkles Synthesis Tool** 02/2022 - 05/2022
Added a wrinkle synthesis tool and other features for an existing XPBD-based cloth simulator
 - **Topic/Tech::** Simulation, C++, Houdini
- **Parallelized BVH Construction for Path Tracer** 04/2022 - 05/2022
Integrated the GPU parallelized version of BVH construction (using CUDA) for a path tracer
 - **Topic/Tech::** Acceleration Structure, Rendering, C++, CUDA
- **Real-time Vision Correcting Displays Implemented with Parallel Computing** 09/2021 - 05/2022
Accelerated the existing algorithms by parallelization (worked on every platform)
 - **Topic/Tech::** Parallelization, OpenMP, OpenCV
- **OpenARK: Using Deep-learning based Keypoint Extraction** 09/2022 - 12/2021
Evaluated and adapted deep learning based keypoint extraction algorithms to the existing system
 - **Topic/Tech::** AR, Deep Learning, C++
- **Simple FEM-StVK** 02/2021
Implemented a simple version of FEM for simulating StVK material
 - **Topic/Tech::** Simulation, C++, Houdini
- **Simple PBD-Cloth** 01/2021
Accelerated the existing algorithms by parallelization (worked on every platform)
 - **Topic/Tech::** Simulation, C++, OpenGL
- **C.U Fish** 09/2020 - 11/2020
Designed for comparing the pros and cons of ray tracing and rasterization engines in Blender
 - **Topic/Tech::** Rendering, Blender, ZBrush, Substance Painter

HONORS

- UC Berkeley College of Engineering Fung Fellowship (3 semesters)

SKILLS

- **Languages:** C++, C, Python, C#, Java, Matlab, R, JavaScript, HTML, CSS
- **Frameworks&Tools:** CUDA, OpenGL, OpenMP, MPI, Docker
- **Software:** Houdini, Unreal Engine 4, Blender, Unity, 3d Max, Maya, ZBrush, Substance Painter