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ABOUT ME

My research interests are about computer graphics and computational physics, more specifically, including VR/AR, parallel computing, physics based animation and simulation. I got lots of research experiences in such areas from some graphic labs. Currently, my research is focusing on physics based simulation.

EDUCATION AND TRAINING

Undergraduate

Peking University [01/09/2017 – Current]

Address: Beijing (China)

B.S. in Computer Science

- In my first two years, I have learned a lot of basic math knowledge and computer skills, such as coding with C/C++ and basic knowledge about computer hardware.
- At the end of the second year, I started to gain interest in Computer Graphics, and took on some CG courses. Here I learnt OpenGL as well as developing other areas of knowledge.
- Then I did some research in visual attention, eye-gaze interaction and VR design in graphics lab at Peking University.
- I was involved in research about physics based simulation in Physics Simulation Group in graphics lab at my university, then I found my interest and began to explore further by doing kinds of research in this area.

LANGUAGE SKILLS

Mother tongue(s):

Uyghur Chinese

Other language(s):

English

LISTENING C2 **READING** C2 **WRITING** C1

SPOKEN PRODUCTION C1 **SPOKEN INTERACTION** C1

PROJECT EXPERIENCE

Project Experience

- **Game designing(Unity, C++, VR, Godot):**

Lots of interesting simple games in Unity, including VR games;

- **3D modeling(Blender):**

Kinds of simple 3D objects;

- **Hyperelasticity and Fracture simulation(C++, OpenGL, Cuda)**

Topological changes of tetrahedral elements in Hyperelasticity and Fracture simulation;

- **Real-time surface tension simulation with SPH(C++, OpenGL, Cuda)**

Simulating surface tension of fluids, which could efficiently interact with solid boundary without using any extra particles such as ghost particles; (project link)

- **Brittle fracture simulation with MPM(C++, Cuda, Houdini)**

This is an ongoing project... ...

RESEARCH EXPERIENCE

VR

[01/10/2019 – 01/02/2020]

The main works of my research are studying human visual behavior and designing eye gaze movement of VR agent.This will be useful in VR games or VR education system.

Topology in Hyperelasticity and Fracture Simulation

[01/06/2020 – 01/03/2021]

This was my first step into the physics based simulation, so my main works were learning basic knowledges and helping to solve some research problems, like topology changing in fracture simulation, in Physika simulation group at Graphics Interaction Lab of my univercity. This was the very essential part of my research experiences, because I learned a lot about simulation and found that this was the thing that I really interested in.

Real-time surface tension simulation with SPH on GPU

[01/03/2021 – Current]

I've been doing the research with Professor Xiaowei He at the Institute of Software, Chinese Academy of Sciences, as an intern. This research is mainly about simulating surface tension of SPH fluids, we proposed a new method to calculate the adhesion near the solid boundary based on mesh instead of using any extra particles in solid, like ghost particles, which greately improves efficiency and allow us to real time simulate the fluid, such as dropping down tears.

Brittle fracture simulation with MPM

[01/08/2021 – Current]

This is a remote research, supervised by professor Joseph M. Teran from UCLA. Main purpose of this research is simulating brittle fracture with advanced MPM technic. To begin with, I studied basic elasticity and FEM.

SKILLS

Skills

- C/C++, OpenGL, Cuda
- Unity, Blender, Houdini
- Fluid-Dynamics, Peridynamics
- SPH, FEM, MPM