

# Xifeng Gao

---

## Current Occupation

Aug./18–current **Assistant Professor**  
• Department of Computer Science, Florida State University

---

## Education

Aug./16–Jul./18 **Postdoctoral Associate, Courant Institute of Mathematical Sciences, New York University**  
★ Host: Prof. Daniele Panozzo,  
★ Research topic: Mesh Generation and Simulation.

Sep./11–May/16 **Ph.D., Department of Computer Science, University of Houston**  
★ Best PhD Thesis Award (2016), Best PhD Student Award (2015), Best Junior PhD Student Award (2013)

Sep./08–Jun./11 **M.Sc., Department of Computer Science and Technology, Shandong University**  
★ Outstanding Student Scholarship (2010), Research Innovation Scholarship (2008)  
★ National Graduate Contest in Mathematical Modeling, First Place (2008)

Sep./04–Jun./08 **B.Sc., Department of Computer Science and Technology, Shandong University**  
★ Outstanding Student Scholarship (2007, 2006, 2005)  
★ GPA: 88.38/100, top 5 (182 in total).

---

## Teaching

Spring 2019 **Lecturer, Computer Science Department, Florida State University**  
★ Course: Computer Graphics

Fall 2018 **Lecturer, Computer Science Department, Florida State University**  
★ Course: Computer Graphics

May/03/2017 **Guest Lecturer, New York University**  
★ Course: Geometry Processing

Sep./11–Jun./15 **Teaching Assistant, University of Houston**  
★ Courses: 1) *Topics in Computer Science-Medical Imaging*, 2) *Topics in Computer Science-Cyber Physical Systems*, 3) *Computer Architecture*, 4) *Introduction to Automata and Computability*, 5) *Computer Graphics*, and 6) *Intro Computer Science II (C++, JAVA)*

Sep./09–Jun./11 **Teaching Assistant, Shandong University**  
★ Course: Computer Graphics

---

## Research

Geometry Computing and Optimization for applications in Computer Graphics, Digital Fabrication, Image Processing, and Engineering Analysis.

### Publications (in recent 3 years, click google scholar for the complete list)

- Yue Liu, Pengbo Bo, Xuemei Li, **Xifeng Gao**. “Sketch simplification guided by complex agglomeration”, *SCIENCE CHINA Information Sciences*, 2018. Accepted.

- Teseo Schneider, Jeremie Dumas, **Xifeng Gao**, Mario Botsch, Denis Zorin, Daniele Panozzo. “Poly-Spline Finite Element Method”, *ACM Transactions on Graphics*, 2018. Accepted with Major Revision.
- Teseo Schneider, Yixin Hu, Jeremie Dumas, **Xifeng Gao**, Daniele Panozzo, Denis Zorin. “Decoupling Simulation Accuracy from Mesh Quality”, *ACM Transactions on Graphics* (SIGGRAPH ASIA 2018), 14 pages.
- Yixin Hu, Qingnan Zhou, **Xifeng Gao**, Alec Jacobson, Denis Zorin, Daniele Panozzo. “Tetrahedral Meshing in the Wild”, *ACM Transactions on Graphics* (SIGGRAPH 2018), 14 pages.
- Kui Wu, **Xifeng Gao**, Zachary Ferguson, Daniele Panozzo, Cem Yuksel. “Stitch Meshing”, *ACM Transactions on Graphics* (SIGGRAPH 2018), 12 pages.
- **Xifeng Gao**, Daniele Panozzo, Wenping Wang, Zhigang Deng, Guoning Chen. “Robust Structure Simplification for Hex Re-meshing”, *ACM Transactions on Graphics* (SIGGRAPH ASIA 2017), 36, 6, pages 185:1–185:13, Article 185 (Nov. 2017), 13 pages.
- **Xifeng Gao**, Jin Huang, Kaoji Xu, Zherong Pan, Zhigang Deng, Guoning Chen. “Evaluating Hex-mesh Quality Metrics via Correlation Analysis”, *Computer Graphics Forum* 36, 5, (SGP 2017), 12 pages.
- Kaoji Xu, **Xifeng Gao**, Guoning Chen. “Hexahedral Mesh Quality Improvement via Edge-angle Optimization”, *Computer & Graphics (CAD/Graphics 2017)*, 12 pages.
- **Xifeng Gao**, Marco Tarini, Wenzel Jacob, Daniele Panozzo. “Robust Hex-Dominant Mesh Generation using Field-Guided Polyhedral Agglomeration”, *ACM Transactions on Graphics* (SIGGRAPH 2017), 36, 4, Article 114 (July 2017), 13 pages.
- Kaoji Xu, **Xifeng Gao**, Zhigang Deng, and Guoning Chen. “Hexahedral Meshing with Varying Element Sizes”, *Computer Graphics Forum*, (April 2017), 13 pages.
- Yongxia Zhang, Xuemei Li, **Xifeng Gao**, and Caiming Zhang. “A Simple Algorithm of Superpixel Segmentation with Boundary Constraint”, *IEEE Transactions on Circuits and Systems for Video Technology*, 27, 7, pages 1502–1514 (July 2017), 13 pages.
- Wenqian Deng, Xuemei Li, **Xifeng Gao**, and Caiming Zhang. “A Modified Fuzzy C-means Algorithm for Brain MR Image Segmentation and Bias Field Correction”, *Journal of Computer Science and Technology*, 31, 3, pages 501–511, (May 2016), 11 pages.
- **Xifeng Gao**, Tobias Martin, Sai Deng, Elaine Cohen, Zhigang Deng and Guoning Chen. “Structured Volume Decomposition via Generalized Sweeping”, *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, 22, 7, pages 1899–1911, (July 2016), 13 pages.
- **Xifeng Gao**, and Guoning Chen. “A Local Frame based Hexahedral Mesh Optimization”, *25th International Meshing Roundtable, research note*, September, 2016, 5 pages.

## Patent

- “A Similarity-Transformation Invariant Reversible Watermarking Method and Equipment for 3D Models”, June 11, 2014, No. CN102339456 B (in Chinese).

## Academic Services

Volunteer	SIGGRAPH, 2013
Associate Editor	TVCJ, 2018 -
International Program Committee Member	CGI, 2019 GMP, 2019 Reproducibility Stamp, 2017-2019 PG, 2018 SGP, 2018 CVM, 2019 SMI, 2018, 2019

CAD/Graphics, 2019  
SIBGRAPI, 2017  
ICVRV, 2017

Reviewer Served as a reviewer for more than 20 manuscripts every year from the major conferences and Journals in computer graphics and image processing.

---

## Invited Talks

- Jul./12/2018 Peiking University of Technology, Beijing, China,  
Tetrahedralization in the Wild.
- Jul./11/2018 Shandong University, Qingdao, China,  
Tetrahedralization in the Wild.
- Jul./06/2018 Geometric Design Colloquim, Hefei, China,  
Stitch Meshing.
- Jul./05/2018 University of Science and Technology of China, Hefei, China,  
Robust Mesh Generation and Applications to Geometry Processing.
- Apri./03/2018 Peking University, Beijing, China,  
Robust Meshing.
- Feb./20/2018 Florida state University, Tallahassee, US,  
Robust Volumetric Meshing.
- Feb./15/2018 University of Montreal, Montreal, Canada,  
Robust Volumetric Meshing.
- Nov./28/2017 SIGGRAPH ASIA, Bangkok, Thailand,  
Robust Structure Simplification for Hex Re-meshing.
- Nov./25/2017 Shandong University, Jinan, China,  
Robust Structure Simplification for Hex Re-meshing.
- Nov./24/2017 Peking University, Beijing, China,  
Robust Hexahedral and Hex-dominant Meshing.
- Nov./23/2017 Microsoft Asia Research, Beijing, China,  
Robust Structure Simplification for Hex Re-meshing.
- Aug./24/2017 Brigham Young University, Provo, US,  
Robust Hexahedral and Hex-dominant Meshing.
- Aug./22/2017 University of Utah, Salt Lake City, US,  
Robust Hexahedral and Hex-dominant Meshing.
- Aug./02/2017 SIGGRAPH, Los Angeles, US,  
Robust Hex-Dominant Mesh Generation using Field-Guided Polyhedral Agglomeration.
- July/11/2017 SIAM/GD, Pittsburgh, US,  
Robust Hex-Dominant Mesh Generation using Field-Guided Polyhedral Agglomeration.
- Mar./08/2016 New York University, New York, US,  
Towards High Quality Hex-meshing: Generation, Optimization, and Evaluation.
- Aug./13/2015 SIGGRAPH, Los Angeles, US,  
Hexahedral Mesh Re-parameterization from Aligned Base-Complex.
- July/09/2015 Shandong University, China,  
Generation and Optimization of Hexahedral Meshes.
- Apr./15/2014 Computer Animation and Social Agents (CASA), Houston, US,  
An Evaluation of The Quality of Hexahedral Meshes via Modal Analysis.