YIFAN SONG

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Computer science undergrauate interests in game development, CG and CV.

EXPERIENCE

Research Assistant in VDI center **Dec 2020 – present**

Visual and Data Intelligence Center focus on computer vision and computer graphics. My current topic in VDI is about monocular full body human motion capture with audio assistance.

PROJECTS

A Taste of CNN Based Gaze Estimation **Dec 2020**

- A CNN based gaze estimation with almost SOTA accuracy developed with PyTorch.

SPH Based Fluid Simulation with Rigid Body Two Way Coupling **Dec 2020**

- Incompressible SPH based fluid simulation with two way coupling with a cube.
- Spatial hash spped up and boundary sph particals for rigid body simulation.
- Implemented in pure C++ and offline rendering with blender.

COOL compiler **Dec 2018**

- Implementing a compiler with lexical analysis, parsing, semantic analysis, and code generation to MISP.
- Basic semantic and syntax analysis are done and support object oriented programming with inheritance

A star plane fighting game **Dec 2020**

- A star plane fighting game developed with unity which has cool space ship fighting part and space station communication part.
- The game fully supports Xbox 360 controller and localized for both Chinese and English with XML.

Full body motion capture with sound assistance(In progress) **2020 – present**

- This project aims to assist data-driven monocular camera full body human motion capture with sound input.
- Comparing to traditional monocular 2d motion capture, this project aims to enhance the performance and also the visual effects with the audio and input as assistance.

Lilith game development competation **2020**

EDUCATION

Shanghaitech University, Computer Science and Technology **2018 – present**

- GPA 3.3, TOEFL 100

University of Michigan, Ann Arbor **2021 – present**

- Transfer student in LSA

SKILLS

- Game Development: Unity, OpenGL, Direct3D, Computer Graphics
- Frequently Use PL: C/C++, Python, C#, Lua
- Learnt PL: Haskell, Rust, Elisp, Cuda, HLSL/GLSL/CG/Unity Shader Lab
- Machine Learning: PyTorch, TensorFlow, Caffe, Cuda
- Other: (Arch) Linux, (Neo)Vim, Visual Studio, JetBrains