Curriculum Vitae

Lei Shi

December, 2019

Address:	ACT & BDBC, School of Computer Science and Engineering
	Beihang University
	Room 1120, New Main Building, No.37, Xueyuan Road, Haidian District, Beijing 100191, China
Phone:	+86-13811135452
Email:	leishi@buaa.edu.cn
Homepage:	http://act.buaa.edu.cn/shilei/
G-Scholar:	https://scholar.google.com/citations?user=NmaU6U0AAAAJ, Citations=2234, h-index=20

Research Interest

Visual analytics, visualization, data mining, with emphasis on big network and graph data.

Education

2003 - 2008	**M.S.** and **Ph.D.** in Computer Science (with honor), Tsinghua University, China
1999 - 2003	**B.A.** in Computer Science, Tsinghua University, China

Professional Experience

Dec 2018 - now	Professor
	School of Computer Science, Beihang University
Oct 2017 - Dec 2018	Professor (PhD Supervisor)
	SKLCS, Institute of Software, Chinese Academy of Sciences
Apr 2012 - Oct 2017	Associate Professor
	SKLCS, Institute of Software, Chinese Academy of Sciences
Oct 2015 - Jul 2016	Guest Associate Professor
	Department of Computer Science and Engineering, University of Notre Dame
Jul 2008 - Apr 2012	Staff Researcher then Research Staff Member then Research Manager
	IBM Research - China
Oct 2007 - Apr 2008	Research Intern
	Microsoft Research Asia
Aug 2007 - Sep 2007	Visiting Student
	National Tsing Hua University (Hsinchu)
Mar 2007 - Aug 2007	Research Intern
	IBM Research - China

Awards and Recognitions

2017 Distinguished Young Scholar
Institute of Software, Chinese Academy of Sciences
2016 IEEE Senior Member
2016 Member of CAS Youth Innovation Promotion Association
Chinese Academy of Sciences
2013 Excellent Young Scholar
Institute of Software, Chinese Academy of Sciences
2012 VAST Challenge Award for "Good Adaptation of Graph Analysis Techniques"
IEEE VisWeek
2010 VAST Challenge Award for "Effective Interactive Visualization for Document Content"
IEEE VisWeek
2010 Research Division Award for "Smallblue Contribution to GBS"
IBM Research
2010 Research Division Award for "Visual Analytics"
IBM Research
2008 Outstanding Ph.D. Graduate
Department of Computer Science, Tsinghua University
2006 Best Paper Award, Ph. D. forum
Department of Computer Science, Tsinghua University

Grants/Fundings Awarded

The funding units below are US dollars by the rate of April 2018, 1 dollar = 6.25 Chinese Yuan.

ISCAS Fund for Distinguished Youth Scholars to research on big network visual analytics - $264,000 (2017∼2021), PI.

NSF China 61772504 to explore multi-level macroscopic brain networks using visual analytics technology - $108,000 (2018∼2021), PI.

University of Notre Dame Global Collaboration Initiative (GCI) to explore intelligent analytics of semantic flow graphs - $14,800 (2016∼2017), Co-PI.

CAS Youth Innovation Promotion Association to explore new paradigms on information network visual analytics - $112,000 (2016∼2019), PI.

NSF China 61379088 to explore role-based model and method for big graph visual analytics - $123,200 (2014∼2017), PI.

National Basic Research Program of China (973 Program) 2014CB340301 for representation, similarity measurement and semantic comprehension of the Internet big data - $596,800 (2014∼2018), Key Member, responsible for $132,600.

Start-up Fund of State Key Laboratory of Computer Science to explore big data visual analytics - $24,000 (2012∼2014), PI.

Publications

*=corresponding author, #=my supervised student or funded visiting scholar at the time of work

Refereed Journal Papers

2019	Yucheng Huang[#], <u>Lei Shi</u>*, Yue Su, Yifan Hu, Hanghang Tong, Chaoli Wang, Tong Yang, Deyun Wang, and Shuo Liang. Eiffel: Evolutionary Flow Map for Influence Graph Visualization. *to appear in IEEE Transactions on Visualization and Computer Graphics.*
	Jia Yan[#], <u>Lei Shi</u>*, Jun Tao, Xiaolong Yu, Zhou Zhuang, Congcong Huang, Rulei Yu, Purui Su, Chaoli Wang, and Yang Chen. Visual Analysis of Collective Anomalies Through Faceted High-Order Correlation Graph. *to appear in IEEE Transactions on Visualization and Computer Graphics.*
	<u>Lei Shi</u>, Zhiyang Teng, Le Wang, Yue Zhang, and Alexander Binder. DeepClue: Visual Interpretation of Text-based Deep Stock Prediction. *to appear in IEEE Transactions on Knowledge and Data Engineering.*
	Yifan Hu, <u>Lei Shi</u>*, and Qingsong Liu (2018). A Coloring Algorithm for Disambiguating Graph and Map Drawings. *to appear in IEEE Transactions on Visualization and Computer Graphics.*
2018	<u>Lei Shi</u>, Hanghang Tong, Madelaine Daianu, Feng Tian, and Paul Thompson (2018). Visual Analysis of Brain Networks Using Sparse Regression Models. *ACM Transactions on Knowledge Discovery from Data*, 12(1).
	Jun Tao, Chaoli Wang, Nitesh V. Chawla, <u>Lei Shi</u>, and Seung Hyun Kim (2018). Semantic Flow Graph: A Framework for Discovering Object Relationships in Flow Fields. *IEEE Transactions on Visualization and Computer Graphics*, 24(12):3200–3213.
	Rulei Yu[#] and <u>Lei Shi</u>* (2018). A user-based taxonomy for deep learning visualization. *Visual Informatics*, 2(3):147–154.
	Tao Jiang[#], <u>Lei Shi</u>*, Ye Zhao, Xiatian Zhang, and Yao Lu (2018). Visual Comparison of Customer Stickiness in Retail Stores. *to appear in Chinese Journal of Electronics.*
2017	Xinsong Yang[#], <u>Lei Shi</u>*, Madelaine Daianu, Hanghang Tong, Qingsong Liu, and Paul Thompson (2017). Blockwise Human Brain Network Visual Comparison Using NodeTrix Representation. *IEEE Transactions on Visualization and Computer Graphics (Proceeding of IEEE VIS/VAST'16)*, 23(1):181–190.
2016	Le Wang[#], Yue Zhang, and <u>Lei Shi</u>* (2016). Hyperbolic Dependency Tree Visualization for Parser Evaluation. *International Journal of Software & Informatics*, 10(3).

2015 — Lei Shi, Hanghang Tong, Jie Tang, and Chuang Lin (2015b). VEGAS: Visual influ-Ence GrAph Summarization on Citation Networks. *IEEE Transactions on Knowledge and Data Engineering*, 27(12):3417–3431.

Lei Shi, Chen Wang, Zhen Wen, Huamin Qu, Chuang Lin, and Qi Liao (2015c). 1.5D Egocentric Dynamic Network Visualization. *IEEE Transactions on Visualization and Computer Graphics*, 21(5):627–634.

Yifan Hu and Lei Shi (2015). Visualizing Large Graphs. *Wiley Interdisciplinary Reviews (WIREs) - Computational Statistics*, 7:115–136.

2014 — Tao Zhang, Qi Liao, Lei Shi, and Weishan Dong (2014b). Analyze Spatiotemporal Anomalies through Interactive Visualization. *Informatics, special issue on Interactive Visualizations: Design, Technologies, and Applications*, 1(1):100–125.

2013 — Qi Liao[#], Lei Shi*, and Chen Wang (2013). Visual Analysis of Large-Scale Network Anomalies. *IBM Journal of Research and Development*, 57(3/4):13:1–13:12.

Lei Shi, Qi Liao, and Chuang Lin (2013a). Survey on Transformation-based Large Graph Visualization. *Journal of CAD (in Chinese)*, 25(3):304–311.

2012 — Ching-Yung Lin, Hanghang Tong, Zhen Wen, Lynn Wu, Vicky Griffiths-Fisher, Lei Shi, and David Lubensky (2012). Social Network Analytics in Enterprise. *Proceedings of the IEEE*, 100(9):2759–2776.

Lei Shi, Bin Liu, Changhua Sun, Zhengyu Yin, Laxmi Bhuyan, and H. Jonathan Chao (2012b). Load-Balancing Multi-Path Switching System with Flow-Slice. *IEEE Transactions on Computers*, 61(3):350–365.
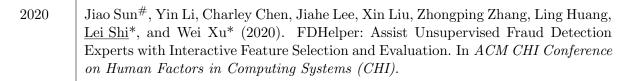
2010 — Chen Wang, Yibo Zhang, Xiaohan Chen, Ziyu Zhu, Lei Shi, Guang Chen, Chun Ying, and Wei Lu (2010). A Behavior-based SMS Antispam System. *IBM Journal of Research and Development*, 54(6):3:1–3:16.

Lei Shi, Wenjie Li, and Bin Liu (2010a). Flow-based Packet-mode Load-balancing for Parallel Packet Switches. *Journal of High Speed Networks*, 17(2):97–128.

2008 — Chuanxiong Guo, Haitao Wu, Kun Tan, Lei Shi, Yongguang Zhang, and Songwu Lu (2008). DCell: A Scalable and Fault-Tolerant Network Structure for Data Centers. *ACM SIGCOMM Computer Communication Review (Proceedings of ACM SIGCOMM 2008)*, 38(4):75–86.

Lei Shi, Changbin Liu, and Bin Liu (2008b). Network Utility Maximization for Triple-play Services. *Elsevier Computer Communications*, 31(10):2257–2269.

Refereed Conference Papers

2020 Jiao Sun[#], Yin Li, Charley Chen, Jiahe Lee, Xin Liu, Zhongping Zhang, Ling Huang, <u>Lei Shi</u>*, and Wei Xu* (2020). FDHelper: Assist Unsupervised Fraud Detection Experts with Interactive Feature Selection and Evaluation. In *ACM CHI Conference on Human Factors in Computing Systems (CHI)*.

2019 Xia Meng[#], Huan Wei, Mingfei Sun, Qing Chen, Yong Wang, <u>Lei Shi</u>, Xiaojuan Ma, and Huamin Qu (2019). PeerLens: Peer-inspired Interactive Learning Path Planning in Online Question Pool. In *ACM CHI Conference on Human Factors in Computing Systems (CHI)*.

Tong Yang, Dongsheng Yang, Jie Jiang, Siang Gao, Bin Cui, <u>Lei Shi</u>, and Xiaoming Li (2019). Coloring Embedder: a Memory Efficient Data Structure for Answering Multi-set Query. In *IEEE International Conference on Data Engineering (ICDE)*.

2018 Jun Tao[#], <u>Lei Shi</u>*, Zhou Zhuang, Congcong Huang, Rulei Yu, Purui Su, Chaoli Wang, and Yang Chen (2018). Visual Analysis of Collective Anomalies Through High-Order Correlation Graph. In *IEEE Pacific Visualization Symposium*.

Jiao Sun, Qixin Zhu, Zhifei Liu, Xin Liu, Yueming Wang, Jihae Lee, Shengdong Yang, <u>Lei Shi</u>, Ling Huang, and Wei Xu (2018). FraudVis: Understanding Unsupervised Fraud Detection Algorithms. In *IEEE Pacific Visualization Symposium (Visualization Notes)*.

Tong Yang, Junzhi Gong, Haowei Zhang, Lei Zou, <u>Lei Shi</u>, and Xiaoming Li (2018). HeavyGuardian: Separate and Guard Hot Items in Data Streams. In *ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD)*.

2016 <u>Lei Shi</u>, Sibai Sun, Yuan Xuan, Yue Su, Hanghang Tong, Shuai Ma, and Yang Chen (2016). TOPIC: Toward Perfect Influence Graph Summarization. In *IEEE International Conference on Data Engineering (ICDE)*, pages 1074–1085.

2015 <u>Lei Shi</u>, Hanghang Tong, and Xinzhu Mu (2015a). BrainQuest: Perception-Guided Brain Network Comparison. In *IEEE International Conference on Data Mining (ICDM)*, pages 379–388.

Qingsong Liu[#], Yifan Hu, <u>Lei Shi</u>*, Xinzhu Mu, Yutao Zhang, and Jie Tang (2015). EgoNetCloud: Event-based Dynamic Egocentric Network Visualization. In *IEEE Conference on Visual Analytics Science and Technology (VAST, Part of IEEE VIS)*, pages 65–72.

2014 <u>Lei Shi</u>, Hanghang Tong, Jie Tang, and Chuang Lin (2014b). Flow-based Influence Graph Visual Summarization. In *IEEE International Conference on Data Mining (ICDM)*, pages 983–988.

Yifan Hu and <u>Lei Shi</u> (2014). A Coloring Algorithm for Disambiguating Graph and Map Drawings. In *International Symposium on Graph Drawing (GD)*, pages 89–100.

Weishan Dong, Renjie Yao, Chunyang Ma, Changsheng Li, <u>Lei Shi</u>, Lu Wang, Yu Wang, Peng Gao, and Junchi Yan (2014). Maximizing Multi-scale Spatial Statistical Discrepancy. In *ACM International Conference on Information and Knowledge Management (CIKM)*, pages 471–480.

<u>Lei Shi</u>, Qi Liao, Hanghang Tong, Yifan Hu, Yue Zhao, and Chuang Lin (2014a). Hierarchical Focus+Context Heterogeneous Network Visualization. In *IEEE Pacific Visualization Symposium*, pages 89–96.

Tao Zhang, Qi Liao, and <u>Lei Shi</u> (2014a). Bridging the gap of network management and anomaly detection through interactive visualization. In *IEEE Pacific Visualization Symposium (Visualization Notes)*, pages 253–257.

2013   <u>Lei Shi</u>, Qi Liao, Xiaohua Sun, Yarui Chen, and Chuang Lin (2013b). Scalable Network Traffic Visualization Using Compressed Graphs. In *IEEE International Conference on Big Data*, pages 606–612.

Qinying Liao[#] and <u>Lei Shi</u>* (2013). She Gets a Sports Car from Our Donation: Rumor Transmission in a Chinese Microblogging Community. In *ACM Conference on Computer-Supported Cooperative Work (CSCW)*, pages 587–598.

2012   <u>Lei Shi</u>, Qi Liao, and Chunxin Yang (2012a). Investigating Network Traffic Through Compressed Graph Visualization. In *IEEE VAST Challenge Award Entry*, pages 279–280.

Dongxu Duan[#], Weihong Qian, Shimei Pan, <u>Lei Shi</u>*, and Chuang Lin (2012). VISA: a visual sentiment analysis system. In *International Symposium on Visual Information Communication and Interaction (VINCI)*, pages 22–28.

Weishan Dong, Wei Fan, <u>Lei Shi</u>, Changjin Zhou, and Xifeng Yan (2012a). A General Framework to Encode Heterogeneous Information Sources for Contextual Pattern Mining. In *ACM International Conference on Information and Knowledge Management (CIKM)*, pages 65–74.

Weishan Dong, Xin Zhang, Li Li, Changhua Sun, <u>Lei Shi</u>, and Wei Sun (2012b). Detecting Irregularly Shaped Significant Spatial and Spatio-Temporal Clusters. In *SIAM International Conference on Data Mining (SDM)*, pages 732–743.

2011   <u>Lei Shi</u>, Qi Liao, Yuan He, Rui Li, Aaron Striegel, and Zhong Su (2011a). SAVE: Sensor Anomaly Visualization Engine. In *IEEE Conference on Visual Analytics Science and Technology (VAST, Part of IEEE VIS)*, pages 201–220.

<u>Lei Shi</u>, Chen Wang, and Zhen Wen (2011b). Dynamic Network Visualization in 1.5D. In *IEEE Pacific Visualization Symposium*, pages 179–186.

2010   Lei Shi, Furu Wei, Shixia Liu, Li Tan, Xiaoxiao Lian, and Michelle Zhou (2010d). Understanding Text Corpora with Multiple Facets. In *IEEE Conference on Visual Analytics Science and Technology (VAST, Part of IEEE VIS)*, pages 99–106.

Lei Shi, Weihong Qian, and Furu Wei (2010b). VisWorks Network and Text Visual Analytics. In *IEEE VAST Challenge Award Entry*, pages 269–270.

Furu Wei, Shixia Liu, Yangqiu Song, Shimei Pan, Michelle Zhou, Weihong Qian, Lei Shi, Li Tan, and Qiang Zhang (2010b). TIARA: A Visual Exploratory Text Analytic System. In *ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD)*, pages 153–162.

2009   Lei Shi, Nan Cao, Shixia Liu, Weihong Qian, Li Tan, Guodong Wang, Jimeng Sun, and Ching-Yung Lin (2009). HiMap: Adaptive Visualization of Large-Scale Online Social Networks. In *IEEE Pacific Visualization Symposium*, pages 41–48.

2008   Yue Zhang, Bin Liu, Lei Shi, Jiani Guo, and Laxmi Bhuyan (2008). Quantum-Adaptive Scheduling in Multi-Core Network Processors. In *IEEE International Conference on Distributed Computing Systems (ICDCS)*, pages 554–561.

Changhua Sun, Lei Shi, and Bin Liu (2008). Efficient and Low-Cost Hardware Defense Against DNS Amplification Attacks. In *IEEE Global Communications Conference (GLOBECOM)*, pages 1–5.

2007   Lei Shi, Yue Zhang, Jianming Yu, Bo Xu, Bin Liu, and Jun Li (2007c). On the Extreme Parallelism inside Next-Generation Network Processors. In *IEEE Annual Conference on Computer Communication (INFOCOM)*, pages 1379–1387.

Lei Shi, Gao Xia, and Bin Liu (2007b). Performance Guarantees for Flow-Mapping Parallel Packet Switch. In *IEEE International Performance Computing and Communication Conference (IPCCC)*, pages 109–116.

Changbin Liu, Lei Shi, and Bin Liu (2007). Utility-based Bandwidth Allocation for Triple-Play Services. In *European Conference on Universal and Multiservice Networks (ECUMN)*, pages 327–336.

Changhua Sun, Lei Shi, Chengchen Hu, and Bin Liu (2007b). DRR-SFF: A Practical Scheduling Approach to Improve the Performance of Short Flows. In *International Conference on Networking and Services (ICNS)*, page 13.

2006   Lei Shi, Bin Liu, Wenjie Li, Beibei Wu, and Yunhao Liu (2006). DS-PPS: A Practical Framework to Guarantee Differentiated QoS in Terabit Routers with Parallel Packet Switch. In *IEEE Annual Conference on Computer Communication (INFOCOM)*, pages 1–12.

2005	Wenjie Li, <u>Lei Shi</u>, Yang Xu, and Bin Liu (2005a). Efficient Approach to Merge and Segment IP Packets. In *International conference on Networking and Mobile Computing (ICCNMC)*, pages 1042–1051.

Workshops, Demos and Poster Publications

2017	Zhou Zhuang, Yan Jin, Hanghang Tong, Lei Shi, Yang Chen, and Paul Thompson (2017). Path-embedded structural human brain network generation and classification on Alzheimer's disease. In *Annual Meeting of The Organization for Human Brain Mapping (OHBM) (Poster Paper)*.
2016	Yuan Xuan, Yang Chen, Huiying Li, Pan Hui, and <u>Lei Shi</u> (2016). LBSNShield: Malicious Account Detection in Location-Based Social Networks. In *ACM conference on Computer-Supported Cooperative Work and Social Computing (CSCW) (Poster Paper)*.
	Fangzhou Guo, Junhua Lu, Feiran Wu, Tianye Zhang, Wei Chen, <u>Lei Shi</u>, and Huaming Qu (2016). Information-Theoretic Visual Exploration of Multivariate Sensor Time-series with A Time-Correlation Partitioning Tree. In *IEEE Conference on Information Visualization (InfoVis) (Poster Paper)*.
	Jun Tao, Chaoli Wang, Nitesh Chawla, and <u>Lei Shi</u> (2016). Semantic Flow Graph: A Framework to Explore 3D Flow Fields. In *IEEE Conference on Scientific Visualization (SciVis) (Poster Paper)*.
	Tao Jiang, <u>Lei Shi</u>, Ye Zhao, Xiatian Zhang, and Yao Lu (2016). Visual Comparison of Customer Stickiness in Retail Stores. In *International Workshop on DAta mining meets Visual Analytics at big data era (DAVA), in conjunction with CIKM'16*.
2015	Le Wang, Yue Zhang, and <u>Lei Shi</u> (2015b). Hyperbolic Dependency Tree Visualization for Parser Evaluation. In *IEEE Conference on Information Visualization (InfoVis) (Poster Paper)*.
	Yue Su, Sibai Sun, Yuan Xuan, and <u>Lei Shi</u> (2015). Influence Visualization of Scientific Paper Through Flow-based Citation Network Summarization. In *IEEE International Conference on Data Mining (ICDM) (Demo Paper)*.
	Le Wang, <u>Lei Shi</u>, and Jiangtao Gong (2015a). OLAP Visual Analytics on Large Software Call Graphs with Hierarchical ChordMap. In *International Workshop on DAta mining meets Visual Analytics at big data era (DAVA), in conjunction with ICDM'15*.
2014	<u>Lei Shi</u> and Hanghang Tong (2014). Visual Network Analysis in Big Data Era. *Communications of the CCF (in Chinese)*, 103(9):56–60.

2013   <u>Lei Shi</u>, Qi Liao, Xiaohua Sun, Yarui Chen, and Chuang Lin (2013c). Visualize large-scale networks with structural equivalence. In *4th Visualization Workshop (Poster Paper)*.

Tao Zhang, Qi Liao, <u>Lei Shi</u>, and Weishan Dong (2013b). Spatiotemporal anomaly visualization for large-scale dynamic networks. In *4th Visualization Workshop (Poster Paper)*.

Tao Zhang, Qi Liao, and <u>Lei Shi</u> (2013a). Generic Anomaly Visualization for Daily Network Security Administration. In *IEEE VAST Challenge Entry*.

2012   Qi Liao, <u>Lei Shi</u>, and Xiaohua Sun (2012). Anomaly Analysis and Visualization through Compressed Graphs. In *Large Scale Data Analysis and Visualization (LDAV) symposium (Poster Paper)*.

Tao Zhang, Qi Liao, and <u>Lei Shi</u> (2012). 3D anomaly bar visualization for large-scale network. In *IEEE VAST Challenge Entry*.

2011   Qi Liao, <u>Lei Shi</u>, Yuan He, Rui Li, Zhong Su, Aaron Striegel, and Yunhao Liu (2011a). Visualizing Anomalies in Sensor Networks. In *ACM SIGCOMM (Demo Paper)*.

Qi Liao, <u>Lei Shi</u>, Weihong Qian, and Zhong Su (2011c). Network Security and Anomaly Visualization. In *IEEE VAST Challenge Entry*.

Changhua Sun, Weidong Shan, Peter Bak, <u>Lei Shi</u>, Harriet Cao, and Zhong Su (2011). IBM STEM: Geo-Spatial Temporal Visual Analytics. In *IEEE VAST Challenge Entry*.

Qi Liao, <u>Lei Shi</u>, Yuan He, Zhong Su, and Aaron Striegel (2011b). Spatiotemporal Visual Analysis of Sensor Networks in the Wild. In *IEEE Pacific Visualization Symposium (Poster Paper)*.

2010   <u>Lei Shi</u>, Chen Wang, and Zhen Wen (2010c). Dynamic Network Visualization in 1.5D. In *IEEE Conference on Information Visualization (Poster Paper)*.

Shixia Liu, Yangqiu Song, Furu Wei, Shimie Pan, Michelle Zhou, Weihong Qian, <u>Lei Shi</u>, Li Tan, and Qiang Zhang (2010). TIARA: Visually Analyzing Topic Evolution in Large Text Collections. In *ACM SIGKDD (Demo Paper)*.

Sreeram Balakrishnan, Vivian Chu, Mauricio Hernandez, Howard Ho, Rajasekar Krishnamurthy, Shixia Liu, Jan Pieper, Jeffrey Pierce, Lucian Popa, Christine Robson, <u>Lei Shi</u>, Shivakumar Vaithyanathan, and Huahai Yang (2010). Midas: Integrating Public Financial Data. In *Midas: Integrating Public Financial Data (Demo Paper)*.

Furu Wei, <u>Lei Shi</u>, Li Tan, Xiaohua Sun, Xiaoxiao Lian, Shixia Liu, and Michelle Zhou (2010a). Visual Content Correlation Analysis. In *ACM IUI Workshop on Interactive Text Analytics*.

2009	Guodong Wang, Yang Chen, <u>Lei Shi</u>, Eng Keong Lua, Beixing Deng, and Xing Li (2009). Proxima: Towards Lightweight and Flexible Anycast Service. In *IEEE Annual Conference on Computer Communication (INFOCOM) (Poster Paper)*.
2008	<u>Lei Shi</u>, Mohammad Banikazemi, and Qingbo Wang (2008a). Iceberg: An Image Streamer for Provisioning Virtual Machines. In *ICPP workshop on Scheduling and Resource Management for Parallel and Distributed Systems*.
2007	<u>Lei Shi</u>, Bin Liu, Changhua Sun, Zhengyu Yin, Laxmi Bhuyan, and H-J. Chao (2007a). Flow-Slice: A Novel Load-Balancing Scheme for Multi-Path Switching Systems. In *ACM/IEEE Symposium on Architectures for Networking and Communications Systems (ANCS) (Poster Paper)*.
	Changhua Sun, Jindou Fan, <u>Lei Shi</u>, and Bin Liu (2007a). A novel router-based scheme to mitigate SYN flooding DDoS Attacks. In *IEEE Annual Conference on Computer Communication (INFOCOM) (Poster Paper)*.
2005	<u>Lei Shi</u>, Wenjie Li, Bin Liu, and Xiaojun Wang (2005). Flow mapping in the load balancing parallel packet switches. In *IEEE Workshop on High Performance Switching and Routing (HPSR)*, pages 254–258.
	Wenjie Li, Bin Liu, <u>Lei Shi</u>, Xu Yang, and Dapeng Wu (2005b). Preemptive packet-mode scheduling to improve TCP performance. In *IEEE Workshop on Quality of Service (IWQoS)*, pages 246–258.

Patents Filed

US 20090274063 / US 20110103262 / US 7872990 / EP2277288A2 / WO2009134699A2 / WO2009134699A3, Multi-level interconnection network, April 2008.
US 20110289207 / CN102208989A, Method and apparatus for processing network visualization, March 2011.
US 20140082024 / CN102053988A, Method and system for visualization of data set, November 2010.
US 20130007151 / US20130007127 / CN102857921A, Determination of a spammer through social network characterization, June 2012.

Invited Talks, Lectures and Panels

2017
TVCG workshop, Hangzhou, China.
China-German visualization workshop, Qingdao, China.
2016
State Key Lab of CAD&CG, Hangzhou, China.
Institute for Neuroimaging and Informatics, University of Southern California, USA.
Department of Computer Science, Kent State University, USA.
2015

Department of Computer Science & Engineering, University of Notre Dame, USA.
Yahoo labs - New York, USA.
IEEE International Conference on Data Mining (ICDM), USA.
School of Information Science and Technology, Tsinghua University, Beijing, China.
Visualization Summer School, Peking University, Beijing, China.
School of Computer Science, Fudan University, Shanghai, China.
School of Computer Science and Engineering, Beihang University, Beijing, China.
State Key Lab of Computer Science, Beijing, China.
PacificVAST 2015, Hangzhou, China.

2014
Chinagraph 2014, Wuhan, China.
State Key Lab of CAD&CG, Hangzhou, China.
State Key Lab of Computer Science, Beijing, China.
Visualization Summer School, Peking University, Beijing, China.
University of Chinese Academy of Sciences, Beijing, China.
IEEE International Conference on Data Mining (ICDM), China.
IEEE Pacific Visualization Symposium, Yokohama, Japan.

2013
4th visualization workshop, Beijing, China.
University of Chinese Academy of Sciences, Beijing, China.
State Key Lab of Computer Science, Beijing, China.
Joint Seminar with ZTE State Key Lab, Beijing, China.
ACM Conference on Computer-Supported Cooperative Work (CSCW), San Antonio, USA.

2012
State Key Lab of Computer Science, Beijing, China.
West Lake Visualization Forum, Hangzhou, China.
AT&T Shannon Lab, NY, USA.
NYU-Poly, NY, USA.
IBM T. J. Watson Research Center, York Town, USA.
International Symposium on Visual Information Communication and Interaction (VINCI), Hangzhou, China.
IEEE VAST Challenge Workshop at VisWeek, Seattle, USA.

2011
IEEE Pacific Visualization Symposium, Hong Kong, China.

2010
IEEE Conference on Visual Analytics Science and Technology (VAST), Salt Lake City, USA.
IEEE VAST Challenge Workshop at VisWeek, Salt Lake City, USA.
ACM IUI Workshop on Interactive Text Analytics, Hong Kong, China.

2009
IEEE Pacific Visualization Symposium, Beijing, China.

2008
Microsoft Research Asia, Beijing, China.
IBM Research - China, Beijing, China.

2007
IEEE Annual Conference on Computer Communication (INFOCOM), Anchorage, USA.

2006
PhD Forum of Tsinghua University, Beijing, China.
IEEE Annual Conference on Computer Communication (INFOCOM), Barcelona, Spain.

2005
IEEE Workshop on High Performance Switching and Routing (HPSR), Hongkong, China.

Courses Taught

Spring 2018	Interactive Visual Analytics
	University of Chinese Academy of Sciences. (Class member: 10, academic hours: 30)
Fall 2017	Visualization and Visual Computing
	University of Chinese Academy of Sciences. (Class member: 36, academic hours: 20)
Fall 2016	Visualization and Visual Computing
	University of Chinese Academy of Sciences. (Class member: 34, academic hours: 20)
Summer 2015	Frontier of Visualization and Visual Analytics (together with Prof. Xiaoru Yuan etc.)
	University of Chinese Academy of Sciences. (Class member: 347, academic hours: 20)
Fall 2014	Information Visualization
	University of Chinese Academy of Sciences. (Class member: 109, academic hours: 40)
Summer 2014	Frontier of Visualization and Visual Analytics (together with Prof. Xiaoru Yuan etc.)
	University of Chinese Academy of Sciences. (Class member: 52, academic hours: 20)
Spring 2014	Information Visualization
	University of Chinese Academy of Sciences. (Class member: 70, academic hours: 40)
Spring 2014	Information Visualization
	Software School of Beihang University. (Class member: 80, academic hours: 30)
Summer 2013	Frontier of Visualization and Visual Analytics (together with Prof. Xiaoru Yuan etc.)
	University of Chinese Academy of Sciences. (Class member: 79, academic hours: 20)

Service to the Research Community

Technical Organizations

IEEE Senior Member (2016)
ACM Member (2013)
CCF CAD&CG TC Member (2016)
CCF VR&VIS TC Member (2017)

Conference/Workshop Organized or Co-Organized

Note Paper Co-Chair, PacificVis 2018, Kobe, Japan.
Program Co-Chair, DAVA 2016, Indianapolis, USA. (in conjunction with ACM CIKM 2016)
Program Co-Chair, BrainKDD 2016, Seattle, USA. (in conjunction with ACM BCB 2016)
Program Co-Chair, DAVA 2015, Atlantic City, USA. (in conjunction with IEEE ICDM 2015)
Contest Co-Chair, ChinaVis 2015, Tianjin, China. Program Co-Chair, HotData 2014, Shanghai, China. (in conjunction with IEEE ICCCN 2014)
Session Chair, PacificVis 2014 Short Paper Track, Yokohama, Japan.
Organizer and Poster Co-Chair, 4th visualization workshop, Beijing, China, 2013.

Editor Boards

Special issue editor, BMC Bioinformatics, 2016.
Special issue editor, Brain Informatics, 2016.
Special issue editor, Chinese Journal of Electronics, 2016.
Special issue editor, International Journal of Software Informatics, 2016.

Conference Committee Members

PC member, IEEE VIS 2018, 2019, 2020, AAAI 2018.
PC member, PacificVis 2016, 2017, 2018.
PC member, KDD, Graph Drawing, ASONAM, 2016.
PC member, IJCAI 2015, 2016.
PC member, WSDM 2015, 2017.
PC member of Demo Track, ICDM 2014, 2015.
PC member, HPC China, 2013, 2014.
PC member, IEEE Globecom, 2009, 2010, 2011.
PC member and best paper award committee, P2PNet 2010.

Journal/Conference Referees

External reviewer, TVCG, TOCHI, TPDS, JSAC, TITS, IEEE CG&A, IEEE CL, Science China.
External reviewer, InfoVis, VAST, SciVis EuroVis, PacificVis, VAST Challenge, Pacific Graphics.

Governing boards

Assistant director, State Key Laboratory of Computer Science, Institute of Software, Chinese Academy of Sciences, 2015.
Hiring board, State Key Laboratory of Computer Science, Institute of Software, Chinese Academy of Sciences, 2012~.
Web chair, IBM Research Graph and Visualization PIC, 2010~2012.

Hiring board, IBM Research - China, 2010~2012.

Graduate/Visiting Students

Meijun Liu, MS, School of Computer Science and Engineering, Beihang University, 2020~

Huijie Guo, PhD, School of Computer Science and Engineering, Beihang University, 2019~

Zhihao Tan, MS, Institute of Software, Chinese Academy of Sciences, 2018~

Congcong Huang, MS, Institute of Software, Chinese Academy of Sciences, 2016~2019

Tao Jiang, MS, Institute of Software, Chinese Academy of Sciences, 2015~2018

Yue Su, MS, Institute of Software, Chinese Academy of Sciences, 2014~2017

Le Wang, MS, Institute of Software, Chinese Academy of Sciences, 2014~2017

Qingsong Liu, MS, Institute of Software, Chinese Academy of Sciences, 2013~2016

Pengyu Han, MS, University of Science and Technology Beijing, 2012~2015 (Co-advising with Prof. Chuang Lin)

Yucheng Huang, undergraduate, Peking University, 2018~2019 (Visiting student)

Zhichun Guo, undergraduate, Fudan University, 2017~2019 (Visiting student)

Dan Zhang, PhD student, The State University of New York at Stony Brook, 2017~2018 (Visiting student)

Chao Ma, PhD student, Kent State University, 2017 (Visiting student)

Zhou Zhuang, undergraduate, Fudan University, 2016~2017 (Visiting student)

Shuo Liang, Tsinghua University, 2015~2017 (Visiting student)

Xinsong Yang, undergraduate, Beijing University of Posts and Telecommunications, 2015~2016 (Visiting student)

Yuan Xuan, undergraduate, Fudan University, 2015~2016 (Visiting student)

Xinzhu Mu, Tsinghua University, 2014~2015 (Visiting student)

Jiangtao Gong, Tsinghua University, 2014~2015 (Visiting student)

Yue Zhao, Tsinghua University, 2012~2014 (Visiting student)

Yi Li, Tsinghua University, 2012 (Visiting student)

Qi Liao, PhD student, University of Notre Dame, 2010~2011. (Ph.D., University of Notre Dame => Associate Professor at Central Michigan University)

Changbin Liu, undergraduate, Tsinghua University, 2006~2007. (Ph.D., University of Pennsylvania => AT&T Lab Research)

Zhengyu Yin, undergraduate, Tsinghua University, 2007~2008 (Ph.D., University of South California => Facebook)

Xiao Wang, undergraduate, Tsinghua University, 2007~2008 (Ph.D., University of Washington => Uber)