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Panpan Xu

Summary

I have recently finished my PhD thesis in Hong Kong University of Science and Technology. My research focus is in information visualization, esp. heterogeneous graph data visualization and visual analysis of social media data. Most of my research projects involve a combination of data mining and interactive visualization techniques.

Education

2010–2014 **Ph.D, Computer Science**, *Hong Kong University of Science and Technology*.
Thesis: Visual Analysis of Heterogeneous and Dynamic Graphs
Supervisor: Prof. Huamin Qu

2005–2009 **B.S., Computer Science**, *Zhejiang University (Chu Kochen Honors College)*.

Awards and Scholarships

2014 Best Paper Award, International Symposium on Visual Information Communication and Interaction (VINCI)
2014 HKUST Overseas Research Award
2013 IEEE VisWeek (VAST, InfoVis, SciVis) Doctoral Colloquium Student Travel Grant
2010-2014 HKUST Research/Teaching Assistant Studentship
2006-2008 Zhejiang University Academic Scholarships (1st and 2nd Classes)
2007 Mathematical Modeling Contest 1st Prize in Zhejiang Province
2007 The 5th Mathematical Modeling Contest of Zhejiang University, 2nd Prize

Referred Journal Papers

[J6] Visualization of Bipartite Relations between Graphs and Sets. *in Journal of Visualization*, 2014
Hong Zhou, **Panpan Xu**, Huamin Qu

[J5] MViewer: mobile phone spatiotemporal data viewer. *in Frontiers of Computer Science*, 2014
Jiansu Pu, Siyuan Liu, **Panpan Xu**, Huamin Qu, Lionel M. Ni

[J4, C5] Visual Analysis of Topic Competition on Social Media. *in IEEE Transactions on Visualization and Computer Graphics (VAST 13)*, 2013
Panpan Xu, Yingcai Wu, Enxun Wei, Tai-Quan Peng, Shixia Liu, Jonathan J.H. Zhu, Huamin Qu.
Developed a framework combining *text and time series analysis* techniques with *interactive visualization* to gain insight into the dynamics of the competition among different topics for the public's attention on *social media*.

[J3, C4] Visual Analysis of Set Relations in a Graph. *in Computer Graphics Forum (EuroVis 13)*, 2013
Panpan Xu, Fan Du, Conglei Shi, Nan Cao, Hong Zhou, Huamin Qu.
Developed visualization techniques to analyze the homophily effect in a *social network*, and proposed a *set visualization* method employing the metaphor of railway maps.

[J2] Edge Bundling in Information Visualization. in *Tsinghua Science and Technology*, 2013
Hong Zhou, **Panpan Xu**, Xiaoru Yuan, Huamin Qu
Surveyed edge bundling techniques used for edge clutter reduction and linkage pattern enhancement in *graph drawings* and *parallel coordinate plots*.

[J1, C3] RankExplorer: Visualization of Ranking Changes in Large Time Series Data. *in IEEE Transactions on Visualization and Computer Graphics (InfoVis 12)*, 2012

Conglei Shi, Weiwei Cui, Shixia Liu, **Panpan Xu**, Wei Chen, Huamin Qu.

Visualized the ranking change among a large number of items such as search phrases, which are ranked by their popularity and constantly change over time.

Referred Conference Papers

[C6] Parallel Coordinates with Data Labels. *in Proceedings of the 7th International Symposium on Visual Information Communication and Interaction (VINCI 14)*, **Best Paper Award**, 2014

Hong Zhou, **Panpan Xu**, Zhong Ming, Huamin Qu

[C2] Visualization of Taxi Drivers' Income and Mobility Intelligence. in *International Symposium on Visual Computing*, 2012

Yuan Gao, **Panpan Xu**, Lu Lu, He Liu, Siyuan Liu, Huamin Qu

[C1] Visual analysis of people's mobility pattern from mobile phone data. in *International Symposium on Visual Information Communication and Interaction*, 2011

Jiansu Pu, **Panpan Xu**, Huamin Qu, Weiwei Cui, Siyuan Liu, Lionel M. Ni

Work in Progress

Interactive Exploration of Bipartite Graphs with Co-clustering. *submitted to EuroVis 15*

Panpan Xu, Nan Cao, John Stasko, Huamin Qu

Internship and Visiting Experiences

2014 Visiting Student, Information Interface Lab (IILab) at Georgia Institute of Technology
Mentor: Prof. John Stasko

2012-2013 Research Intern, Microsoft Research Asia
Mentor: Dr. Yingcai Wu

Selected Projects

2014 Citation Visualization VIS 25 Anniversary
(with Information Interface Lab in Georgia Tech, displayed at IEEE VIS conference)

- Responsible for the visual design and the implementation of the demo
- Visualization implemented with D3.js, underscore.js, and networkx graph library in Python
- Live at http://www.cc.gatech.edu/gvu/ii/citevis/VIS25/

2013 Visual Analysis of Mobile Checkin Data (with Huawei Noah's Ark Lab).

- Responsible for the overall design of the system
- Large scale spatial-temporal data visualization
- User behaviour analysis
- Visualization implemented with Java, Prefuse visualization library and OpenStreetMap API

Technical Skills

Languages	Java, JavaScript, Python, C/C++, R, C#
Vis Toolkits	D3.js, Prefuse
Graphics	WebGL, OpenGL, Shader Language (GLSL), CUDA (earlier versions)
Others	Version Control Systems (Git), Web Development (html, css, javascript), Front-end framework (React.js), Databases (MySQL, SQLite), Graphic Design Softwares (Adobe Illustrator), Visualization softwares (Tableau, Spotfire), etc.

Teaching Assistant Experience

2010-2013 Design and Analysis of Algorithms

2011, 2013 Computer Graphics

2010 Object-Oriented Programming and Data Structures

The tasks of teaching assistant include leading tutorial and lab sessions of the course, designing exam questions, and grading homeworks.

Course Taken in Graduate Study

Machine Learning, A

Advanced Algorithms, A

Advanced Computer Graphics, A-

Computational Geometry, A

Professional Activities

Doctoral Colloquium Attendee, IEEE VisWeek 2013

Student Volunteer, IEEE VisWeek 2013

Reviewer

- IEEE VIS (VAST and InfoVis)
- The EG/VGTC Conference on Visualization (EuroVis)
- IEEE Pacific Visualization Symposium (PacificVis)

References

Huamin Qu Associate Professor, Hong Kong University of Science and Technology

John Stasko Professor, Georgia Institute of Technology

Yingcai Wu Researcher, Microsoft Reseach Asia

Reference letters available upon request.