

## Qixing Huang

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Date of CV: August 26th, 2022

### Education

- 01/2012 Ph.D Computer Science, Stanford University  
Advisor: Prof. Leonidas Guibas
- 07/2005 M.S. Computer Science, Tsinghua University, Beijing, China  
Advisor: Prof. Shimin Hu
- 07/2002 B.S. Computer Science, Tsinghua University, Beijing, China  
Advisor: Prof. Shimin Hu

### Academic Experience

- 08/2022 –Current Associate Professor, The University of Texas at Austin
- 08/2016 08/2022 Assistant Professor, The University of Texas at Austin
- 09/2014 –08/2016 Research Assistant Professor, Toyota Technological Institute at Chicago
- 01/2012 –09/2014 Post-doc Researcher, Stanford University  
Advisor: Prof. Leonidas Guibas

### Industrial Experience

- 01/2012 –current Consulting, XYZRGB Inc., Canada. Provide technical and algorithmic supports for processing various static and dynamic 3D scans.
- 06/2010 –09/2010 Research Internship, Google Inc., Mountain View, CA. Worked on simultaneously labeling and segmentation of street scenes.
- 06/2009 –09/2009 Research Internship, Google Inc., Mountain View, CA. Worked on an accurate SLAM algorithm for Google streeview project.
- 06/2008 –09/2008 Research Internship, Adobe Systems, Stanford, CA. Worked on structure preserving resizing of images and vector art.

## Awards

2011	National Science Foundation Early Career Award 2021
2019	International Joint Conference on Artificial Intelligence 2019 Early Career Spotlight
2019	Computer Vision and Pattern Recognition 2019 Best Paper Finalist
2018	Symposium on Geometry Processing 2018 Best Dataset Award
2013	Symposium on Geometry Processing 2013 Best Paper Award
2011,2012	Computer Aided Geometric Design Most Cited Paper Award
2008	Mr. and Mrs. Chin-Nan Chen Stanford Graduate Fellowship

## Grants

- Principal investigator *CAREER: Modeling Uncertainties for Geometry Processing*. NSF, IIS, Div Of Information & Intelligent Systems, \$504,608, 2021–2026.
- Senior Personnel (With Sujay Sanghavi (PI), Rachel Ward, Adam Klivans, Purnamrita Sarkar, Constantine Caramanis, Alexandros G. Dimakis, Eric Price) *HDR TRIPODS: UT Austin Institute on the Foundations of Data Science*. NSF, TRIPODS Transdisciplinary and HDR-Harnessing the Data Revolution, \$1500,000 October 1, 2019 - September 30, 2022.
- Principal investigator, *Gift Award*. Wormpex Research , \$95,000, 2019–current.
- Principal investigator, *Gift Award*. SURFF Inc. , \$70,000, 2019–current.
- Principal investigator, *Gift Award*. Face++ Inc., \$10,000, 2019–current.
- Principal investigator, *Gift Award*. Snap Inc., \$28,000, 2018–current.
- Principal investigator *Collaborative Research: CI-P: ShapeNet: An Information-Rich 3D Model Repository for Graphics, Vision and Robotics Research*. NSF, CNS Division Of Computer and Network Systems, \$33,333, 2017–2020.
- Co-principal investigator (with Jinbo Xu), *Convex optimization for protein-protein interaction network alignment*. NSF, CCF Algorithm Foundations, \$299,994, 2016–2020.
- Co-principal investigator (with Jason Salavon, Sean Keller and William Catino). *Machine Learning and Questions of Quality in Art and Design*. Neubauer Faculty Research Project Narrative, \$125,000, 2016–2018.
- Principal investigator, *Collaborative Research: Joint Analysis of Correlated Data*. NSF, DMS-1521583, \$109,920 , 2015–2020.
- Principal investigator, *Intel Gift Award*. Intel Labs, \$60,000, 2015–current.
- Principal investigator, *Adobe Gift Award*, Adobe Research, \$49,500, 2014–current.

**Papers (Total Google Scholar Citations: 11217. H-Index: 45. H10-Index: 74.)**

Preprints

1. Zhenpei Yang, Zaiwei Zhang, and **Qixing Huang**. *HM3D-ABO: A Photo-realistic Object-centric Multi-view Dataset*. <https://arxiv.org/abs/2206.12356>.
2. Siming Yan, Zhenpei Yang, Haoxiang Li, Li Guan, Hao Kang, Gang Hua, and **Qixing Huang**. *Implicit Autoencoder for Point Cloud Self-supervised Representation Learning*. <https://arxiv.org/abs/2201.00785>.

Journal and Conference Papers

3. Bo Sun, Vladimir Kim, **Qixing Huang**, Noam Aigerman, and Siddhartha Chaudhuri. *PatchRD: Detail-Preserving Shape Completion by Learning Patch Retrieval and Deformation*. European Conference on Computer Vision (ECCV) 2022.
4. Xiuchao Wu, Jiamin Xu, Zihan Zhu, Hujun Bao, **Qixing Huang**, James Tompkin, and Weiwei Xu. *Scalable Neural Indoor Scene Rendering*. ACM Transactions on Graphics, 41(4), Proceedings of ACM SIGGRAPH 2022.
5. Hyung-gun Chi, Myoung Hoon Ha, Seunggeun Chi, Sang Wan Lee, **Qixing Huang**, and Karthik Ramani. *InfoGCN: Representation Learning for Human Skeleton-based Action Recognition*. Computer Vision and Pattern Recognition (CVPR) 2022
6. Chen Song, **Qixing Huang**, and Chandrajit Bajaj. *E-CIR: Event-Enhanced Continuous Intensity Recovery*. Computer Vision and Pattern Recognition (CVPR) 2022.
7. Zhenpei Yang, Zhile Ren, Miguel Angel Bautista, Zaiwei Zhang, Qi Shan, and **Qixing Huang**. *FvOR: Robust Joint Shape and Pose Optimization for Few-view Object Reconstruction*. Computer Vision and Pattern Recognition (CVPR) 2022.
8. Zhenpei Yang, Zhile Ren, Qi Shan, and **Qixing Huang**. *MVS2D: Efficient Multi-view Stereo via Attention-Driven 2D Convolutions*. Computer Vision and Pattern Recognition (CVPR) 2022.
9. Haitao Yang, Zaiwei Zhang, Siming Yan, Haibin Huang, Yi Zheng, Chongyang Ma, Chandrajit Bajaj, and **Qixing Huang**. *Scene Synthesis via Uncertainty-Driven Attribute Synchronization*. International Conference on Computer Vision (ICCV) 2021.
10. **Qixing Huang**, Xiangru Huang, Bo Sun, Zaiwei Zhang, Junfeng Jiang, and Chandrajit Bajaj. *Scene Synthesis via Uncertainty-Driven Attribute Synchronization*. International Conference on Computer Vision (ICCV) 2021.
11. Siming Yan, Zhenpei Yang, Haibin Huang, Chongyang Ma, Chandrajit Bajaj, and **Qixing Huang**. *HPNet: Deep Primitive Segmentation Using Hybrid Representations*. International Conference on Computer Vision (ICCV) 2021.

12. Jiamin Xu, Xiuchao Wu, Zihan Zhu, **Qixing Huang**, Weiwei Xu, Yin Yang, Hujun Bao. *Scalable Image-based Indoor Scene Rendering with Reflections*. ACM Transactions on Graphics, 40(4), Proceedings of ACM SIGGRAPH 2021.
13. Zhenpei Yang, Li Erran Li, and **Qixing Huang**. *StruMonoNet: Structure-Aware Monocular 3D Prediction*. Computer Vision and Pattern Recognition (**CVPR**), 2021.
14. Yifan Sun, **Qixing Huang**, Dun-Yu Hsiao, Li Guan, and Gang Hua. *Learning View Selection for 3D Scenes*. Computer Vision and Pattern Recognition (**CVPR**), 2021.
15. Zaiwei Zhang, Bo Sun, Haitao Yang, and **Qixing Huang**. *H3DNet: 3D Object Detection Using Hybrid Geometric Primitives*. European Conference on Computer Vision (**ECCV**) 2020.
16. Sangpil Kim, Hyung-gun Chi, Xiao Hu, **Qixing Huang**, and Karthik Ramani. *A Large-scale Annotated Mechanical Components Benchmark for Classification and Retrieval Tasks with Deep Neural Networks*. European Conference on Computer Vision (**ECCV**) 2020.
17. Mohamed Baker Alawieh, Yibo Lin, Zaiwei Zhang, Meng Li, **Qixing Huang**, and David Z. Pan. *GAN-SRAF: Sub-Resolution Assist Feature Generation using Conditional Generative Adversarial Networks*. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems. 2020.
18. Xiangru Huang, Zhenxiao Liang, and **Qixing Huang**. *Uncertainty Quantification on Multi-Scan Registration*. ACM Transactions on Graphics 39(4), Proc. **SIGGRAPH** 2020.
19. Zaiwei Zhang, Zhenpei Yang, Chongyang Ma, Linjie Luo, Alexander Huth, Etienne Vouga, and **Qixing Huang**. *Deep Generative Modeling for Scene Synthesis via Hybrid Representations*. ACM Transactions on Graphics (**TOG**), 2020.
20. Chen Song, Jiaru Song, and **Qixing Huang**. *HybridPose: 6D Object Pose Estimation under Hybrid Representations*. Computer Vision and Pattern Recognition (**CVPR**), 2020.
21. Zhenpei Yang, Siming Yan, and **Qixing Huang**. *Extreme Relative Pose Network under Hybrid Representations*. Computer Vision and Pattern Recognition (**CVPR**), 2020 (Oral Presentation).
22. Leonidas Guibas, **Qixing Huang**, and Zhenxiao Liang. *A Condition Number for Joint Optimization of Cycle-Consistent Networks*. Advances in Neural Information Processing Systems (**NIPS**), 2019 (Spotlight Presentation).
23. Yifan Sun, Jiacheng Zhuo, Arnav Mohan, and **Qixing Huang**. *K-Best Transformation Synchronization*. International Conference on Computer Vision (**ICCV**), 2019.
24. **Qixing Huang**, Zhenxiao Liang, Haoyun Wang, Simiao Zuo, and Chandrajit Bajaj. *Tensor Maps for Synchronizing Heterogeneous Shape Collections*. ACM Transactions on Graphics 38(4), Proc. **SIGGRAPH** 2019.
25. Josh Vekhter, Jiacheng Zhuo, Luisa F Gil Fandino, **Qixing Huang**, and Etienne Vouga. *Weaving Geodesic Foliations*. ACM Transactions on Graphics 38(4), Proc. **SIGGRAPH** 2019.

26. Zaiwei Zhang, Zhenxiao Liang, Lemeng Wu, Xiaowei Zhou, and **Qixing Huang**. *Path-Invariant Map Networks*. Computer Vision and Pattern Recognition (**CVPR**), 2019 (Oral Presentation).
27. Zhenpei Yang, Jeffrey Z. Pan, Linjie Luo, Xiaowei Zhou, Kristen Grauman, and **Qixing Huang**. *Extreme Relative Pose Estimation for RGB-D Scans via Scene Completion*. Computer Vision and Pattern Recognition (**CVPR**), 2019 (Oral Presentation).
28. Xiangru Huang, Zhenxiao Liang, Xiaowei Zhou, Yao Xie, Leonidas Guibas, and **Qixing Huang**. *Learning Transformation Synchronization*. Computer Vision and Pattern Recognition (**CVPR**), 2019.
29. Sida Peng, Yuan Liu, **Qixing Huang**, Hujun Bao, and Xiaowei Zhou. *PVNet: Pixel-wise Voting Network for 6DoF Pose Estimation*. Computer Vision and Pattern Recognition (**CVPR**), 2019 (Oral Presentation).
30. Junting Dong, Wen Jiang, **Qixing Huang**, Hujun Bao, and Xiaowei Zhou. *Fast and Robust Multi-Person 3D Pose Estimation from Multiple Views*. Computer Vision and Pattern Recognition (**CVPR**), 2019.
31. Zhang Yunke, Lixue Gong, Lubin Fan, Peiran Ren, **Qixing Huang**, Hujun Bao, and Weiwei Xu. *A Late Fusion CNN for Digital Matting*. Computer Vision and Pattern Recognition (**CVPR**), 2019.
32. Zaiwei Zhang, Xiangru Huang, **Qixing Huang**, Xiao Zhang, and Yuan Li. *Joint Learning of Neural Networks via Iterative Reweighted Least Squares*. Computer Vision and Pattern Recognition (**CVPR**) deep learning workshop, 2019.
33. Yi-Hsuan Hsieh, Pei-Chi Huang, **Qixing Huang**, and Aloysius K Mok. *LASSO: Location Assistant for Seeking and Searching Objects*. 2019 IEEE International Conference on Industrial Cyber Physical Systems (ICPS).
34. Mohamed Baker Alawieh, Yibo Lin, Zaiwei Zhang, Meng Li, **Qixing Huang**, and David Z. Pan. *GAN-SRAF: Sub-Resolution Assist Feature Generation using Conditional Generative Adversarial Networks*. Design and Automation Conference (or DAC) 2019.
35. Yifan Sun, Zhenxiao Liang, Xiangru Huang, and **Qixing Huang**. *Joint Map and Symmetry Synchronization*. European Conference on Computer Vision (**ECCV**), 2018.
36. Xingyi Zhou, Arjun Karapur, Chuang Gan, Linjie Luo, and **Qixing Huang**. *Unsupervised Domain Adaptation for 3D Keypoint Prediction from a Single Depth Scan*. European Conference on Computer Vision (**ECCV**), 2018.
37. Xingyi Zhou, Arjun Karapur, Linjie Luo and, and **Qixing Huang**. *StarMap for Category-Agnostic Keypoint and Viewpoint Estimation*. European Conference on Computer Vision (**ECCV**), 2018.
38. Haoshuo Huang, **Qixing Huang**, and Philipp Krähenbühl. *Domain transfer through deep activation matching*. European Conference on Computer Vision (**ECCV**), 2018.

39. Chandrajit Bajaj, Tingran Gao, Zihang He, **Qixing Huang**, and Zhenxiao Liang. *Simultaneous Mapping and Clustering via Spectral Decompositions*. International Conference on Machine Learning (**ICML**), 2018. (Authors by alphabetical order).
40. Nan Hu, **Qixing Huang**, Boris Thibert, and Leonidas Guibas. *Distributable Consistent Multi-Object Matching*. Computer Vision and Pattern Recognition (**CVPR**), 2018 (Spotlight Presentation).
41. Zhenpei Yang, Lihang Liu, and **Qixing Huang**. *Learning Generative Neural Networks for 3D Colorization*. AAAI conference on Artificial Intelligence (**AAAI**), 2018 (Oral Presentation).
42. Xiangru Huang, Zhenxiao Liang, Chandrajit Bajaj, and **Qixing Huang**. *Translation Synchronization via Truncated Least Squares*. Advances in Neural Information Processing Systems (**NIPS**), 2017 (Spotlight Presentation).
43. Zhangjie Cao, **Qixing Huang**, and Karthik Ramani. *Translation Synchronization via Truncated Least Squares*. 3D Object Classification via Spherical Projections. International Conference on 3D Vision, 2017 (Spotlight Presentation).
44. Xingyi Zhou, **Qixing Huang**, Xiao Sun, Xiangyang Xue, and Yichen Wei. *Weakly-supervised Transfer for 3D Human Pose Estimation in the Wild*. International Conference on Computer Vision (**ICCV**), 2017.
45. Ayan Sinha, Asim Unmesh, **Qixing Huang**, and Karthik Ramani. *SurfNet: Generating 3D Shape Surfaces Using Deep Residual Networks*. Computer Vision and Pattern Recognition (**CVPR**), 2017.
46. Xiangru Huang, Ian En-Hsu Yen, Ruohan Zhang, **Qixing Huang**, Pradeep Ravikumar, and Inderjit Dhillon. *Greedy Direction Method of Multiplier for MAP Inference of Large Output Domain*. Artificial Intelligence and Statistics (**AISTats**), 2017.
47. Kai Xu, Vladimir G. Kim, Qixing Huang, and Evangelos Kalogerakis. *Data-Driven Shape Analysis and Processing*. Computer Graphics Forum 36(1),101–132, 2017.
48. Li Yi, Vladimir G Kim, Duygu Ceylan, I Shen, Mengyan Yan, Hao Su, Cewu Lu, **Qixing Huang**, Alla Sheffer, and Leonidas Guibas. *A Scalable Active Framework for Region Annotation in 3D Shape Collections*. ACM Transactions on Graphics 35(6), Proc. **SIGGRAPH Asia** 2016.
49. Yanyao Shen, **Qixing Huang**, Nati Srebro, and Sujay Sanghavi. *Normalized Spectral Map Synchronization*. Advances in Neural Information Processing Systems (**NIPS**), 2016.
50. Tuanfeng Y Wang, Hao Su, **Qixing Huang**, Jingwei Huang, Leonidas Guibas, and Niloy J Mitra. *Unsupervised Texture Transfer from Images to Model Collections*. ACM Transactions on Graphics 35(6), Proc. **SIGGRAPH Asia** 2016.
51. Haisen Zhao, Fanglin Gu, **Qixing Huang**, J. A. Garcia Galicia, Yong Chen, Changhe Tu, Bedrich Benes, Hao Zhang, Daniel Cohen-Or, and Baoquan Chen. *Connected Fermat Spirals for Layered Fabrication*. ACM Transactions on Graphics 35(4), Proc. **SIGGRAPH** 2016.

52. Ruizhe Wang, Lingyu Wei, Etienne Vouga, **Qixing Huang**, Duygu Ceylan, Gerard Medioni, and Hao Li. Capturing Dynamic Textured Surfaces of Moving Targets. European Conference on Computer Vision (**ECCV**), 2016.
53. Chen Chen, Cewu Lu, **Qixing Huang**, Qiang Yang, Dimitrios Gunopulos, and Leonidas Guibas. City-Scale Map Creation and Updating using GPS Collections. Proc. of the 22st ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (**KDD**), 2016.
54. Somaye Hashemifar, **Qixing Huang**, and Jinbo Xu. *Joint Alignment of Multiple Protein-Protein Interaction Networks via Convex Optimization*, **RECOMB**' 2016.
55. Linyu Wei, **Qixing Huang**, Duygu Ceylan, Etienne Vouga, and Hao Li. *Dense Human Body Correspondences Using Convolutional Networks*. Computer Vision and Pattern Recognition (**CVPR**), 2016. (**oral presentation**).
56. Tinghui Zhou, Philipp Krähenbühl, Mathieu Aubry, **Qixing Huang**, and Alexei Efros. *Learning Dense Correspondences via 3D-guided Cycle Consistency*. Computer Vision and Pattern Recognition (**CVPR**), 2016. (**oral presentation**).
57. Guilin Liu, Chao Yang, Zimo Li, Duygu Ceylan, and Qixing Huang. *Symmetry-Aware Depth Estimation Using Deep Neural Networks*, arXiv preprint arXiv:1604.06079.
58. Angel X Chang, Thomas Funkhouser, Leonidas Guibas, Pat Hanrahan, **Qixing Huang**, Zimo Li, Silvio Savarese, Manolis Savva, Shuran Song, Hao Su, Jianxiong Xiao, Li Yi, and Fisher Yu. *Shapenet: An Information-Rich 3D Model Repository*. ArXiv Preprint ArXiv:1512.03012.
59. Xuelin Chen, Hao Zhang, Jinjie Lin, Ruizhen Hu, Lin Lu, **Qixing Huang**, Bedrich Benes, Daniel Cohen-Or, and Baoquan Chen. *Dapper: Decompose-and-Pack for 3D Printing*. ACM Transactions on Graphics 34(6), Proc. **SIGGRAPH Asia** 2015.
60. **Qixing Huang**, Hai Wang, and Vladlen Koltun. *Single-View Reconstruction via Joint Analysis of Image and Shape Collections*. ACM Transactions on Graphics 34(4), Proc. **SIGGRAPH** 2015.
61. **Qixing Huang**, Yuxin Chen, and Leonidas Guibas, *Scalable Semidefinite Programming Relaxation for MAP Estimation*, International Conference on Machine Learning (**ICML**), 2014.
62. Yuxin Chen, Leonidas Guibas, and **Qixing Huang**. *Near-optimal joint object matching via convex relaxation*, International Conference on Machine Learning (**ICML**), 2014.
63. Fan Wang, **Qixing Huang**, Maks Ovsjanikov, and Leonidas Guibas. *Joint Unsupervised Multi-Class Image Segmentation*, Computer Vision and Pattern Recognition (**CVPR**), 2014.
64. Niloy Mitra, Michael Wand, Hao Zhang, Daniel Cohen-Or, Vladmir Kim, and Qixing Huang. *Structure-Aware Shape Processing*, ACM SIGGRAPH 2014 Courses, 1-21.
65. Tianqiang Liu, Siddhartha Chaudhuri, Vladimir Kim, **Qixing Huang**, Niloy J. Mitra, and Thomas Funkhouser. *Creating Consistent Scene Graphs Using a Probabilistic Grammar*. ACM Transactions on Graphics 33(6), Proc. **SIGGRAPH Asia** 2014.

66. **Qixing Huang**, Fan Wang, and Leonidas Guibas. *Functional Map Networks for Analyzing and Browsing Large Shape Collections*. ACM Transactions on Graphics 33(4), Proc. **SIGGRAPH** 2014.
67. Hao Su, **Qixing Huang**, Niloy Mitra, Yangyan Li, and Leonidas Guibas. *Estimating Image Depth using Shape Collections*. ACM Transactions on Graphics 33(4), Proc. **SIGGRAPH** 2014.
68. Art Tevs, **Qixing Huang**, Michael Wand, Hans-Peter Seidel, and Leonidas Guibas. *Relating Shapes via Geometric Symmetries and Regularities*. ACM Transactions on Graphics 33(4), Proc. **SIGGRAPH** 2014.
69. **Qixing Huang**, Leonidas Guibas, and Niloy Mitra. *Near-Regular Structure Extraction Using Linear Programming*. ACM Transactions on Graphics 33(2) (Presented at **SIGGRAPH** 2014).
70. **Qixing Huang**, Hao Su, and Leonidas Guibas. *Fine-Grained Semi-Supervised Labeling of Large Shape Collections*. ACM Transactions on Graphics 32(6), Proc. **SIGGRAPH ASIA** 2013.
71. **Qixing Huang** and Leonidas Guibas. *Consistent Shape Maps via Semidefinite Programming*, Computer Graphics Forum 32(5), Proc. Symposium on Geometry Processing (**SGP**), 2013. **Best Paper Award**.
72. Fan Wang, **Qixing Huang**, and Leonidas Guibas. *Image Co-Segmentation via Consistent Functional Maps*. International Conference on Computer Vision (**ICCV**), 2013.
73. Yang Li, **Qixing Huang**, Michael Kerber, Lin Zhang, and Leonidas Guibas. *Large-Scale Joint Map Matching of GPS Traces*, In Proceedings of the 21th **SIGSPATIAL** International Conference on Advances in Geographic Information Systems, GIS 13, 2013.
74. Chen Chen, Hao Su, **Qixing Huang**, Lin Zhang, and Leonidas Guibas. *Pathlet Learning for Compressing and Planning Trajectories*. In Proceedings of the 21th **SIGSPATIAL** International Conference on Advances in Geographic Information Systems, GIS 13, 2013.
75. Haochen Tang, Michael Kerber, **Qixing Huang**, and Leonidas Guibas. *Locating Lucrative Passengers for Taxicab Drivers*. In Proceedings of the 21th **SIGSPATIAL** International Conference on Advances in Geographic Information Systems, GIS 13, 2013.
76. Bing Zhu, **Qixing Huang**, Leonidas Guibas, and Lin Zhang. *Urban Population Migration Pattern Mining Based on Taxi Trajectories*. Third International Workshop on Mobile Sensing: The future, brought to you by Big Sensor Data, IPSN'13 Workshop.
77. Youngmin Kim, Niloy Mitra, **Qixing Huang**, and Leonidas Guibas. *Guided Real-Time Scanning of Indoor Environments*. Computer Graphics Forum 32(7), Proc. Pacific Graphics 2013 .
78. Yongliang Yang and **Qixing Huang**. *TrayGen: Arranging Objects for Exhibition and Packaging*. Computer Graphics Forum 32(7), Proc. Pacific Graphics 2013.
79. Lin Gao, Yukun Lai, **Qixing Huang**, and Shimin Hu. *A Data-Driven Approach to Realistic Shape Morphing*. Computer Graphics Forum 32(2), Proc. Eurographics 2013 .



80. **Qixing Huang**, Guoxin Zhang, Lin Gao, Shimin Hu, Adrian Bustcher, and Leonidas Guibas. *An Optimization Approach for Extracting and Encoding Consistent Maps in a Shape Collection*. ACM Transactions on Graphics 31(6), Article 125, (2012), Proc. **SIGGRAPH ASIA** 2012.
81. **Qixing Huang**, Vladlen Koltun, and Leonidas Guibas. *Joint-Shape Segmentation with Linear Programming*. ACM Transactions on Graphics 30(6), Article 125, (2011), Proc. **SIGGRAPH ASIA** 2011.
82. Maks Ovsjanikov, **Qixing Huang**, and Leonidas Guibas. *A Condition Number for Non-Rigid Shape Matching*. Computer Graphics Forum 30(5), Proc. Symposium on Geometry Processing (**SGP**) 2011.
83. **Qixing Huang**, Mei Han, Bo Wu, and Sergey Ioffe. *A Hierarchical Conditional Random Field Model for Labeling and Segmenting Images of Street Scenes*. Computer Vision and Pattern Recognition (**CVPR**), 2011.
84. Helmut Pottmann, **Qixing Huang**, Bailin Deng, Alexander Schiftner, Martin Kilian, Leonidas Guibas, and Johannes Wallner. *Geodesic patterns*. ACM Transactions on Graphics 29(4), Article 43, (2010), Proc. **SIGGRAPH** 2010.
85. Johannes Wallner, Alexander Schiftner, Martin Kilian, Simon Flöry, Mathias Höbinger, Bailin Deng, **Qixing Huang**, and Helmut Pottmann. *Tiling freeform shapes with straight panels: Algorithmic methods*. Advances in Architectural Geometry, 2010.
86. **Qixing Huang** and Dragomir Anguelov. *High Quality Pose Estimation by Aligning Multiple Scans to a Latent Map*. IEEE International Conference on Robotics and Automation (**ICRA**), 2010.
87. **Qixing Huang**, Radomir. Měch, and Nathan Carr. *Optimizing Structure Preserving Embedded Deformation for Resizing Images and Vector Art*. Computer Graphics Forum 28(7), Proc. Pacific Graphics 2009.
88. Barbara Thuswaldner, Simon Flöry, Robert Kalasek, Michael Hofer, **Qixing Huang**, and Hilke Thür. *Digital anastylosis of the Octagon in Ephesos*. ACM Journal on Computing and Cultural Heritage (JOCCH) 2(1), 2009.
89. **Qixing Huang**, Martin Wicke, Bart Adams, and Leonidas Guibas. *Shape Decomposition using Modal Analysis*. Computer Graphics Forum 28(2), Proc. Eurographics 2009.
90. Helmut Pottmann, Johannes Wallner, **Qixing Huang**, and Yongliang Yang. *Integral Invariants for Robust Geometry Processing*. Computer Aided Geometric Design 26(1), 2009. **Received Computer Aided Geometric Design Most Cited Paper Award in 2011 and 2012**.
91. **Qixing Huang**, Bart Adams, Martin Wiche, and Leonidas Guibas. *Non-Rigid Registration Under Isometric Deformations*. Computer Graphics Forum 27(5), Proc. of Symposium on Geometry Processing (**SGP**) 2008.
92. **Qixing Huang**, Bart Adams, and Michael Wand. *Bayesian Surface Reconstruction via Iterative Scan Alignment to an Optimized Prototype*. Proc. of Eurographics Symposium on Geometry Processing 2007 (**SGP**).

93. Michael Wand, Phillip Jenke, **Qixing Huang**, Martin Bokeloh, Leonidas Guibas, and Andrea Schilling. *Reconstruction of Deforming Geometry from Time-Varying Point Clouds*. Proc. of Eurographics Symposium on Geometry Processing 2007 (**SGP**).
94. Helmut Pottmann, **Qixing Huang**, Yongliang Yang, and Shimin Hu. *Geometry and Convergence Analysis of Algorithms for Registration of 3D Shapes*. International Journal of Computer Vision (**IJCV**) 67(3), 2006.
95. **Qixing Huang**, Simon Flöry, Natasha Gelfand, Michael Hofer, and Helmut Pottmann. *Re-assembling Fractured Objects by Geometric Matching*. ACM Transactions on Graphics 25(3), 569-578, (2006), Proc. **SIGGRAPH** 2006.
96. **Qixing Huang**, Shimin Hu, and Ralph Martin. *Fast Degree Elevation and Knot Insertion for B-spline Curves*. Computer Aided Geometric Design 22(2), 2005.
97. Chiewlan Tai, Shimin Hu, and **Qixing Huang**. *Approximate Merging of B-Spline Curves via Knot Adjustment and Constrained Optimization*. Computer Aided Design 35(10), 2003.

#### Theses

98. Qixing Huang. *Optimization Techniques for Segmenting 3D Shapes*, PHD Dissertation, Stanford University, 2012.
99. Qixing Huang. *Automatic and Robust Multi-view Matching*, MS Thesis, Tsinghua University, 2005.
100. Qixing Huang. *Interactive Editing of Subdivision Surfaces*, BS Thesis, Tsinghua University, 2002.

#### Patents

101. Dragomir Anguelov and **Qixing Huang**. *Accurate Alignment of Multiple Laser Scans Using a Template Surface*. US 8209143B1.
102. **Qixing Huang**, Nathan Carr, and Radomir Mech. *Method and Apparatus for Structure Preserving Editing in Computer Graphics*. US8229247B1.
103. **Qixing Huang**, Mei Han, Bo Wu, and Sergey Ioffe. *Hierarchical Conditional Random Field Model for Labeling and Segmenting Images*. US10102443B1.

#### Professional Activity

Graduate Student Supervision at UT Austin:

Xiangru Huang,	PhD,	Graduated.	Next Stop: Postdoc at MIT
Zaiwei Zhang,	PhD,	Graduated.	Next Stop: Applied Scientist at Amazon
Zhenpei Yang,	PhD,	Graduated.	Next Stop: Research Scientist at Waymo
Yifan Sun,	PhD,	08/2017–current.	
Zhenxiao Liang,	PhD,	08/2018–current.	CVPR 2019 Best Paper Finalist
Bo Sun,	PhD,	08/2019–current.	
Haitao Yang,	PhD,	08/2019–current.	
Siming Yang,	PhD,	08/2019–current.	
Chen Song,	PhD,	08/2019–current.	
Yan Zheng,	PhD,	08/2021–current.	
Zihang He,	PhD,	08/2021–current.	
Jiaxin Lu,	PhD,	08/2022–current.	
Xingyi Zhou,	PhD,	08/2017–05/2018.	
Lihang Liu,	MS,	01/2017–05/2018.	
Chia-Chen Hsu,	MS,	09/2016–05/2018.	

## Undergraduate Student Supervision at UT Austin:

Simiao Zuo,	Math/CS,	08/2018-05/2019.
Kevin Tai,	Turing Scholar,	01/2017–05/2018.
Arjun Karpur,	Turing Scholar,	01/2017–05/2018.
Rodolfo C. Rodriguez,	Turing Scholar,	01/2017–05/2018.
Joe Langus,	Turing Scholar,	11/2016–05/2017.

## Visiting Students and Summer Interns:

Student (CoSupervision)	School	Period	Next Stop
Haoyun Wang	<i>Tsinghua</i>	05/2018-08/2018	PhD at Gatech ISYE
Zishuo Zhao (Bajaj)	<i>Tsinghua</i>	04/2018-08/2018	Senior at Tsinghua
Simiao Zuo	<i>UT Austin</i>	10/2018-current	PhD at Gatech ISYE
Zhangjie Cao	<i>Tsinghua</i>	02/2017–05/2017	PhD at Stanford CS
Rodolfo Rodriguez (Mooney)	UT Austin	10/2016-05/2018	PhD at Berkeley EECS
Zhou Lu (Bajaj)	<i>Peking</i>	07/2017–09/2017	PhD at Princeton CS
Zihang He	<i>Tsinghua</i>	02/2017–08/2017	PhD at UTAustin CS
Zhenxiao Liang	<i>Tsinghua</i>	02/2017–08/2017	PhD at UTAustin CS
Lemeng Wu (Mooney)	<i>Beihang</i>	07/2017–09/2017	PhD at UTAustin CS
Xi Ye (Bajaj)	<i>Tsinghua</i>	07/2017–09/2017	PhD at UTAustin CS
Yufeng Zhang (Bajaj)	<i>USTC</i>	07/2017–09/2017	PhD at Northwestern IEOR
Lizhen Wang	<i>Tsinghua</i>	07/2017–08/2017	PhD at Tsinghua
Te Yang (Vouga)	<i>Beihang</i>	07/2017–09/2017	PhD at NAS China
Zhicheng Gu (Bajaj)	<i>Tsinghua</i>	07/2017–09/2017	MS at Columbia CS
Haosuo Huang (Krahenbuhl)	<i>Tsinghua</i>	07/2017–09/2017	Google China
Hai Wang	<i>TTI Chicago</i>	10/2014–01/2015	PhD at TTI Chicago

Zimo Li	MS, <i>U. of Chicago</i>	03/2015–08/2016	PhD at USC CS
Guilin Liu	<i>George Mason</i>	06/2015–08/2015	NVIDIA Research
Somaye Hashemifar	<i>TTI Chicago</i>	04/2015–08/2016	With Dr. Jinbo Xu
Tuanfeng WangYang	<i>U. College London</i>	11/2015–02/2016	PhD at UCL

## PhD Thesis Committee:

David Inouye,	CS,	Defended (05/2017),	Advisor: Inderjit Dillon.
Jason Liang,	CS,	Defended (11/2018),	Advisor: Risto Miikkulainen.
Mingzhang Yin,	STAT,	Defended (05/2020),	Advisor: Mingyuan Zhou.
Aron Yu,	ECE,	Defended (04/2019),	Advisor: Kristen Grauman.
Tianyan Li,	CS,	Defended (04/2019),	Advisor: Constantine Caramanis.
Bo Xiong,	CS,	Defended (07/2019),	Advisor: Kristen Grauman.
Yu-Chuan Su,	CS,	Defended (07/2019),	Advisor: Kristen Grauman.
Janice Pan,	ECE,	Defended (11/2019),	Advisor: Alon Bovik.
Qi Lei,	ICES,	Defended (05/2020),	Advisor: Inderjit Dillion and Alex Dimakis.
Yanyao Shen,	ECE,	Defended (04/2020),	Advisor: Sujay Sanghavi.
Ruohan Gao,	CS,	Defended (01/2021),	Advisor: Kristen Grauman.
Santiago Gonzalez	CS,	Defended (11/2020),	Advisor: Risto Miikkulainen.
Mohamed B. Alawieh	ECE,	Defended (11/2020),	Advisor: David Z. Pan.
Duo Xu,	Astr.	Defended (06/2021),	Advisor: Stella Offner
Wei-Lin Hsiao,	CS,	Defended (08/2021),	Advisor: Kristen Grauman.
Loc Hoang,	CS,	Defended (07/2021),	Advisor: Keshav Pingali.
Yinan Zhao,	CS,	Defended (08/2021),	Advisor: Danna Gurari.
Yu-Chuen Chang,	ME	Defended (07/2022),	Advisor: Richard Crawford.
Sepideh Maleki,	CS,	Defended (07/2022),	Advisor: Keshav Pingali.

## Internal Committees at UT Austin :

2016-2017, Department of Computer Science PhD Admissions Committee;  
 2017-2018, Department of Computer Science PhD Admissions Committee;  
 2017-2018, Department of Computer Science Graduate Fellowship Committee (Chair);  
 2018-2019, Department of Computer Science PhD Admissions Committee;  
 2018-2019, Department of Computer Science Graduate Fellowship Committee (Chair);  
 2019-2020, Department of Computer Science MS Admissions Committee;  
 2020-2021, Department of Computer Science MS Admissions Committee;  
 2020-2021, Department of Computer Science Faculty Evaluation Committee;  
 2021-2022, Department of Computer Science PhD Admissions Committee;

## External Committees/Panels:

2018-2022, National Science Foundation Panelists (Four times);  
 2019.4, VALSE 2018 Best Paper Award Committee;

## Program Chair and Advisor Board:

Eurographics Symposium on Geometry Processing 2020 (Papers Co-Chair);  
Eurographics 2020 (Papers Advisory Board);

## Program Committees:

ACM SIGGRAPH 2020, 2021 (Papers Committee);  
ACM SIGGRAPH Asia 2021 (Conflict of Interest Coordinator);  
AAAI Conference on Artificial Intelligence (**AAAI**) 2020,2021 (**Senior Program Committee**);  
International Conference on Computer Vision (**ICCV**) 2019 (**Area Chair**);  
Confernece on Computer Vision and Pattern Recognition (**CVPR**) 2019,2022 (**Area Chair**);  
Eurographics 2014, 2015 (Short Papers);  
Geometry Modeling and Processing 2014, 2015, 2016, 2019;  
ACM Symposium on Solid and Physical Modeling 2012, 2013, 2019;  
Eurographics Symposium on Geometry Processing 2012, 2014, 2015, 2016,2017,2018, 2019;  
Shape Modeling International 2016,2018,2019,2021;  
Pacific Graphics 2012, 2014, 2015,2016,2017,2018;  
CAD/Graphics 2015,2017;

## Journal Reviewer:

ACM Transactions on Graphics;  
IEEE Transactions on Visualization and Computer Graphics;  
IEEE Transactions on Pattern Analysis and Machine Intelligence;  
International Journal of Computer Vision;  
IEEE Transactions on Image Processing;  
IEEE Computer Graphics and Application;  
Computer Vision and Image Understanding;  
ACM Journal on Cultural Heritage and Computing;  
Robotics and Autonomous Systems;  
The Visual Computer;  
Computer Aided Design;  
Computer Aided Geometric Design;  
Computer Graphics Forum;  
SIAM Journal on Imaging Sciences;  
Graphical Models;  
Journal of Machine Learning Research;

## Conference Reviewer:

SIGGRAPH 2007, 2011-2021;  
SIGGRAPH Asia 2010, 2012-2021;  
Eurographics 2009, 2010-2018;  
NeurIPS 2016-2021;  
ICML 2014, 2015, 2018-2021;  
AAAI 2015, 2019;  
CVPR 2015-2018, 2020-2021;  
ICCV 2015,2017,2019,2021;  
ECCV 2016,2018, 2020;

#### Invited Talks:

Map Synchronization: from Matrices to Neural Networks

- Seminar on Data Science and Machine Learning, Department of Mathematics, the Hong Kong University of Science Technology, 09/2021.
- Computer Vision Seminar, University of Illinois Urbana-Champaign, 09/2021.

Extreme Relative Pose Estimation via Scene Completion

- 3D Scene Understanding for Vision, Graphics, and Robotics, CVPR 2021 Workshop, 06/2021. <https://scene-understanding.com/index.html>

Geometry Learning via Hybrid 3D Representations

- 3D Geometric Vision Seminar Series, 06/2021. <https://www.youtube.com/watch?v=etTrIRoJre4>
- Upenn SIG Seminar, 10/2020.
- Stanford Geometry Computing Group, 08/2020.
- Google Mobile Vision Seminar Series, 08/2020.
- Valse 3D Vision Workshop, 08/2020
- First Workshop on Deep Learning Foundations of Geometric Shape Modeling and Reconstruction, CVPR 2020.
- Geometry Meets Deep Learning Workshop, International Conference on Computer Vision, 11/2019
- CAD/CG State Key Lab Seminar Series, HangZhou, Zhejiang, China, 08/2019
- 3D Vision Workshop of 22th CAD/CG conference, YingChuan, Ningxia, China, 08/2019
- Microsoft Research Asia, Beijing, China, 08/2019

## Map Synchronization: from Object Correspondences to Neural Networks

- Tutorial on Synchronization and Cycle Consistency in Computer Vision, CVPR 2020, 06/2020.
- Machine Learning Seminar, Georgia Tech, Atlanta, Georgia, USA, 11/2018.
- GAMES Seminar (Online), 03/2019
- HUIBI Forum, Seattle, Washington, USA, 07/2019
- **IJCAI Early Career Spotlight**, Macau, China, 08/2019
- Colloquium of Tsinghua-Berkeley Shenzhen Institute, ShenZhen, China, 08/2019

## 3D-Centric Data-Driven Visual Computing

- Center for Research in Computer Vision (CRCV) Colloquium, University of Central Florida, USA, 11/2017.

## Visual Correspondences in the Big-Data Era

- WNCG Colloquium, University of Texas Austin, USA, 10/2016.
- Tsinghua University, China, 10/2016.
- Beihang University, China, 10/2016.
- University of Science and Technology, China, 10/2016.
- Zhejiang University, China, 10/2016.

## Visual Computing Using Big 3D Data

- Computer Science Colloquium, University of Texas Austin, USA, 3/2016.
- Computer Science Colloquium, Purdue University, USA, 3/2016.
- Computer Science Colloquium, University of California, Riverside, USA, 3/2016.
- Computer Science Colloquium, Washington University at Saint Louis, USA, 3/2016.
- Computer Science Colloquium, University of Southern California, USA, 4/2016.
- Computer Science Colloquium, University of Toronto, USA, 4/2016.
- Computer Science Colloquium, Michigan State University, USA, 4/2016.

## Robust Map Synchronization via Constrained Matrix Optimization

- ICES Colloquium, University of Texas Austin, USA, 10/2015.

## Single-View Construction via Joint Analysis of Image and Shape Collections

- Computer Science Department Colloquium, University of Texas Austin, USA, 10/2015.
- Visual Computing Lab Seminar, University of California, Berkeley, USA, 08/2015.
- CVPR Workshop on 3D from a Single Image, USA, 06/2015.
- Computer Science Department Colloquium, Washington University in St. Louis, USA, 04/2015.
- Research at TTIC seminar, Toyota Technological Institute at Chicago, USA, 01/2015.

## Geometry Processing from a Data-Driven Perspective

- Computer Science Department Colloquium, University of Waterloo, Canada, 04/2014.
- Computer Science Department Colloquium, King Abdullah University of Science and Technology, Saudi Arabia, 03/2014.
- Invited Talk, Adobe Research, San Jose, USA, 03/2014.
- TTI Chicago Colloquium, Toyota Technological Institute at Chicago, USA, 02/2014.
- Computer Science Department Colloquium, Arizona State University, USA, 02/2014.

## Robust Joint Object Matching Using Semidefinite Programming

- Visual Computing Center International Workshop, Chinese Academy of Sciences, Shenzhen, China, 11/2013.
- Graphics/Vision Seminar, Princeton University, USA, 09/2013.
- Computer Science Department Colloquium, Ecole Polytechnique, France, 07/2013.

## Joint Shape Segmentation Using Linear Programming

- CS Faculty Lunch Seminar, Stanford University, USA, 12/2011.
- Visual Computing Seminar, Chinese Academy of Sciences, Shenzhen, China, 11/2011.

## Shape Matching Using Linear Programming

- Workshop on Recent Advances on Topological and Geometric Data Analysis, Paris, France, 07/2009.

## Shape Decomposition Using Modal Analysis

- Surfaces, Meshes, Geometric Structures, International Workshop in Admont, 07/2009.

**Workshops Co-Organized (Selected)**

2020– Current *3D Geometric Vision Seminar Series*. <https://3dgv.github.io/>. More than 26K total views on Youtube.



- 2021 June *3D Vision and Robotics Workshop in Conjunction with CVPR 2021*, with Yuke Zhu, Li Erran Li, Angel X Chang, Yu Xiang, Charles R. Qi, and Katerina Fragkiadaki.
- 2020 June *Learning 3D Generative Models in Conjunction with CVPR 2020*, with Florian Golemo, Sai Rajeswar, David Vazquez, Pedro O. Pinheiro, Angel X. Chang, Siddhartha Chaudhuri, Daniel Ritchie, Manolis Savva, Kai Xu, Hao Zhang, Aaron Courville, and Derek Nowrouzezahrai.
- 2019 June *Learning 3D Generative Models Workshop in Conjunction with CVPR 2019*, with Florian Golemo, Sai Rajeswar, David Vazquez, Pedro O. Pinheiro, Angel X. Chang, Siddhartha Chaudhuri, Daniel Ritchie, Manolis Savva, Kai Xu, Hao Zhang, Aaron Courville, and Derek Nowrouzezahrai.
- 2018 June *Workshop on Visual Learning and Embodied Agents in Simulation Environments in Conjunction with ECCV 2018*, with Peter Anderson, Manolis Savva, Angel X. Chang, Saurabh Gupta, Amir R. Zamir, Stefan Lee, Samyak Datta, Li Yi, Hao Su, Cewu Lu, and Leonidas Guibas.
- 2018 June *Bridges to 3D Vision Workshop in Conjunction with CVPR 2018*, with David Fouhey, Joseph Lim, Hao Su, and Shubham Tulsiani.
- 2017 June *Bridges to 3D Vision Workshop in Conjunction with CVPR 2017*, with David Fouhey, Joseph Lim, Hao Su, and Shubham Tulsiani.

### Teaching activity

#### Instructor

- 2021 Spring Numerical Optimization for Graphics and AI, CS395T, The University of Texas at Austin.
- 2020 Fall Computer Vision, CS376, The University of Texas at Austin.
- 2020 Spring Computer Vision, CS376, The University of Texas at Austin.
- 2019 Fall Numerical Optimization for Graphics and AI, CS395T, The University of Texas at Austin.
- 2019 Spring Computer Vision, CS376, The University of Texas at Austin.
- 2018 Fall Numerical Optimization for Graphics and AI, CS395T, The University of Texas at Austin.
- 2018 Spring Computer Graphics, CS354, The University of Texas at Austin.
- 2017 Fall Numerical Optimization for Graphics and AI, CS395T, The University of Texas at Austin.
- 2017 Spring Advanced Geometry Processing, CS395T, The University of Texas at Austin.
- 2014 Spring Data-Driven Geometry Processing, CS468, Stanford University.

#### Tutorial

- 2020 June Tutorial on Synchronization and Cycle Consistency in Computer Vision, Computer Vision and Pattern Recognition 2020 tutorial, with Tolga Birdal, Federica Arrigoni, and Leonidas Guibas.

- 2019 June Map Synchronization: from Object Correspondences to Neural Networks, Computer Vision and Pattern Recognition 2020 tutorial, with Xiaowei Zhou, Junyan Zhu, and Tinghui Zhou.
- 2017 June A Tutorial on 3D Deep Learning, Computer Vision and Pattern Recognition 2017 tutorial, with Hao Su, Leonidas Guibas, Evangelos Kalogerakis, Michael Bronstein, Charles Qi, and Yimei Yang.
- 2013 November Structure-Aware Shape Processing, SIGGRAPH ASIA 2013 Course, with Niloy Mitra, Michael Wand, Hao Zhang, Daniel Cohen-or and Vladmir Kim.
- 2014 August Structure-Aware Shape Processing, SIGGRAPH 2014 Course, with Niloy Mitra, Michael Wand, Hao Zhang, Daniel Cohen-or and Vladmir Kim.

#### Guest Lecturer

- 2012 Summer Introduction to Computer Graphics, CS148, Stanford University.
- 2012 Spring Digital Geometry Processing, CS468, Stanford University.

#### Teaching Assistant

- 2009 Fall Computer Graphics: Geometric Modeling, CS348A, Stanford University.
- 2009 Spring Computing with Physical Objects: Algorithms for Shape and Motion, CS164, Stanford University.
- 2008 Spring Computer Graphics: Geometric Modeling, CS348A, Stanford University.