

# Tianqiang Liu

## Personal

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## Education

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JULY 2015 Ph.D. in Computer Science, Princeton University.  
JUNE 2012 Master of Arts in Computer Science, Princeton University.  
GPA: 4.0/4.0  
JULY 2010 Bachelor in Computer Science, Tsinghua University, Beijing, China.  
GPA: 92.3/100, Rank: 3/137

## Work and Research Experience

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### Software Engineer at Google.

Project: Street View data ingest.  
Project: Street View camera pose estimation.

Mountain View, CA  
AUG 2015 - APR 2018  
APR 2018 - NOW

### Intern at Adobe Research.

Project: Style Compatibility For 3D Furniture Models.

San Francisco, CA  
JUN 2014 - SEP 2014

- Developed an algorithm to learn a compatibility metric for 3D shape styles.
- Designed novel interactive scene creation tools that are enabled by the compatibility metric.
- Published in ACM Transactions on Graphics (Proc. SIGGRAPH 2015).

### Intern at Adobe Research.

Project: Composition-Aware Scene Optimization for Product Images.

Cambridge, MA  
JUN 2012 - AUG 2012

- Designed a tool that facilitates the creation of product images by automatically refining scene layouts.
- Published in Computer Graphics Forum (Proc. Eurographics 2015).

### Research Assistant at Princeton University

Project: Creating Consistent Scene Graphs Using a Probabilistic Grammar.

Princeton, NJ  
APR 2013 - JUN 2014

- Developed an algorithm that analyzes 3D scenes by parsing with a grammar learned from examples.
- Our algorithm outperforms previous methods for automatic scene segmentation and annotation.
- Published in ACM Transactions on Graphics (Proc. SIGGRAPH Asia 2014).

Project: Finding Surface Correspondences Using Symmetry Axis Curves.

SEP 2010 - APR 2012

- Developed an algorithm that finds correspondences between 3D surfaces using symmetry.
- Our algorithm outperforms previous methods in both efficiency and robustness.
- Published in Computer Graphics Forum (Proc. Symposium on Geometry Processing 2012).

### Undergraduate Research Assistant at Tsinghua University

Project: Video Enhancement Using Fast Bilateral Filtering.

Beijing, China  
FEB 2010 - MAY 2010

- Developed a method to improve both accuracy and speed for intra- and inter-frame video denoising.

Project: Efficient Affinity-based Edit Propagation Using K-D tree.

MAR 2009 - APR 2009

- Developed an algorithm that leverages K-D tree in high-dimensional affinity space for approximately solving the edit propagation problem.

## Skills

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- Computer vision, Computational geometry, Algorithm design.
- C++, Java, Python.

## Publications

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- [8] **Style Compatibility For 3D Furniture Models**  
Tianqiang Liu, Aaron Hertzmann, Wilmot Li, Thomas Funkhouser  
ACM Transactions on Graphics (Proc. SIGGRAPH), 2015
- [7] **Composition-Aware Scene Optimization for Product Images**  
Tianqiang Liu, Jim McCann, Wilmot Li, Thomas Funkhouser  
Computer Graphics Forum (Proc. Eurographics), 2015
- [6] **Analyzing, Optimizing and Synthesizing Scenes by Reasoning About Relationships Between Objects**  
Tianqiang Liu  
PhD thesis, Princeton University, 2015
- [5] **Creating Consistent Scene Graphs Using a Probabilistic Grammar**  
Tianqiang Liu, Siddhartha Chaudhuri, Vladimir Kim, Qi-Xing Huang, Niloy Mitra, Thomas Funkhouser  
ACM Transactions on Graphics (Proc. SIGGRAPH Asia), 2014
- [4] **Composition-Aware Scene Optimization for Product Images**  
Tianqiang Liu, Jim McCann, Wilmot Li, Thomas Funkhouser  
Princeton University Technical Report, TR-970-14, 2014
- [3] **Finding Surface Correspondences Using Symmetry Axis Curves**  
Tianqiang Liu, Vladimir Kim, Thomas Funkhouser  
Computer Graphics Forum (Proc. Eurographics Symposium on Geometry Processing), 2012
- [2] **Video enhancement based on fast bilateral filtering**  
Tianqiang Liu  
Bachelor thesis, Tsinghua University, 2010
- [1] **Efficient Affinity-based Edit Propagation Using K-D Tree**  
Kun Xu, Yong Li, Tao Ju, Shi-Min Hu, Tianqiang Liu  
ACM Transactions on Graphics (Proc. SIGGRAPH Asia), 2009

## Academic Services

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Program Committee Member: Pacific Graphics 2015, 2016  
Reviewer: SIGGRAPH 2015, SIGGRAPH Asia 2015, SGP 2015, CAD/Graphics 2013, TVCG, Computer Graphics Forum, IJCV, Computers & Graphics

## Honors

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2009 First-Class National Scholarship of China.  
2008 Goldman Sachs Global Leaders Scholarship (26 winners in China / 135 winners in the world).  
2007 First-Class National Scholarship of China.  
2005 Silver Medal in Chinese Physics Olympiad (29th overall).