Siyu Zhang

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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
  Physics Simulation Programmer (Full-time Intern) — *05/2022 - Present*
  - **Fluid Simulation**: Developed fluid simulation plugin for games developed in Unreal Engine 4

- **Moore Threads Technology Co., Ltd.** — Remote
  R&D Engineer (Part-time Intern) — *02/2022-05/2022*
  - **Cloth Simulation**: Developed new features for existing cloth simulation solver

- **Light Chaser Animation Studio** — Beijing, China
  R&D Engineer (Full 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 (Full 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 exisiting 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, ZBush, Substance Painter

SKILLS SUMMARY

- **Languages:**   C++, C, Python, C#, Java, Matlab, R, JavaScript, HTML, CSS
- **Frameworks&Tools:**   CUDA, OpenGL, OpenMP, MPI, Flask, Docker
- **Software:**   Houdini, Unreal Engine 4, Blender, Unity

HONORS

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