Jionghao Wang

Mail: shanemankiw@sjtu.edu.cn Website: shanemankiw.github.io GitHub: shanemankiw

Research Interests: Intersection of 3D Vision and Computer Graphics; 3D Assets Generation

Education

Shanghai Jiao Tong University Grades: 3.83/4 (Ranking: 6/70)
Information Engineering, EE, M.S.; Supervisor: *Prof. Li Song* Sept. 2021 – Mar. 2024(expected)
Graphics Courses: *Introduction to Computer Graphics* [🔗] [], *Fundamentals of Character Animation* [🔗] []

Shanghai Jiao Tong University Grades: 89.55/100 (Ranking: 17/142)
Information Engineering, EE, B.A.;Thesis: *Free Viewpoint Image Synthesis* Sept. 2017 – Jun. 2021

Experience

Texas A&M University **Remote**
Research Intern; Advisors: *Prof. Wenping Wang and Prof. Xin Li* Jun. 2023–Now
– Leading a CVPR 2024 submission project on compositional text-to-3D avatar generation from 2D diffusion prior.

Network Platform Group(NPG), Intel Corporation **Shanghai, China**
Media Graphics Software Engineering Intern Nov. 2020 - Jun. 2021
– Designed and developed a RGB-D pointcloud fusion pipeline with multiple Kinect Azure sensors. This project was published as an academic paper in DTTC (Intel's Design and Test Technology Conference).

Publications

360-Degree Panorama Generation from Few Unregistered NFoV Images **ACM MM 2023**
Jionghao Wang*, Ziyu Chen*, Jun Ling, Rong Xie, Li Song [🔗] [] [*Chinese*]
– Proposed a 360-degree panoramas generation pipeline allowing one or few NFoV inputs with text-prompt editing.
– Achieved significantly better quality and diversity than previous SOTA methods published in CVPR and 3DV.

Efficient Human Rendering with Geometric and Semantic Priors **IEEE BMSB 2023**
Jionghao Wang, Shuai Guo, Qiuwen Wang, Rong Xie, Li Song [🔗]
– Proposed an efficient human rendering pipeline using geometric&semantic priors to improve speed and quality.

RGBD-based Real-time Volumetric Reconstruction System **IEEE VCIP 2022**
Kai Zhou, Shuai Guo, Jingchuan Hu, **Jionghao Wang**, Qiuwen Wang, Li Song [🔗]
– Developed a low-cost, real-time interactive 3D capture and rendering system with multiple RGB-D cameras.

A New Free Viewpoint Video Dataset and DIBR Benchmark **ACM MMSys 2022**
Shuai Guo, Kai Zhou, Jingchuan Hu, **Jionghao Wang**, Jun Xu, Li Song [🔗] [] []
– Proposed a new RGB-D video dataset with up to 12 views, 13 groups sequences of synthesized high-quality depths.

Selected Projects

Depth Image-based Rendering Feb. 2021 – Jun. 2021
– Designed and developed a novel view synthesis system based on Depth-Image Based Rendering(DIBR) algorithm.
– Optimized the system using CUDA kernels and pthreads and achieved a novel view synthesis framerate of 25 fps.

Learning-based Multiview Stereo Jun. 2021 – Jan. 2022
– Designed a patch-match-based deep learning multi-view stereo algorithm for efficient dense depth estimation.
– Achieved 50% lower depth MAE(Mean Average Error) in the estimated depth maps on VRU dataset.

Skills

English Proficiency: TOEFL 116 (Listening 30, Speaking 28), GRE 329+4.5
Programming Languages: Python, C++, CUDA, Matlab, C#
Tools: OpenGL, Pytorch, Tensorflow, Keras, Kaolin, Nvdiffrast, Trimesh, Blender, Unity

Awards & Scholarships

Tung OOCL Scholarship, granted by Hong Kong's Tung Foundation (Top 10%) Dec. 2018
Outstanding Bachelor Graduate, awarded by SJTU (Top 10%) Jun. 2021
Scholarship of Academic Excellence, granted by SJTU; 4 x recipient 2018–2020, 2022