

## Publications of Huamin Qu

(The names of my PhD/MPhil students are underlined.)

### Refereed Journal Papers:

1. Conglei Shi, Yingcai Wu, Shixia Liu, Hong Zhou, **Huamin Qu**, “LoyalTracker: Visualizing Loyalty Dynamics in Search Engines”. *IEEE Trans. Vis. Comput. Graph.* 20(12): 2014
2. Zuchao Wang, Tangzhi Ye, Min Lu, Xiaoru Yuan, **Huamin Qu**, Jacky Yuan, Qianliang Wu, “Visual Exploration of Sparse Traffic Trajectory Data”, *IEEE Trans. Vis. Comput. Graph.* 20(12): 2014
3. Wei Zeng, Chi-Wing Fu, Stefan Müller Arisona, Alexander Erath, **Huamin Qu**. “Visualizing Mobility of Public Transportation System”, *IEEE Trans. Vis. Comput. Graph.* 20(12): 2014
4. Zhen Wang, Liqiang Zhang, Tian Fang, Xiaohua Tong, P. Takis Mathiopoulos, Huamin Qu, Zhiqiang Xiao, Zhenxin Zhang. “An LDA-based feature extraction of hierarchical point clusters for classification of TLS point clouds”, *IEEE Transactions on Geoscience and Remote Sensing*, accepted for publication.
5. Jiansu Pu, Siyuan Liu, Panpan Xu, **Huamin Qu**, Lionel M. Ni: “MViewer: mobile phone spatiotemporal data viewer”. *Frontiers of Computer Science* 8(2): 298-315 (2014)
6. Zhen Wang, Liqiang Zhang, Tian Fang, P. Takis Mathiopoulos, **Huamin Qu**, Dong Chen, Yuebin Wang: “A Structure-Aware Global Optimization Method for Reconstructing 3-D Tree Models From Terrestrial Laser Scanning Data”. *IEEE Transactions on Geoscience and Remote Sensing* 52(9): 5653-5669 (2014)
7. Panpan Xu, Yingcai Wu, Enxun Wei, Tai-Quan Peng, Shixia Liu, Jonathan J. H. Zhu, **Huamin Qu**: Visual Analysis of Topic Competition on Social Media. *IEEE Trans. Vis. Comput. Graph.* 19(12): 2012-2021 (2013)
8. Siyuan Liu, Jiansu Pu, Qiong Luo, **Huamin Qu**, Lionel M. Ni, Ramayya Krishnan: VAIT: A Visual Analytics System for Metropolitan Transportation. *IEEE Transactions on Intelligent Transportation Systems* 14(4): 1586-1596 (2013)
9. Yu-Xin Ma, Jia-Yi Xu, Dichao Peng, Ting Zhang, Cheng-Zhe Jin, **Huamin Qu**, Wei Chen, Qunsheng Peng: A Visual Analysis Approach for Community Detection of Multi-Context Mobile Social Networks. *J. Comput. Sci. Technol.* 28(5): 797-809 (2013)
10. Panpan Xu, Fan Du, Nan Cao, Conglei Shi, Hong Zhou, **Huamin Qu**. “Visual Analysis of Set Relations in a Graph”, **Computer Graphics Forum**, 2013.
11. Wei Zeng, Chi-Wing Fu, Stefan Muller Arisona, **Huamin Qu**. “Visualizing Interchange Patterns in Massive Movement Data”, **Computer Graphics Forum**, 2013.
12. Guodao Sun, Ronghua Liang, Fuli Wu, **Huamin Qu**: A Web-based visual analytics system for real estate data. *SCIENCE CHINA Information Sciences* 56(5): 1-13 (2013).
13. Conglei Shi, Weiwei Cui, Shixia Liu, Panpan Xu, Wei Chen, Huamin Qu: RankExplorer: Visualization of Ranking Changes in Large Time Series Data. **IEEE Trans. Vis. Comput. Graph.** 18(12): 2669-2678 (2012)
14. Nan Cao, Yu-Ru Lin, Xiaohua Sun, David Lazer, Shixia Liu, **Huamin Qu**: Whisper: Tracing the Spatiotemporal Process of Information Diffusion in Real Time. **IEEE Trans. Vis. Comput. Graph.** 18(12): 2649-2658 (2012)
15. Nan Cao, David Gotz, Jimeng Sun and **Huamin Qu**. “DICON : Interactive Visual Analysis of Multidimensional Clusters”, **IEEE Transactions on Visualization and Computer Graphics**, vol. 17, no. 11&12, Nov. – Dec. 2011.
16. Weiwei Cui, Shixia Liu, Li Tan, Conglei Shi, Yangqiu Song, Zekai Gao, Xin Tong, and **Huamin Qu**. “TextFlow: Towards Better Understanding of Evolving Topics in Text”,

- IEEE Transactions on Visualization and Computer Graphics**, vol. 17, no. 11&12, Nov. – Dec. 2011.
17. Nan Zhang, **Huamin Qu**, Robert Sweet, "Orientation-Preserving Rod Elements for Realtime Thin Shell Simulation", **IEEE Transactions on Visualization and Computer Graphics** 17(6): 822-835 (2011)
  18. Weiwei Cui, Hong Zhou, Wenbin Zhang, Steven Skiena, **Huamin Qu**. "Watch the Story Unfold with TextWheel: Visualization of Large-Scale News Streams", **ACM Transactions on Intelligent Systems and Technology**, accepted for publication.
  19. Wai-Ho Mak, Yingcai Wu, Ming-Yuen Chan, **Huamin Qu**. "Visibility-Aware Direct Volume Rendering", *J. Comput. Sci. Technol.* 26(2): 217-228, 2011.
  20. Weiwei Cui, Yingcai Wu, Shixia Liu, Furu Wei, Michelle Zhou, **Huamin Qu**. "Context Preserving Dynamic Word Cloud Visualization", **IEEE Computer Graphics and Applications** (CG&A), 30(6): 42-53 (2010).
  21. Nan Cao, Jimeng Sun, Yu-Ru Lin, David Gotz, Shixia Liu and **Huamin Qu**. "FacetAtlas: Multifacet Visualization for Rich Text Corpora". **IEEE Transactions on Visualization and Computer Graphics**, vol. 16, no. 6, Nov.-Dec. 2010.
  22. Yingcai Wu, Furu Wei, Shixia Liu, Norman Au, Weiwei Cui, Hong Zhou, and **Huamin Qu**. "OpinionSeer: Interactive Visualization of Hotel Customer Feedback", **IEEE Transactions on Visualization and Computer Graphics**, vol. 16, no. 6, Nov.-Dec. 2010.
  23. Wing-Yi Chan, **Huamin Qu**, Wai-Ho Mak. "Visualizing the Semantic Structure in Classical Music Works", **IEEE Transactions on Visualization and Computer Graphics**, vol. 16, no.1, pages 161-173, Jan.-Feb. 2010.
  24. **Huamin Qu**, Haomian Wang, Weiwei Cui, Yingcai Wu, Ming-Yuen Chan. "Focus+Context Route Zooming and Information Overlay in 3D Urban Environments", **IEEE Transactions on Visualization and Computer Graphics**, vol. 15, no. 6, pages 1547-1554, Nov.-Dec. 2009.
  25. Yingcai Wu, Ka-Kei Chung, **Huamin Qu**, Xiaoru Yuan, Shing-Chi Cheung. "Interactive Visual Optimization and Analysis for RFID Benchmarking", **IEEE Transactions on Visualization and Computer Graphics**, vol. 15, no. 6, pages 1335-1342, Nov.-Dec. 2009.
  26. Ming-Yuen Chan, Yingcai Wu, Wai-Ho Mak, Wei Chen, **Huamin Qu**. "perception-Based Transparency Optimization for Direct Volume Rendering". **IEEE Transactions on Visualization and Computer Graphics**, vol. 15, no. 6, pages 1283-1290, Nov.-Dec. 2009.
  27. Xiaoru Yuan, Peihong Guo, He Xiao, Hong Zhou, **Huamin Qu**. "Scattering Points in Parallel Coordinates", **IEEE Transactions on Visualization and Computer Graphics**, vol. 15, no. 6, pages 1001-1008, Nov.-Dec. 2009.
  28. Wei Chen, Zi'ang Ding, Song Zhang, Anna M. Brandt, Stephen Correia, **Huamin Qu**, John A. Crow, David Tate, Zhicheng Yan, Qunsheng Peng. "A Novel Interface for Interactive Exploration of DTI Fibers", **IEEE Transactions on Visualization and Computer Graphics**, vol. 15, no. 6, pages 1433-1440, Nov.-Dec. 2009.
  29. Hong Zhou, Weiwei Cui, **Huamin Qu**, Yingcai Wu, Xiaoru Yuan, Wei Zhuo. "Splating the Lines in Parallel Coordinates", **Computer Graphics Forum**, vol. 28. no.3, pages 759 – 766, 2009.
  30. Ming-Yuen Chan, **Huamin Qu**, Ka-Kei Chung, Wai-Ho Mak, and Yingcai Wu. "Relation-Aware Volume Exploration Pipeline", **IEEE Transactions on Visualization and Computer Graphics**, vol. 14, no. 6, pages 1683-1690, Nov.-Dec. 2008.
  31. Weiwei Cui, Hong Zhou, **Huamin Qu**, Pak Chung Wong, and Xiaoming Li, "Geometry-Based Edge Clustering for Graph Visualization", **IEEE Transactions on Visualization and Computer Graphics**, vol. 14, no. 6, pages 1277-1284, Nov.-Dec. 2008.

32. Hong Zhou, Xiaoru Yuan, **Huamin Qu**, Weiwei Cui, Baoquan Chen. "Visual Clustering in Parallel Coordinates", **Computer Graphics Forum**, vol. 27, no. 3, 2008.
33. **Huamin Qu**, Wing-Yi Chan, Anbang Xu, Kai-Lun Chung, Kai-Hon Lau, Ping Guo. "Visual Analysis of The Air Pollution Problem in Hong Kong", **IEEE Transactions on Visualization and Computer Graphics**, vol. 13, no. 6, Nov.-Dec. 2007.
34. Yingcai Wu, **Huamin Qu**. "Interactive Transfer Function Design Based on Editing Direct Volume Rendered Images", **IEEE Transactions on Visualization and Computer Graphics**, Vol. 13, No.5, pp. 1027—1040, 2007.
35. **Huamin Qu**, Arie Kaufman. "O-Buffer: A Framework for Sample-Based Graphics", **IEEE Transactions on Visualization and Computer Graphics**, Vol. 10, No.4, pp. 410-421, 2004.
36. Ming Wan, Nan Zhang, **Huamin Qu**, Arie Kaufman. "Interactive Stereoscopic Rendering of Volumetric Environments", **IEEE Transactions on Visualization and Computer Graphics**, Vol. 10, No.1, pp. 15 – 28, 2004.
37. Jianrong Dai, Yunping Zhu, **Huamin Qu**, Yimin Hu. "An Algorithm for Stereotactic Localization by Computed Tomography or Magnetic Resonance Imaging", **Physics in Medicine and Biology**, Vol.46, No.1, pp. N1 – N7, 2001.

#### **Refereed Conference Papers:**

(Since 2006, proceedings of IEEE Visualization and IEEE Information visualization are published as regular issues of IEEE Transactions on Visualization and Computer Graphics. Since 2008, proceedings of EuroVis are published as regular issues of Computer Graphics Forum. Since 2013, proceedings of IEEE VAST are published as regular issues of IEEE Transactions on Visualization and Computer Graphics. All the papers in these four conferences are listed as journal papers. They are not listed here to avoid double counting.)

38. Wenchao Wu, Yixian Zheng, **Huamin Qu**, Wei Chen, Eduard Gröller, Lionel Ni. "BoundarySeer: Visual Analysis of 2D Boundary Changes", IEEE VAST Conference Track 2014
39. Lu Lu, Nan Cao, Siyuan Liu, Lionel M. Ni, Xiaoru Yuan, **Huamin Qu**: Visual Analysis of Uncertainty in Trajectories. PAKDD (1) 2014: 509-520
40. Hong Zhou, Panpan Xu, Zhong Ming, Huamin Qu: Parallel Coordinates with Data Labels. VINCI 2014: 49
41. Yik-Wai Ng, **Huamin Qu**: TrendFocus: Visualization of trends in financial news with indicator sets. BigComp 2014: 7-12
42. Guodao Sun, Yang Liu, Wenbin Wu, Ronghua Liang, **Huamin Qu**. "Embedding Temporal Display into Maps for Occlusion-Free Visualization of Spatio-Temporal Data". IEEE PacificVis'14. 2014
43. Quan Li, **Huamin Qu**, Li Chen, Robert Wang, Jun-Hai Yong, Detan Si: Visual analysis of retweeting propagation network in a microblogging platform. VINCI 2013: 44-53
44. Jiansu Pu, Siyuan Liu, Ye Ding, **Huamin Qu**, Lionel M. Ni: T-Watcher: A New Visual Analytic System for Effective Traffic Surveillance. MDM (1) 2013: 127-136
45. Yuan Gao, Panpan Xu, Lu Lu, He Liu, Siyuan Liu, **Huamin Qu**: Visualization of Taxi Drivers' Income and Mobility Intelligence. ISVC, 275-284, 2012.
46. Jiansu Pu, Siyuan Liu, Huamin Qu, Lionel M. Ni: Visual Fingerprinting: A New Visual Mining Approach for Large-Scale Spatio-temporal Evolving Data. ADMA 2012: 502-515
47. He Liu, Yuan Gao, Lu Lu, Siyuan Liu, **Huamin Qu**, and Lionel M. Ni. "Visual Analysis of Route Diversity", IEEE Conference on Visual Analytics Science and Technology (IEEE VAST'11), 2011.

48. Jiansu Pu, Panpan Xu, **Huamin Qu**, Weiwei Cui, Siyuan Liu, and Lionel Ni. "Visual Analysis of People's Mobility Pattern from Mobile Phone Data", The 2011 Visual Information Communication - International Symposium (VINCI'11).
49. Yingcai Wu, **Huamin Qu**, Ka-Kei Chung, Ming-Yuen Chan, Hong Zhou. "Quantitative Effectiveness Measures for Direct Volume Rendered Images", IEEE Pacific Visualization 2010.
50. Weiwei Cui, Yingcai Wu, Shixia Liu, Furu Wei, Michelle Zhou, **Huamin Qu**. "Context Preserving Dynamic Word Cloud Visualization", IEEE Pacific Visualization 2010.
51. Haomian Wang, Weiwei Cui, Hong Zhou, Yingcai Wu, **Huamin Qu**. "Integrated Tourist Navigation System", 6th International Conference in Computer Graphics, Imaging and Visualization (CGIV'09).
52. Wai-Ho Mak, Yingcai Wu, Ming-Yuen Chan, **Huamin Qu**. "Visibility-Aware Direct Volume Rendering with Animations". Workshop on Visualization Applications (VisWorkshop'09), Beijing, China, 2009.
53. Wai-Ho Mak, Ming-Yuen Chan, Yingcai Wu, Ka-Kei Chung, **Huamin Qu**. "VoxelBars: An Informative Interface for Volume Visualization". International Symposium on Visual Computing (ISVC'08), pages 161-170, 2008. Oral paper.
54. Ming-Yuen Chan, Wai-Ho Mak, **Huamin Qu**. "An Efficient Quality-Based Camera Path Planning Method for Volume Exploration". International Symposium on Visual Computing (ISVC'08), pages 12-21, 2008. Oral paper.
55. Hong Zhou, Xiaoru Yuan, Weiwei Cui, **Huamin Qu**, Baoquan Chen. "Energy-Based Hierarchical Edge Clustering of Graphs", IEEE Pacific Visualization Symposium 2008, pp. 55-62, 2008.
56. Hong Zhou, Yingcai Wu, Ming-Yuen Chan, **Huamin Qu**, Zhengmao Xie, Xiaoming Li. "Knowledge Discovery by Network Visualization", Edutainment'08, 2008.
57. Yingcai Wu, Anbang Xu, Ming-Yuen Chan, **Huamin Qu**, and Ping Guo. "Palette-Style Volume Visualization", 6th IEEE/EG International Symposium on Volume Graphics (VG'07), pp. 33 – 40, 2007.
58. Ming-Yuen Chan, Yingcai Wu, and **Huamin Qu**. "Quality Enhancement of Direct Volume Rendered Images", 6th IEEE/EG International Symposium on Volume Graphics (VG'07), pp. 25 – 32, 2007. (Cover Image).
59. Yingcai Wu, **Huamin Qu**, Hong Zhou, Ming-Yuen Chan. "Focus+Context Visualization with Animation". *IEEE Pacific-Rim Symposium on Image and Video Technology (PSIVT'06)*, pp. 1293 – 1302, Hsinchu, Taiwan, December 11-13, 2006.
60. Hon-Cheng Wong, **Huamin Qu**, Un-Hong Wong, Zesheng Tang, Klaus Mueller. "A Perceptual Framework for Comparisons of Direct Volume Rendered Images". IEEE Pacific-Rim Symposium on Image and Video Technology (PSIVT'06). pp. 1314- 1323, Hsinchu, Taiwan, December 11-13,2006.
61. Yingcai Wu, **Huamin Qu**, Hong Zhou, Ming-Yuen Chan. "Fusing Features in Direct Volume Rendered Images". International Symposium on Visual Computing (ISVC'06). pp. 273-282, Lake Tahoe, Nevada, US, Nov. 6-8, 2006.
62. Ming-Yuen Chan, **Huamin Qu**, Yingcai Wu, Hong Zhou. "Viewpoint Selection for Angiographic Volume". International Symposium on Visual Computing (ISVC'06), pp. 528-537, Lake Tahoe, Nevada, US, Nov. 6-8, 2006.
63. **Huamin Qu**, Hong Zhou, Yingcai Wu. "Controllable and Progressive Edge Clustering for Large Networks", 14th International Symposium on Graph Drawing (GD'06), pp. 399 – 404, Karlsruhe, Germany, September 18 - 20, 2006.
64. Hong Zhou, **Huamin Qu**, Yingcai Wu, Ming-Yuen Chan. "Volume Visualization on Mobile Devices", proceedings of *14th Pacific Conference on Computer Graphics and Applications (Pacific Graphics 2006)*. Taipei, Taiwan, October 11 - 13, 2006.

65. Minh X. Nguyen, Xiaoru Yuan, Thanh V. Nguyen, Jie Chen, Baoquan Chen, **Huamin Qu**. “Text Splatting”, proceedings of *14th Pacific Conference on Computer Graphics and Applications (Pacific Graphics 2006)*. Taipei, Taiwan, October 11 - 13, 2006.
66. Ying Tang, **Huamin Qu**, Yingcai Wu, Hong Zhou. “Natural Textures for Weather Data Visualization”, *10th International conference on information visualization*, pp. 741-750, IEEE Computer Society. London, UK; 7–5 July 2006.
67. Ming-Yuen Chan, Yingcai Wu, **Huamin Qu**, Albert C.S. Chung, and Wilbur C. K. Wong. “MIP Guided Image Visualization with Multi-Dimensional Transfer Function”, *Computer Graphics International 2006*, pp. 372-384, Springer’s Lecture Notes in Computer Science (LNCS) 4035. Hangzhou, China, June 26-28, 2006.
68. Nan Zhang, **Huamin Qu** and Arie Kaufman. “CSG Operations on Point Models with Implicit Connectivity”. *Computer Graphics International 2005*, New York, USA, June 22-24, 2005.
69. **Huamin Qu**, Nan Zhang, Ran Shao, Arie Kaufman, Klaus Mueller. “Feature Preserving Distance Fields”, IEEE/SIGGRAPH Symposium on Volume Visualization, pp. 39-46, October, 2004.
70. Nan Zhang, **Huamin Qu**, Wei Hong, Arie Kaufman. “SHIC, A View Dependent Rendering Framework for Isosurfaces”, IEEE/SIGGRAPH Symposium on Volume Visualization, pp 63-70, October, 2004.
71. **Huamin Qu**, Arie Kaufman, Ran Shao, Ankush Kumar “A Framework for Sample-Based Rendering with O-Buffers”, IEEE Visualization 2003, pp. 441 – 448, 2003.
72. **Huamin Qu**, Feng Qiu, Nan Zhang, Arie Kaufman, Ming Wan “Ray Tracing Height Fields”, *Computer Graphics International 2003*, pp. 202 – 207, 2003.
73. Ming Wan, **Huamin Qu**, Nan Zhang, Arie Kaufman. "Multiresolution Rendering of Large-Scale Voxel-Based Terrain", Seventh International conference on Computer Aided Design and Computer Graphics, pp. 209 - 215, 2001.
74. Jiafa Qin, Ming Wan, **Huamin Qu**, Arie Kaufman “Accelerating Voxel-Based Terrain Rendering with Keyframe-Free IBR”, Joint IEEE TCVG and Eurographics Workshop on Volume Graphics, pp. 297 – 308, 2001.
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76. Ming Wan, Nan Zhang, Arie Kaufman, **Huamin Qu**. “Interactive Stereoscopic Rendering of Voxel-Based Terrain”, IEEE Virtual Reality, pp. 197 – 206, 2000.
77. Ming Wan, **Huamin Qu**, Arie Kaufman. “Virtual Flythrough over a Voxel-Based Terrain”, IEEE Virtual Reality, pp. 53 – 60, 1999.