Kaiwen Guo

PhD student

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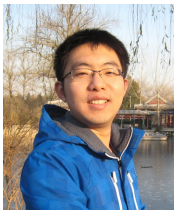

Education

2011–2017 **Ph.D.**, *Department of Automation of Tsinghua University*, Beijing, China.

2007–2011 **B.E.**, *Department of Automation of Northeastern University*, Shenyang, China.

Ph.D. Thesis

title *Real-time Dynamic Scene Reconstruction Using Consumer-level RGBD Cameras*

supervisor Qionghai Dai

description In this thesis, considering the real-time performance required by VR/AR community, we use a single or multiple consumer-level RGBD cameras to address the key problems existing in the dynamic scene reconstruction.

Research Interests

Real-time Reconstruction of Dynamic Scenes

Real-time Motion Tracking of Body, Face and Hand

GPU Algorithms and Shader Optimization

Photorealistic 3D Modeling

Skills

languages C/C++, GLSL/HLSL, x86 assembly, CUDA C and PTX, Swift, Objective-C

graphics APIs OpenGL, Vulkan, Direct3D, Metal, shader and low-level optimization

OS Windows, Linux/Unix, Mac OS X, iOS

CG tools Autodesk Maya, Adobe Photoshop, Adobe AfterEffects, Adobe Premiere, Adobe Illustrator

Publications

Published

Kaiwen Guo, Feng Xu, Tao Yu, Xiaoyang Liu, Qionghai Dai, and Yebin Liu. Real-time geometry, albedo and motion reconstruction using a single rgbd camera. *ACM Transactions on Graphics (TOG)*, 2017.

Kaiwen Guo, Feng Xu, Yangang Wang, Yebin Liu, and Qionghai Dai. Robust non-rigid motion tracking and surface reconstruction using ℓ_0 regularization. In

The IEEE International Conference on Computer Vision (ICCV), December 2015.

Kaiwen Guo, Feng Xu, Yangang Wang, Yebin Liu, and Qionghai Dai. Robust non-rigid motion tracking and surface reconstruction using ℓ_0 regularization. *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, 2017.

Under Review

Tao Yu, Kaiwen Guo, Feng Xu, Yuan Dong, Zhaoqi Su, Jianhui Zhao, Jianguo Li, Qionghai Dai, and Yebin Liu. Bodyfusion: Real-time capture of human motion and surface geometry using a single depth camera. In *The IEEE International Conference on Computer Vision (ICCV)*, 2017, under review.

Lan Xu, Lu Fang, Wei Cheng, Kaiwen Guo, Guyue Zhou, Qionghai Dai, and Yebin Liu. Flycap: Markerless motion capture using multiple autonomous flying cameras. *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, 2017, under review.

Unpublished

Kaiwen Guo, Yebin Liu, Feng Xu, and Qionghai Dai. Real-time reconstruction of dynamic scene using multiple hand-held rgbd cameras. 2017.

Kaiwen Guo, Feng Xu, Yebin Liu, and Qionghai Dai. High-quality texture reconstruction using a single rgbd camera. 2014.

Jinli Suo, Kaiwen Guo, Xin Tong, and Qionghai Dai. 3d face aging using laplacian deformation and detail transfering. 2011.

Awards

2011 **Outstanding Graduate with Top 1 GPA**, *Department of Automation of Northeastern University*, Shenyang, China.

2009-2011 **3x National Scholarships for Undergraduates**, *Department of Automation of Northeastern University*, Shenyang, China.

2008-2011 **7x First Class Scholarships for Undergraduates**, *Department of Automation of Northeastern University*, Shenyang, China.

Teaching

2016 **Data Structures and Algorithms (Spring 2016, Tsinghua University)**, *Teaching Assistant with Dr. Yebin Liu*.