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Shenghui CHENG

Education

Stony Brook University, State University of New York, New York, USA
Sep 2013 - present
- PhD candidate, Computer Science Department
- Advisor: Prof. Klaus Mueller
- GPA: 3.65/4

Friedrich Schiller University Jena, Germany
Jun 2015-Sep 2015
- Guest student, Department of Informatics
- Advisor Prof. Joachim Giesen

Peking University, China
Jul 2012 - Jul 2012
- Data Visualization Summer School
- Advisor: Prof. Xiaoru Yuan

Shandong University, China
Sep 2009 - Jun 2013
- B.Eg in Software Engineering, Software College
- Advisor: Prof. Zhifang Jiang
- Thesis: “Visual Analytics of Stock Data”

Research Interests

Multidimensional Data Embedding and Visual Analytics, Multivariate Streaming Data Visual Analytics, Multivariate Geospatial Data Visual Analytics, Social and Supercomputing Network/Graph Visual Analytics, Bioinformatics etc.

Experiences

Research Assistant, Apr 2016 – Present
- Computational Science Initiative**, Brookhaven National Laboratory**, New York, USA.

Research Assistant, Sep 2013 - Present
- Department of Computer Science, **Stony Brook University**, New York, USA.

Scientific Researcher, Nov 2015 – Feb 2016
- Institute for Medical Informatics, Statistics and Epidemiology, **Leipzig University**, Germany.

Research Assistant, Jun 2015 – Dec 2015
- Department of Informatics, **Friedrich Schiller University Jena**, Germany.

Research Assistant, Mar 2013 - May 2015
- Department of Computer Science, **State University of New York, Korea**.

Teaching Assistant, Sep 2013- Dec 2013
- Human-Computer Interaction, **State University of New York, Korea.**

Research Assistant, Oct 2011-Aug 2013
- Human-Computer Interaction & Virtual Reality Lab, **High Performance Computing Center**, Shandong Province, China

Awards

- VAST 2015 Honorable Mention Poster, IEEE Visualization Conference, USA, 2015.
- Disclosure: The “Datamap” (with Klaus Mueller), USA, 2014-present.
- IT Consilience Creative Program Scholarship, South Korea, 2014-2016
- First Prize, National Mathematical Contest in Modelling, China, 2011.
- Honourable Mention Mathematical Contest in Modelling, USA, 2011
- System Analysis and Application Engineer Certificate, Ministry of Industry and Information Industry, 2011
- WeiChai Scholarship for Excellent student (twice), Shandong, China, 2010 and 2011.
- Research and Innovation Scholarship, Shandong, China, 2011.
- Nomination, 5·4 Young Scientist Award, Shandong University, China, 2011.

Publications

- **Shenghui Cheng** and Klaus Mueller, “The Data Context Map: Fusing Data and Attributes into a Unified Display”, *IEEE Transactions on Visualization and Computer Graphics. (also in the proceedings of IEEE Conference on Visual Analytics Science and Technology,* Chicago (USA), October, 2015), 22(1): 121-130 (2016)
- **Shenghui Cheng**, Claudia Dahl, Joachim Giesen, Philipp Lucas and Klaus Mueller, “Exploring the Distribution of Local Neighborhood Structures in Large Networks”, *IEEE Visualization Workshop - Exploring Graphs At Scale*, Chicago (USA), October, 2015.
- **Shenghui Cheng,** “2D Layout Techniques for High Dimensional Data”, *IEEE VIS 2015 Doctoral Colloquium*, Chicago (USA), October, 2015.
- **Shenghui Cheng,** Yue Wang, Dan Zhang, Zhifang Jiang and Klaus Mueller “StreamVisND: Visualizing Relationships in Streaming Multivariate Data”, *IEEE Visualization Conference,* (poster), Chicago (USA), October, 2015. **[VAST 2015 Honorable Mention Poster]**
- **Shenghui Cheng** and Klaus Mueller “Improving the Fidelity of Contextual Data Layouts using a Generalized Barycentric Coordinates Framework ” *IEEE PacificVis 2015,* Hangzhou (China), April, 2015.
- **Shenghui Cheng,** Pradipta De, Shaofeng H.-C. Jiang and Klaus Mueller **“**TorusVisND: Unraveling High-Dimensional Torus Networks for Network Traffic Visualizations” (8 pages) *The Visual Performance Analysis workshop in the supercomputing conference* (*SC14*). New Orleans (USA), November, 2014.
- **Shenghui Cheng**, Bing Wang, Zhiyuan Zhang and Klaus Mueller "Balanced Layouts Using the Composite Data-Variable Matrix " *IEEE Visualization Conference,* (poster), Paris, November, 2014.
- **Shenghui Cheng**, Bing Wang, Zhiyuan Zhang and Klaus Mueller " Adjusting the Generalized Barycentric Coordinates for More Comprehensive Layout " *IEEE Visualization Conference,* (poster), Paris, November, 2014.
- Darius Coelho, Sungsoo Ha, **Shenghui Cheng**, Salman Mahmood, Jisung Kim and Klaus Mueller " MemViz: A Tool for Creating Memorable Visualizations " *IEEE Visualization Conference,* (poster), Paris, November, 2014.
- **Shenghui Cheng**, Zhifang Jiang, Zhiyuan Zhang and Klaus Mueller "A Visual Analytics System for Stock Data" *IEEE Visualization Conference,* (poster), Atlanta, October, 2013.
- **Shenghui Cheng**, Zhifang Jiang and Klaus Mueller "Visual Analytics of Stock Data" In Proceedings of *The Excellent Bachelor Theses of Shandong University*, Jinan, July, 2013.
- Xiaoting Bi, Zhifang Jiang and **Shenghui Cheng** "Air Pollution Data Visualization Based on Tree-Shaped Parallel Coordinates", *The 2013 International Symposium on Visual Information Communication and Interaction* (*VINCI' 2013*), Tianjin, Aug, 2013.
- **Cheng Shenghui**, Jiang Zhifang, Meng Xiangxu and Zhang Zhenghai, “Research On Hierarchical Data Visualization Based On the Shape Parallel Coordinates System” *chinagraph' 2012.* Chengdu, Oct, 2012.

- Jiang Zhifang, Zhang shanxiang, Xin Ruobo, **Cheng Shenghui** and Li Ning, "Reseach of the Urban Air Quality Forecast Method Based on Resource Allocation Network" *The 2012 International Conference on Web Information Systems and Mining* (*WISM'12*) *The 2012 International Conference on Artificial Intelligence and Computational Intelligence* (*AICI'12*) EI: 20124515642355, Chengdu, Oct, 2012.
- Jiang Zhifang, **Cheng Shenghui**, Meng Xiangxu and Xin Ruobo, "The Shape Coordinates System in Visualization Space" *The 2012 International Symposium on Visual Information Communication and Interaction* (*VINCI 2012*) EI: 20125115811416, Hangzhou, Sep, 2012.
- **Cheng Shenghui**, Jiang Zhifang, Qi Qian, Li Shuo and Meng Xiangxu, "The Polar Parallel Coordinates Method for Time-series Data Visualization" *2012 International Conference on Computational and Information Sciences* EI: 20124615657980, Chongqing, Aug, 2012.
- Jiang Zhifang, **Cheng Shenghui**, Meng Xiangxu and Zhang Zhenghai, "Research on Time-series Data Visualization Method Based on Parameterized Parallel Coordinates and Color Mapping Function" *The 2012 International Conference on Systems and Informatics,* EI:20123115290053, Yantai, May, 2012.
- Zhenghai Zhang, Zhifang Jiang,Wei Sun, **Shenghui Cheng** and Xiangxu Meng, "Research on Prediction Method of API Based on the Enhanced Moving Average Method" *The 2012 International Conference on Systems and Informatics*, EI: 20123115290502, Yantai, May, 2012.
- Qi Qian, **Cheng Shenghui,** Yan Binbin and Liu Baodong, "Study on Urban Heavy Metal Pollution Source Recognition and Environmental Assessment" *Journal of Engineering Mathematics, Vol.28 Supp.1*, Dec.2011.

Talks

- 2016.01 ---- "**Visual Medical Data Analytics**",
  Institute for Medical Informatics, Statistics and Epidemiology, Leipzig University, Germany.
- 2015.10 ---- "**The Data Context Map: Fusing Data and Attributes into a Unified Display**", Chicago, USA.
- 2015.9 ---- "**Visual Analytics for Relations in High Dimensional Data Spaces**",
  workshop on 'Computational Models in Biology and Medicine', Leipzig, Germany.
- 2015.10 ---- "**Big Data Visual Analytics**",
  University of Anhui, China.
- 2015.6 ---- "**High Dimensional Data Visual Analytics**",
  Friedrich Schiller University Jena, Germany.
- 2015.2 ---- "**2D Layout Techniques for High Dimensional Data**",
  State University of New York, Korea.

Services

- **Reviewer** IEEE Transactions on Visualization and Computer Graphics
- **Reviewer** IEEE Visualization Conference 2015
- **Reviewer** IEEE Pacific Visualization 2016
- **Member** IEEE, Mar 2015 - present

Skills

JavaScript, D3, C#, Matlab, HTML, Java, C++