

Curriculum Vita

Name: Hui (Wendy) Wang

Department: Computer Science

Current Rank: Associate Professor

Institution: Stevens Institute of Technology, Hoboken, NJ

Research Interest

Cloud data security, data privacy, data mining and machine learning.

Education

- Ph.D. Computer Science, University of British Columbia, Vancouver, Canada, 2007
- M.S. Computer Science, University of British Columbia, Vancouver, Canada, 2002
- B.S. Computer Science, Wuhan University, Wuhan, Hubei, P.R. China, 1998

Employment

Associate professor 09/2016 - present
Department of Computer Science, Stevens Institute of Technology, NJ, USA.

Assistant professor 01/2008 - 08/2016
Department of Computer Science, Stevens Institute of Technology, NJ, USA.

Research assistant 09/2000 - 11/2007
Department of Computer Science, University of British Columbia, Vancouver, Canada.

Research intern 06/2005 - 09/2005
INRIA, Paris, France.

Research intern 06/2004 - 09/2004
Microsoft Research, Redmond, WA, USA.

Awards

1. National Science Foundation (NSF), Faculty Early Career Development (CAREER) Award, CAREER: Verifiable Outsourcing of Data Mining Computations, 2014.
2. IEEE International Conference on Information Reuse and Integration (IRI), best paper award, 2017.

Scholarly Activities

All published journal articles.

i. Refereed journals

1. Boxiang Dong, Hui (Wendy) Wang, Anna Monreale, Dino Pedreschi, Fosca Giannotti, Wenge Guo. *Authenticated Outlier Mining for Outsourced Databases*. Transactions on Dependable and Secure Computing, 2017.
2. Kai Wang, Hui Wang, Yu Tao. *Combining Ideas in Crowdsourced Idea Generation*. Foundations of Management, 9(1), 203-212 (2017).
3. Boxiang Dong, Ruilin Liu, Hui Wang. *Trust-but-Verify: Verifying Result Correctness of Outsourced Frequent Itemset Mining*. Transactions on Services Computing 9(1): 18-32 (2016).
4. Ruilin Liu, Hui Wang. *Hiding Outliers into Crowd: Privacy-preserving Data Publishing with Outliers*. Elsevier Data & Knowledge Engineering 100: 94-115 (2015).
5. Fosca Giannotti, Laks V. S. Lakshmanan, Anna Monreale, Dino Pedreschi, Hui Wang. *Privacy-Preserving Mining of Association Rules From Outsourced Transaction Databases*. IEEE Systems Journal 7(3): 385-395 (2013).
6. Xiaoying Wu, Dimitri Theodoratos, Hui Wang, Timos Sellis. *Optimizing XML Queries: Bitmapped Materialized Views VS. Indexes*. Information System, 38(6): 863-884, 2013.
7. Juan Li, Hui Wang, Samee Ullah Khan, Qingrui Li, Albert Y. Zomaya. *A Fully Distributed Scheme for Discovery of Semantic Relationships*. IEEE Transaction of Services Computing 6(4): 457-469, 2013.
8. Juan Li, Hui Wang, Samee U. Khan. *A Semantics-Based Approach to Large-Scale Mobile Social Networking*. ACM Journal of Mobile Networks and Applications, 17(2): 192-205, 2012.
9. Hui Wang, Ruilin Liu, Yingying Chen, Xiuyuan Zhen, Hongbo Liu. *Metadata-guided Evaluation of Resource-constrained Queries in Content Caching Based Wireless Networks*. Wireless Networks, 17(8): 1833-1850, 2011.
10. Francesco Bonchi, Laks V.S. Lakshmanan, Hui Wang. *Trajectory Anonymity in Publishing Personal Mobility Data*. ACM Knowledge Discovery and Data Mining (SIGKDD) Exploration, 13(1): 30 - 42, 2011.
11. Hui Wang, Ruilin Liu. *Privacy-Preserving Publishing Microdata with Full Functional Dependencies*. Journal of Data & Knowledge Engineering (DKE) (publisher Elsevier), 70(3): 249-268, 2011.
12. Yingying Chen, Hui Wang, Xiuyuan Zheng, Jie Yang. *PARIS: A Reinforcement Learning Based Framework for Prediction of Near Likely Nodes in Data-Centric Mobile Wireless Networks*. EURASIP Journal on wireless communications and networking. Article ID 319275, 2010.

13. Hui Wang. *Privacy-preserving Data Publishing in Cloud Computing*. Journal of Computer Science and Technology, 25(3): 401-414, 2010.
14. Nicolas Bruno, Hui Wang. *The Threshold Algorithm: from Middleware Systems to the Relational Engine*. IEEE Transaction on Knowledge and Data Engineering (TKDE), 9(4): 523-537, 2007.

All published articles in conference/symposia proceedings

i. Refereed proceedings

1. Boxiang Dong, Zhengzhang Chen, Hui Wang, Lu-An Tang, Kai Zhang, Ying Lin, Zhichun Li and Haifeng Chen. Efficient Discovery of Abnormal Event Sequences in Enterprise Security Systems. In the Proceedings of ACM International Conference on Information and Knowledge Management (CIKM). Singapore. November 6 - 10, 2017. Acceptance rate: $171/820 = 21\%$.
2. Boxiang Dong and Hui Wang. EARRING: Efficient Authentication of Outsourced Record Matching. In the Proceedings of 2017 IEEE International Conference on Information Reuse and Integration (IRI 2017). San Diego. August 4 - 6, 2017. Acceptance rate: 29%. **Best paper award**.
3. Bo Zhang, Boxiang Dong and Hui Wang. Budget-constrained Result Integrity Verification of Outsourced Data Mining Computations. The 31st Annual IFIP WG 11.3 Conference on Data and Applications Security and Privacy (DBSec), Philadelphia, PA, July 19-21, 2017. Acceptance rate: 0.35.
4. Changjiang Cai, Haipai Sun, Boxiang Dong, Bo Zhang, Ting Wang and Hui Wang. Pairwise Ranking Aggregation by Non-interactive Crowdsourcing with Budget Constraints. The 37th IEEE International Conference on Distributed Computing (ICDCS) 2017, June 5 - 8, 2017, Atlanta, GA.
5. Xinyang Zhang, Shouling Ji, Hui Wang and Ting Wang. MDL: Accurate and Private Multiparty Deep Learning. The 37th IEEE International Conference on Distributed Computing (ICDCS) 2017, June 5 - 8, 2017, Atlanta, GA.
6. Hui Wang, Yu Tao, Kai Wang, Dominik Jedruszczak, Benjamin Knutson. *Leveraging Crowd for Collecting and Maintaining Educational Resources for Privacy Learning*. In the 2nd International Conference on Advances in Management Engineering and Information Technology (AMEIT), April 23 - 24, 2017.
7. Yanying Li, Boxiang Dong, Dominik Jedruszczak, Hui Wang. *Budget-constrained High-quality Data Purchase on Data Markets*. In the 1st Workshop Women in Data Science (WinDS), in conjunction with SIAM International Conference on Data Mining (SDM), April 27 - 29, 2017.
8. Boxiang Dong, Hui Wang. *Frequency-hiding Dependency-preserving Encryption for Outsourced Databases*. In the IEEE International Conference on Data Engineering (ICDE), San Diego, California, 2017.

9. Boxiang Dong, Hui Wang. *ARM: Authenticated Approximate Record Matching for Outsourced Databases*. In the IEEE 17th International Conference on Information Reuse and Integration (IRI), Pittsburgh, PA, 2016. Acceptance rate: 25.6%.
10. Hui Wang, Yu Tao, Kai Wang. *Developing Online Privacy Education Tools with Inputs from the Crowd*. The 22nd Americas Conference on Information Systems (AMCIS). San Diego, 2016.
11. Boxiang, Hui Wang, Jie Yang. *Secure Data Outsourcing with Adversarial Data Dependency Constraints*. The IEEE International Conference on Big Data Security on Cloud (BigDataSecurity), 2016.
12. Ruilin Liu, Hui Wang. *Result Integrity Verification of Outsource Privacy-preserving Frequent Itemset Mining*. In the Proceedings of SIAM International Conference on Data Mining (SDM), Vancouver, Canada, 2015.
13. Boxiang Dong, Ruilin Liu, Hui Wang. *PraDa: Privacy-preserving Data-Deduplication-as-a-Service*. In the Proceedings of ACM International Conference on Information and Knowledge Management (CIKM), pp. 1559-1568, Shanghai, P.R.China, 2014. Acceptance rate: $25/123 = 20\%$.
14. Ruilin Liu, Hui Wang, Changhe Yuan. *Result Integrity Verification of Outsourced Bayesian Network Structure Learning*. In the Proceedings of SIAM International Conference on Data Mining (SDM), pp. 713-721, Philadelphia, PA, US, 2014. Acceptance rate = $120/389 = 29\%$.
15. Ruilin Liu, Guan Wang, Hui Wang, Flip Korn. *iCoDA: Interactive Exploratory Data Completeness Analysis*. In the Proceedings of IEEE International Conference on Data Engineering (ICDE), pp. 1226-1229, Chicago, IL, 2014. Acceptance rate 20%.
16. Boxiang Dong, Ruilin Liu, Hui Wang. *Integrity Verification of Outsourced Frequent Itemset Mining with Deterministic Guarantee*. In the Proceedings of the IEEE International Conference on Data Mining (ICDM), pp. 1025-1030, Texas, US, 2013. Acceptance rate: $159/809 = 19.7\%$.
17. Francesca Pratesi, Anna Monreale, Hui Wang, Salvatore Rinzivillo, Dino Pedreschi, Gennady Andrienko, Natalia Andrienko. *Privacy-Aware Distributed Mobility Data Analytics*. In the Proceedings of the 21st Italian Symposium on Advanced Database Systems (SEBD), 2013.
18. Boxiang Dong, Ruilin Liu, Hui Wang. *Result Integrity Verification of Outsourced Frequent Itemset Mining*. In the Proceedings of the 27th Annual IFIP WG 11.3 Working Conference on Data and Applications Security and Privacy (DBSec), pp. 258-265, Newark, NJ, US, 2013.
19. Anna Monreale, Hui Wang, Francesca Pratesi, Salvatore Rinzivillo, Dino Pedreschi, Gennady Andrienko, Natalia Andrienko. *Privacy-preserving Distributed Movement Data Aggregation*. In the Proceedings of the 16th AGILE Conference on Geographic Information Science, pp. 225-245, 2013.

20. Fosca Giannotti, Laks V. S. Lakshmanan, Anna Monreale, Dino Pedreschi, Hui Wang, *Privacy-preserving Mining of Association Rules from Outsourced Transaction Databases*. In the Proceedings of the 20th Italian Symposium on Advanced Database Systems (SEBD), pp. 233-242, 2012.
21. Ruilin Liu, Hui Wang, Philippos Mordohai, Hui Xiong. *Integrity Verification of K-means Clustering Outsourced to Infrastructure as a Service (IaaS) Providers*. In the Proceedings of the SIAM International Conference on Data Mining (SDM), pp. 632-640, Austin, Texas, US, 2013. Acceptance rate: $89/348 = 25.5\%$.
22. Flip Korn, Ruilin Liu, Hui Wang. *Understanding Data Completeness in Network Monitoring Systems*. In the Proceedings of the IEEE International Conference on Data Mining (ICDM), pp. 359-368, Brussels, Belgium, 2012. Acceptance rate: $80/756 = 10.5\%$.
23. Ruilin Liu, Hui Wang, Anna Monreale, Dino Pedreschi, Fosca Giannotti, Wenge Guo. *AUDIO: An Integrity Auditing Framework of Outlier-mining-as-a-service Systems*. In the proceedings of The European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD), pp. 1-18, Bristol, UK, 2012. Acceptance rate: $109/443=25\%$.
24. Hui Wang. *Integrity Verification of Cloud-hosted Data Analytics Computations*. In the Proceedings of the Cloud Intelligence workshop, colocated with International Conference of Very Large Databases (VLDB), Istanbul, Turkey, 2012.
25. Qingrui Li, Juan Li, Hui Wang, Ashok Gjinjala. *Semantics-enhanced Privacy Recommendation for Social Networking Sites*. In the Proceedings of the 10th IEEE International Conference on Trust, Security and Privacy in Computing and Communications (TrustCom), Changsha, China, 2011.
26. Hui Wang, Ruilin Liu, Dimitri Theodoratos, Xiaoying Wu. *Towards Efficient Storage and Query Evaluation of Hierarchical Data Archiving System*. In the Proceedings of the 23rd Scientific and Statistical Database Management Conference (SSDBM), pp. 109-128, 2011.
27. Fosca Giannotti, Laks V. S. Lakshmanan, Anna Monreale, Dino Pedreschi, Hui Wang. *Privacy-Preserving Data Mining from Outsourced Databases*. In the Proceedings of the Conference on Computers, Privacy and Data Protection, pp. 411-426, 2011.
28. Xiuyuan Zheng, Hui Wang, Yingying Chen, Hongbo Liu, Ruilin Liu. *A Decentralized Key Management Scheme via Neighborhood Prediction in Mobile Wireless Networks*. In the Proceedings of the 7th IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS), pp. 51-60, San Francisco, CA, USA, 2010.
29. Angela Bonifati, Hui Wang, Ruilin Liu. *Distributed and Secure Access Control in P2P Databases*. In the Proceedings of the 24th Annual IFIP WG 11.3 Working Conference on Data and Applications Security (DBSec), pp. 113-129, Rome, Italy, 2010.
30. Hongbo Liu, Hui Wang, Yingying Chen. *Ensuring Data Storage Security against Frequency-based Attacks in Wireless Networks*. In the Proceedings of the 6th IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS), pp. 201 - 215, Santa Barbara, CA, 2010.

31. Chih-Cheng Chang, Brian Thompson, Hui Wang, **Danfeng Yao**. *Towards Publishing Recommendation Data With Predictive Anonymization*. In the Proceedings of ACM Symposium on Information, Computer and Communications Security (AsiaCCS), pp. 24-35, Beijing, China, 2010. Acceptance rate: $25/166 = 15\%$.
32. Angela Bonifati, Hui Wang, Ruilin Liu. *SP^{ac}: A Distributed, Peer-to-peer, Secure and Privacy-aware Social Space*. In the Proceedings of the 18th ACM Conference on Information and Knowledge Management (CIKM), pp. 1953 - 1954, Toronto, Ontario, Canada, 2009.
33. Hui Wang, Ruilin Liu. *Privacy-Preserving Publishing Data with Full Functional Dependencies*. In the Proceedings of the International Conference on Database Systems for Advanced Applications (DASFAA), pp. 176-183, Tsukuba, Japan, 2010. Acceptance rate: 30%.
34. Hui Wang, Ruilin Liu, Xiuyuan Zheng, Yingying Chen, Hongbo Liu. *To Do or Not to Do: Metadata-guided Query Evaluation in Content Caching Networks*. In the Proceedings of the IEEE Global Communications Conference (GLOBECOM), Hawaii, US, 2009.
35. Xiaoying Wu, Dimitri Theodoratos, Hui Wang. *Answering XML Queries Using Materialized Views Revisited*. In the Proceedings of the 18th ACM Conference on Information and Knowledge Management (CIKM), pp. 475-484, Hong Kong, China, 2009. Acceptance rate 14.5%.
36. Yingying Chen, Hui Wang, Xiuyuan Zheng, Jie Yang. *Prediction of Near Likely Nodes in Data-Centric Mobile Wireless Networks*. In the Proceedings of IEEE Military Communications Conference (MILCOM), Boston, US, 2009.
37. Ruilin Liu, Hui Wang. *Integrity Verification of Outsourced XML Databases*. In the Proceedings of the IEEE International Conference on Privacy, Security, Risk and Trust (PASSAT), pp. 207 - 212, Vancouver, BC, Canada, 2009.
38. Hui Wang, Ruilin Liu. *Hiding Distinguished Ones into Crowd: Privacy-Preserving Publishing Data with Outliers*. In the Proceedings of the 12th International Conference on Extending Database Technology (EDBT), pp. 624-635, Saint-Petersburg, Russia, 2009. Acceptance rate $92/283=32\%$.
39. Roman Yarovoy, Francesco Bonchi, Laks V. S. Lakshmanan, Hui Wang. *Anonymizing Moving Objects: How to Hide a MOB in a Crowd*. In the Proceedings of the 12th International Conference on Extending Database Technology (EDBT), pp. 72-83, Saint-Petersburg, Russia, 2009. Acceptance rate $92/283=32\%$.
40. Hui Wang. *Ambiguity: Hide the Presence of Individuals and Their Privacy with Low Information Loss*. In the Proceedings of the 14th International Conference on Management of Data (COMAD), pp. 150 - 161, Mumbai, India, 2008.

Magazine Publications

1. Hui Wang. *Anonymity for Continuous Publishing of Re-identifiable Moving Object Data*. In the Privacy Observatory Magazine. European Coordination Action Project MODAP (Mobility, Data Mining, and Privacy). Issue 1. October 2011.

Services

Journal Editorships

1. Journal of Information Technology and Architecture
2. Information Systems

Journal Reviewer

1. Journal of Concurrency and Computation: Practice and Experience
2. Transactions on Data Privacy
3. Transactions on Intelligent Systems and Technology
4. Information Journal
5. IEEE Transactions on Knowledge and Data Engineering (TKDE)
6. Computer Methods and Programs in Biomedicine
7. Journal of Sensors
8. IEEE Transactions on Big Data
9. ACM Transactions on Knowledge Discovery in Data (TKDD)
10. Springer Wireless Networks (WINE)
11. Elsevier Information Systems
12. Transactions on Data Privacy
13. IEEE Transactions on Dependable and Secure Computing
14. Journal of Computer Science and Technology
15. Elsevier Journal of biomedical informatics
16. International Journal of Systems Science
17. Journal of Computer Engineering and Information Technology
18. IEEE/ACM Transactions on Networking
19. IEEE Transactions on Neural Networks and Learning Systems
20. IEEE Transactions on Information Forensics & Security
21. IEEE Transactions on Dependable and Secure Computing
22. The Computer Journal
23. Privacy in Health Informatics for International Journal of Computational Models and Algorithms in Medicine (IJCMAM)
24. Knowledge and Information Systems
25. Journal of Concurrency and Computation: Practice and Experience
26. Springer Journal of Data Semantics
27. Journal of Computer Security
28. ACM Transactions on Database Systems (TODS)
29. Journal of Information Science
30. VLDB Journal
31. IEEE Transactions on Knowledge and Data Engineering (TKDE)

32. Journal of Information Technology and Architecture
33. IEEE Transactions on Neural Networks
34. Elsevier Journal of Data & Knowledge Engineering

Conference Reviewer

1. IEEE International Conference on Big Data and Smart Computing(IEEE BigComp), 2018.
2. The 13th International Conference on Information Systems Security (ICISS), 2017
3. IEEE Symposium on Computational Intelligence in Cyber Security (CICS), 2017
4. The 26th International Conference on Computer Communication and Networks (ICCCN), 2017.
5. The 4th International Conference on Big Data and Smart Computing, 2017.
6. The ACM International Conference on Management of Data (SIGMOD), 2017.
7. The 36th Milcom conference, 2016.
8. The 43th International Conference on Very Large Databases (VLDB), 2017.
9. The 2016 International Workshop on Security in Cloud Computing (SCC), 2016.
10. IJCAI Special Track on AI and the Web, 2016.
11. The 14th International Symposium on Spatial and Temporal Databases (SSTD), 2015.
12. The International Conference on Database and Expert Systems Applications (DEXA) 2015.
13. The ACM ASIACCS Security in Cloud Computing (SCC) Workshop, 2015.
14. The International Artificial Intelligence Research Society (FLAIRS) Conference, 2015.
15. The SIAM International Conference on Data Mining (SDM), 2015.
16. The 23th Annual Wireless and Optical Communications Conference (WOCC), 2014.
17. The 17th International Conference on Extending Database Technology (EDBT), 2014.
18. The International Conference on Database and Expert Systems Applications (DEXA) 2014.
19. The IEEE International Conference on Data Engineering (ICDE), 2014.
20. The 14th International Conference on Web Information System Engineering (WISE), 2013.
21. The ICDM Workshop on Privacy in Social Data (PinSoDa), 2013.
22. The 3rd IEEE International Conference on Privacy, Security, Risk and Trust (PASSAT) 2013.
23. The International Conference on Database and Expert Systems Applications (DEXA) 2013.
24. 12th IEEE International Conference on Scalable Computing and Communications (ScalCom) 2012.
25. The 3rd IEEE International Conference on Privacy, Security, Risk and Trust (PASSAT) 2012.
26. The International Conference on Database and Expert Systems Applications (DEXA) 2012.
27. The 2012 ASE/IEEE International Conference on Cyber Security, 2012.
28. The ICDM Workshop on Privacy in Social Data (PinSoDa), 2012.
29. The First International Conference on Advances in Information Mining and Management(IMMM), 2011.
30. The IEEE International Conference on Data Engineering (ICDE) 2011.

31. The 25th Annual IFIP WG 11.3 Working Conference on Data and Applications Security (DBSec), 2011.
32. The 3rd IEEE International Conference on Privacy, Security, Risk and Trust (PASSAT), 2011.
33. The International Conference on Database and Expert Systems Applications (DEXA) 2011.
34. The International Database Engineering & Applications Symposiums (IDEAS) 2011.
35. The sixth International Conference on Semantics, Knowledge and Grid (SKG) 2010.
36. The International Conferences on Asia-Pacific Web Conference (APWeb) 2010.
37. The International Conference on Database and Expert Systems Applications (DEXA) 2010.
38. The International conference on digital information management (ICDIM) 2009.
39. The International Conference on Database and Expert Systems Applications (CIKM), 2009.
40. The IEEE International Conference on Data Engineering (ICDE), 2009.
41. The International Conference on Knowledge Management (ICKM), 2009.
42. The IEEE International Workshop on Security, Privacy and Authentication in Wireless Networks (SPAWN), 2009.
43. The International Conference on Database and Expert Systems Applications (CIKM), 2009.