TIANFAN XUE

MIT CSAIL
32 Vassar Street, 32-D460, Cambridge, MA, 02139, USA
Homepage: http://people.csail.mit.edu/tfxue/
Linkedin: http://www.linkedin.com/pub/tianfan-xue/16/167/540/
Email: tfxue@mit.edu, Mobile: +1-6178528608

Research Interests

- Computer vision, image processing, machine learning, and computer graphics

Education

- **Ph.D. (Computer Sci.), Massachusetts Institute of Technology** Aug. 2012 – Current
  - Supervisor: Prof. William T. Freeman
- **M.Phil. (Information Eng.), Chinese University of Hong Kong** Aug. 2009 – Jul. 2011
  - GPA: 4.0/4.0 , Supervisor: Prof. Xiaoou Tang
- **B. Eng. (Computer Sci. & Tech.), Tsinghua University** Aug. 2005 – Jul. 2009
  - GPA: 92.06/100.00, Ranking: 3/162

Working Experience

- **Research Intern, Facebook** May. 2016 – Aug. 2016
  - Mentor: Dr. Richard Szeliski
- **Research Intern, Microsoft Research** Jun. 2015 – Sept. 2015
  - Mentor: Dr. Richard Szeliski
- **Research Intern, Microsoft Research** Jun. 2014 – Aug. 2014
  - Mentor: Dr. Ce Liu
- **Research Assistant, Chinese University of Hong Kong** Aug. 2011 – Jul. 2012
  - Supervisor: Prof. Xiaoou Tang

Publications

- **T. Xue***, J. Wu*, K. L. Bouman, W. T. Freeman, "Visual Dynamics: Probabilistic Future Frame Synthesis via Cross Convolutional Networks," in Proc. of the Annual Conference on Neural Information Processing Systems (**NIPS**) 2016.
- J. Wu*, **T. Xue***, J. Lim, Y. Tian, J. Tenenbaum, A. Torralba, W. T. Freeman, "Single Image 3D Interpreter Network,", in Proc. of European Conference on Computer Vision (**ECCV**) 2016.
- **T. Xue**, M. Rubinstein, C. Liu, W. T. Freeman, "A Computational Approach for Obstruction-Free Photography," ACM **SIGGRAPH**, 2015.
- **T. Xue**, H. Mobahi, F. Durand, W. T. Freeman, "The Aperture Problem for Refractive Motion," in Proc. of IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2015.
- **T. Xue**, M. Rubinstein, N. Wadhwa, A. Levin, F. Durand, W. T. Freeman, "Refraction Wiggles for Measuring Fluid Depth and Velocity from Video," in Proc. of European Conference on Computer Vision (**ECCV**), 2014.

- **T. Xue**, J. Liu, X. Tang, "Example-Based 3D Object Reconstruction for Line Drawing," in Proc. of IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2012.
- Y. Li, **T. Xue**, L. Sun, J. Liu, "Joint Example-based Depth Map Super-Resolution," in Proc. of IEEE International Conference on Multimedia & Expo (**ICME**), 2012.
- **T. Xue**, J. Liu, X. Tang, "Symmetric Piecewise Planar Object Reconstruction from a Single Image," in Proc. of IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**) 2011.
- Y. Jie, L. Sun, **T. Xue**, "Fast Frame-rate Up-conversion of Depth Video via Video Coding," in Proc. of ACM Multimedia 2011 (**ACM MM**), 2011.
- **T. Xue**, J. Liu, X. Tang, "3D Modeling from a Single View of a Symmetric Object,", Transactions on Image Processing (**TIP**), 2012.
- **T. Xue**, J. Liu, X. Tang, "Object Cut: Complex 3D object reconstruction through line drawing separation," in Proc. of IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**) 2010.
- Y. Tang, **T. Xue**, J. Jiang, B. Liu, "Deflation DFA: Remembering History is Adequate," in Proc. of IEEE International Conference on Communications (**ICC**), 2010.

Research Experience

- **Facebook, Research Intern** May. 2016 – Aug. 2016
  - Large scale 3D reconstruction.
- **Microsoft Research, Research Intern** Jun. 2015 – Sept. 2015
  - **Multi-frame Stereo.** Proposed a fast multi-frame stereo algorithm that based on sparse edge matching.
- **Microsoft Research, Research Intern** Jun. 2014 – Aug. 2014
  - **Obstruction-free imaging.** Proposed a unified computational approach for taking photos through reflecting or occluding visual obstructions, such as windows and fences.
- **Massachusetts Institute of Technology, Research Assistant** Aug. 2012 – Current
  - **Fluid measurement.** Proposed an algorithm for measuring the velocity and 3D location of refractive fluids (e.g hot air), from natural sequences.
- **The Chinese University of Hong Kong, Research Assistant** Aug. 2009 – Jul. 2012
  - **3D Reconstruction from Line Drawing.** Proposed an example-based reconstruction that recovers the 3D geometry from a line drawing by combining basic shapes in a 3D database. Also improve the efficiency and accuracy of the algorithm using a divide-and-conquer method.
- **Undergraduate Final Year Research Project, Tsinghua University** Jan. 2009 – Jul. 2009
  Supervisor: Prof. Bo Zhang, State Key Laboratory of Intelligent Technology and Systems
  - **Pedestrian tracking.** Designed a human tracking framework using particle filter and HOG features (*Outstanding undergraduate thesis* of Tsinghua Univ).

Honors and Awards

- Postgraduate Studentship in the Chinese University of Hong Kong 2009–2011
- Outstanding TA Award in the Chinese University of Hong Kong 2010
- Outstanding undergraduate thesis of Tsinghua University 2009

- National Scholarship 2007

Services

- **Conference reviewer:** CVPR 2016, ECCV 2016, NIPS 2016
- **Journal reviewer:** Transactions on Pattern Analysis and Machine Intelligence (TPAMI), IEEE Transactions on Systems, Man and Cybernetics, Computers and Electrical Engineering