Dinghuang Ji

CONTACT INFORMATION

Research Scientist @ Alibaba iDST
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RESEARCH INTERESTS

3D Scene Reconstruction with Crowd Sourced Data, Solving Traditional Problems with Deep Methods

EDUCATION

University of North Carolina at Chapel Hill,, Chapel Hill, NC, USA
PhD Student **Sep. 2012 – Aug. 2017**

- Advisors: Prof. Jan-Michael Frahm and Prof. Enrique Dunn
- Research Topic: View Synthesis and 3D Reconstruction of Dynamic Scenes

Virtual Reality Lab of Institute of Computing Technology, CAS, Beijing, China
Master of Engineering **Sep. 2009 – 2012**

- Advisors: Prof. Shihong Xia
- Master Thesis: Expression Cloning and Video Driven Facial Animation

University of Science and Technology of China (USTC), Heifei, Anhui, China
Bachelor of Science **Sep. 2005 – Jun. 2009**

- Undergraduate Thesis : *Implementation of Some Key Technologies in Virtual 3D Community*
- Advisors: Prof. Chenxi Shao and Prof. Zhaoqi Wang

PUBLICATIONS

Dinghuang Ji, Zhen Wei, Enrique Dunn and Jan-Michael Frahm, "Dynamic Visual Sequence Prediction with Motion Flow Networks", **Winter Conference on Applications of Computer Vision** 2018.

Dinghuang Ji, Junghyun Kwon, Max Mcfarland and Silvio Savarese, "Deep View Morphing", **Computer Vision and Pattern Recognition** 2017.

Dinghuang Ji, Enrique Dunn and Jan-Michael Frahm, "Spatio-Temporally Consistent Correspondence for Dense Dynamic Scene Modeling", **European Conference of Computer Vision** 2016.

Dinghuang Ji, Enrique Dunn and Jan-Michael Frahm, "Synthesizing Illumination Mosaics from Internet Photo-Collections", **International Conference of Computer Vision** 2015.

Dinghuang Ji, Enrique Dunn and Jan-Michael Frahm, "3D Reconstruction of Dynamic Textures in Crowd Sourced Data", **European Conference of Computer Vision** 2014.

Enliang Zheng, **Dinghuang Ji**, Enrique Dunn and Jan-Michael Frahm, "Self-expressive Dictionary Learning for Dynamic 3D Reconstruction", **Transactions on Pattern Analysis and Machine Intelligence** 2017.

Filip Radenovic, Johannes L. Schönberger, **Dinghuang Ji**, Jan-Michael Frahm, Ondrej Chum and Jiri Matas "From Dusk Till Dawn: Modeling in the Dark", **Computer Vision and Pattern Recognition** 2016.

Enliang Zheng, **Dinghuang Ji**, Enrique Dunn and Jan-Michael Frahm, "Sparse Dynamic 3D Reconstruction from Unsynchronized Videos", **International Conference of Computer Vision** 2015.

Meng Wang, **Dinghuang Ji**, Qi Tian and Xiansheng Hua , "Intelligent Photo Clustering with User Interaction and Distance Metric Learning", *Pattern Recognition Letters* (17 February 2011) doi:10.1016/j.patrec.2011.02.012 Key: citeulike:8889025

Dinghuang Ji, Meng Wang, Xiansheng Hua and Qi Tian, "Semi-Automatic Photo Clustering with Distance Metric Learning", In *Proceedings of IEEE Visual Communications and Image Processing (VCIP)*, vol. 7744 (2) 2010

Research Experience

Computer Vision team, Alibaba iDST
Oct. 2017 – present
Research on Comupter Vision related applications, in support of company needs. Resposibilities include:
1. Research related to computer vision and graphics.
2. Project related to virtual reality and self-driving delivery car.

Computer Vision team, Ricoh innovations
Novel View Synthesis **May. 2016 – Aug. 2016**
Propose a new CNN with 3D geometric constraints for novel view synthesis. Mentor: Dr. Junghyun Kwon and Dr. Silvio Savarese.

Robotics group, Baidu IDL
Autonomous Car Localization **May. 2015 – Aug. 2015**
Localize car position with RGB camera and pre-computed 3D maps. Mentor: Dr. Shiyu Song.

Computer Science Department at UNC Chapel Hill
Visual Motion Prediction **Sept. 2016 – Mar. 2017**
Predicting motion sequence of dynamic shapes from image(s).

Dense 3D Reconstruction with Unsynchronized Videos **Nov. 2015 – Apr. 2016**
A method to simultaneously synchronize videos and dense 3D reconstruction of rigid body motions.

3D Modeling in the Dark **Sep. 2015 – Nov. 2015**
A method to modeling and texturing buildings with night time images.

Sparse 3D Reconstruction with Unsynchronized Videos **Jan. 2015 – Apr. 2015**
A method to simultaneously synchronize videos and sparse 3D reconstruction of rigid body motions

Appearance Mosaics From Internet Photo Collections **Apr. 2014 – Apr. 2015**
A method to analyze temporal sequencing of Internet images and visualize by time-slice mosaic.

3D Dynamic Scene Reconstruction **Sept. 2013 – Apr. 2014**
A method to automatically build the 3D model for scenes with dynamic appearance and static shape.

Institute of Computing Technology, Beijing, China
Motion Data Capture and Facial Animation **Mar. 2011 – Jul. 2012**
3D facial animation with Vicon motion data and blendshape model.

Microsoft Research Asia, Beijing, China
Semi-supervised Image Clustering **November 2009 – March 2010**
We propose an interactive photo clustering paradigm that jointly explores human and computer.

Services

CVPR 2016 2017 2018, ICCV 2017, ECCV 2016 2018, 3DV 2018, ACCV 2018, Neurocomputing, Image and Vision Computing Journal, Transactions on Circuits and Systems for Video Technology

Programming and Software

C++ in Windows and Linux, Matlab, Python, LaTeX, HTML, Cmake, Visual Studio, Qt Creator, Vim, OpenCV, OpenGL, Meshlab, Qt, OpenFrameworks, Caffe etc.