Jaideep S. Vaidya

Management Science and Information Systems Department
Rutgers University
1 Washington Park
Newark, NJ 07102
(973)353-1441
http://cimic.rutgers.edu/~jsvaidya

41 River Road
East Brunswick, NJ 08816
Permanent Resident

Email: jsvaidya@business.rutgers.edu

Research Interests

My primary research interests lie at the intersection of privacy, security, data analysis, and data management. As such, I am very interested in the field of secure information sharing and its various applications; as also the application of secure computation technologies to business processes such as supply chain management and optimization. I am also interested in security and privacy issues raised by data mining, and the use of data mining techniques to enhance security, such as in Role Engineering.

Education

Purdue University *West Lafayette, Indiana, USA*

Ph.D., Computer Science, August 2004

- Dissertation Topic: "Privacy Preserving Data Mining over Vertically Partitioned Data"
  Privacy and security concerns can prevent sharing of data, derailing data mining projects. Distributed knowledge discovery, if done correctly, can alleviate this problem. The key is to obtain valid results, while providing guarantees on the (non)disclosure of data. We focus on vertically partitioned data: situations where different sites contain different attributes for a common set of entities. The key challenges are to propose provably secure solutions that are also practical. The thesis argues that it is indeed possible to have *efficient* and *practical* techniques for provably privacy-preserving mining of knowledge from large amounts of data. The dissertation presents several privacy preserving data mining algorithms operating over vertically partitioned data. The set of underlying techniques solving independent sub-problems are also presented. Together, these enable the secure "mining" of knowledge.
- Advisor: Chris Clifton

M.S., Computer Science, May 2001

University of Mumbai *Mumbai, Maharashtra, India*

B.S., Computer Engineering, May, 1999

- Term Project: Implemented in C, a Text to Speech Synthesis system for the Indian National Language, Hindi, in collaboration with Faculte Polytechnic de Mons, Belgium. Received a Special Commendation from the Principal of the College.

Professional Experience

Rutgers, the State University of New Jersey **August, 2004 – present**
Assistant Professor of Computer Information Systems. Research in data mining, databases and security. Teaching: Management Information Systems, Introduction to Software Development, Computer Information Systems, Information Systems Analysis, Information Systems Design, Structured Programming Applications, Business Applications Programming.

Purdue University **August, 1999 – June, 2004**
Research Assistant in the Department of Computer Sciences (affiliated with CERIAS and ICDS).

Teaching Assistant for *Computer Architecture, Compilers: Principles and Practice and graduate level Cryptography.* Work involved instructing recitation sessions, grading and assisting students.

NEC C&C Research Labs **May, 2002 – August, 2002**
Summer Intern as part of the Content Aware Networks group. Work on security issues in content aware networks. Mentor: Wen-Syan Li

Microsoft Corporation **May, 2000 – August, 2000**
Summer Intern as part of the Trident Team in the Internet Explorer Group. Core responsibility was to add W3C Document Object Model (DOM) Level 1 support to IE 6.0.

Honors and Awards

1. Junior Faculty Research Award (One Per School), Rutgers Business School, 2009
2. NSF Career Award, 2008
3. Listed in Marquis Who's Who, 2006
4. University Nominee (One Per University), Microsoft New Faculty Fellowship, Rutgers University, 2005
5. Best Paper Award (Industrial Track) at IEEE ICDE '05
6. Best Paper Award (Research Track), Runner Up, at ACM SIGKDD '03
7. Elected member of Upsilon Pi Epsilon, the CS Honor Society
8. AAAI and SIGMOD Student Scholarship (Travel Award for KDD '03)
9. State Merit Scholarships awarded by the state of U.P. (1989) and Maharashtra (1990), India

Monograph

1. "Privacy Preserving Data Mining". Jaideep Vaidya, Michael Zhu and Chris Clifton, Monograph, Series on Advances in Information Security, Springer-Verlag, November 2005, ISBN: 0-387-25886-8.

Book Chapters

1. "Vertically Partitioned data", Jaideep Vaidya in *Encyclopedia of Database Systems*, zsu, M. Tamer; Liu, Ling (Eds.), Springer, to appear.
2. "Secure Multiparty Computation Methods", Murat Kantacioglu and Jaideep Vaidya in *Encyclopedia of Database Systems*, zsu, M. Tamer; Liu, Ling (Eds.), Springer, to appear.
3. "A Survey of Privacy-Preserving Methods across Vertically Partitioned Data", Jaideep Vaidya in *Privacy-Preserving Data Mining: Models and Algorithms*, Charu Aggarwal, Philip S. Yu, eds., Springer, 2008.
4. "Privacy, Profiling, Targeted Marketing, and Data Mining", Jaideep Vaidya and Vijay Atluri in *Digital Privacy: Theory, Technologies, and Practices*, A. Acquisti, S. Gritzalis, C. Lambrinoudakis, S. di Vimercati, eds., Taylor and Francis, December 18, 2007.
5. "Defining Privacy for Data Mining". Book Chapter. Chris Clifton, Murat Kantarcioglu and Jaideep Vaidya in *Data Mining: Next Generation Challenges and Future Directions*, AAAI/MIT Press, October 1, 2004.
6. "Privacy-Preserving Data Mining". Chris Clifton, Murat Kantarcioglu and and Jaideep Vaidya, invited chapter in *Foundations and Advances in Data Mining Computing*, T.Y. Lin and Wesley Chu, eds., Springer-Verlag, October 2005.

Journal Articles

1. "Similar Document Detection with Limited Information Disclosure", Mummoorthy Murugesan, Wei Jiang, Chris Clifton, Luo Si, and Jaideep Vaidya, accepted for publication in the International Journal on Very Large Data Bases (VLDB Journal), VLDB Endowment.

2. "Privacy Preserving Integration of Health Care Data", Xiaoyun He, Jaideep Vaidya, Basit Shafiq, Nabil Adam, Thomas White, accepted for publication in International Journal of Computational Models and Algorithms in Medicine, special issue on Privacy and Security Issues for Medical Data, IGI Global.
3. "Spatial neighborhood based anomaly detection in sensor datasets", Vandana Janeja, Nabil R. Adam, Vijayalakshmi Atluri and Jaideep Vaidya, accepted for publication in Data Mining and Knowledge Discovery, special issue on Outlier Detection, Springer.
4. "Anonymization Models for Directional Location Based Service Environments", Heechang Shin, Jaideep Vaidya, and Vijayalakshmi Atluri, accepted for publication in Computers and Security, Elsevier.
5. "Towards a United Index Structure for Spatiotemporal Data and Authorizations", Vijayalakshmi Atluri, Qi Guo, Heechang Shin, and Jaideep Vaidya, accepted for publication in the International Journal of Information and Computer Security, Inderscience.
6. "Role Engineering via Prioritized Subset Enumeration", Jaideep Vaidya, Vijayalakshmi Atluri, Janice Warner, and Qi Guo, accepted for publication in the IEEE Transactions on Dependable and Secure Computing, IEEE Computer Society.
7. "The Role Mining Problem: A Formal Perspective", Jaideep Vaidya, Vijayalakshmi Atluri, and Qi Guo, accepted for publication in ACM Transactions on Information Systems Security, ACM. (Invited extension of SACMAT '07 paper).
8. "Privacy-Preserving Indexing of Documents on the Network", Mayank Bawa, Roberto J. Bayardo, Rakesh Agrawal, and Jaideep Vaidya, The International Journal on Very Large Data Bases (VLDB Journal), 18(4), pp. 837-856, 2009, VLDB Endowment.
9. Edge-RMP: Minimizing administrative assignments for role-based access control, Jaideep Vaidya, Vijayalakshmi Atluri, Qi Guo, and Haibing Lu, Journal of Computer Security, 17(2), pp. 211-235, 2009, IOS Press, NL.
10. "Privacy-Preserving Kth Element Score over Vertically Partitioned Data", Jaideep Vaidya and Chris Clifton, IEEE Transactions on Knowledge and Data Engineering, 21(2), pp.253-258, 2009, IEEE Computer Society.
11. "Privacy-Preserving Decision Trees over Vertically Partitioned Data". Jaideep Vaidya, Chris Clifton, Murat Kantarcioglu and A. Scott Patterson, ACM Transactions on Knowledge Discovery in Data, 2(3), October 2008, ACM.
12. "Efficient Security Policy Enforcement for the Mobile Environment", Vijayalakshmi Atluri, Heechang Shin, and Jaideep Vaidya, Journal of Computer Security, 16(4), pp. 439-475, 2008, IOS Press, NL.
13. "Privacy Preserving Naïve Bayes Classification". Jaideep Vaidya, Murat Kantarcioglu and Chris Clifton, International Journal on Very Large Data Bases, 17(4), pp. 879-898, July, 2008 Springer-Verlag, GmbH.
14. "Privacy Preserving SVM Classification", Jaideep Vaidya, Hwanjo Yu and Xiaoqian Jiang, in Knowledge and Information Systems, Springer-Verlag, 14(2), pp. 161-178, February, 2008.
15. "An Approach to Identifying Beneficial Collaboration Securely in Decentralized Logistics Systems". Chris Clifton, Ananth Iyer, Richard Cho, Wei Jiang, Murat Kantarcioglu and Jaideep Vaidya, Manufacturing & Service Operations Management, 10(1), Winter 2008, pp. 108 – 125, INFORMS, Linthicum, Maryland.
16. "Secure Set Intersection Cardinality with Application to Association Rule Mining". Jaideep Vaidya and Chris Clifton, Journal of Computer Security, 13(4), IOS Press, November 2005, pp. 593 - 622.
17. "Privacy-Preserving Data Mining: Why, How, and When?". Jaideep Vaidya and Chris Clifton, IEEE Security & Privacy, New York, NY, November/December 2004.

18. "Tools for Privacy Preserving Distributed Data Mining". Chris Clifton, Murat Kantarcioglu, Jaideep Vaidya, Xiaodong Lin and Michael Zhu, in ACM SIGKDD Explorations 4(2), December 2002. Invited paper.

Under Review

1. "Semantics Based Automated Service Discovery", Aabhas Paliwal, Basit Shafiq, Jaideep Vaidya, Hui Xiong, and Nabil Adam, submitted (August 2008) to IEEE Transactions on Services Computing, IEEE Computer Society, Los Alamitos, CA. Accepted pending minor revisions.
2. "Migrating to Optimal RBAC with Minimal Perturbation", Jaideep Vaidya, Vijayalakshmi Atluri, Qi Guo, and Nabil Adam (extension of SACMAT '08 paper invited to ACM TISSEC).
3. "Exploring the Benefits of Information Sharing in a Distribution System", Xiaolong Zhang, Yao Zhao and Jaideep Vaidya, submitted (November 2007) to European Journal of Operational Research, Elsevier.
4. "Secure Construction of Contingency Tables from Distributed Data", Haibing Lu, Xiaoyun He, Jaideep Vaidya, and Nabil Adam, submitted (June 2009) to Journal of Computer Security, IOS Press. (Extended version of DBSEC '08 paper invited for submission).
5. "A Profile Anonymization Model for Location Based Services", Heechang Shin, Jaideep Vaidya, and Vijayalakshmi Atluri, submitted (September 2009) to Journal of Computer Security, IOS Press, NL.

Refereed Conference and Workshop Papers

1. "Extended Boolean Matrix Decomposition", Haibing Lu, Jaideep Vaidya, Vijayalakshmi Atluri, and Yuan Hong in Proceedings of the 2009 IEEE International Conference on Data Mining (ICDM '09), December 6-9, 2009, Miami, Florida, USA.
2. "Effective Anonymization of Query Logs", Yuan Hong, Xiaoyun He, Jaideep Vaidya, Nabil Adam, and Vijayalakshmi Atluri, in Proceedings of the 18th ACM Conference on Information and Knowledge Management (CIKM '09), November 2-6, 2009, Hong Kong, China.
3. "Preserving Privacy in Social Networks: A Structure-Aware Approach", Xiaoyun He, Jaideep Vaidya, Basit Shafiq, Nabil Adam, and Vijayalakshmi Atluri, in Proceedings of the 2009 IEEE/WIC/ACM International Conference on Web Intelligence (WI-09), September 15-18, 2009, Milan, Italy.
4. "Efficient Privacy-Preserving Link Discovery", Xiaoyun He, Jaideep Vaidya, Basit Shafiq, Nabil Adam, Evimaria Terzi, and Tyrone Grandison, in Proceedings of the 13th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD-09) , April 27-30, 2009, Bangkok, Thailand.
5. "An Efficient Approximate Protocol for Privacy-Preserving Association Rule Mining", Murat Kantarcioglu, Robert Nix, and Jaideep Vaidya, in Proceedings of the 13th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD-09) , April 27-30, 2009, Bangkok, Thailand.
6. "A Secure Revised Simplex Algorithm for Privacy-Preserving Linear Programming", Jaideep Vaidya, in Proceedings of the 23rd IEEE International Conference on Advanced Information Networking and Applications (AINA-09), Security, Privacy and Trust Track, May 26-29, 2009, Bradford, UK.
7. "An Efficient Online Auditing Approach to Limit Private Data Disclosure", Haibing Lu, Yingjiu Li, Vijayalakshmi Atluri, Jaideep Vaidya, in Proceedings of the 12th International Conference on Extending Database Technology, March 23-26, 2009, St. Petersburg, Russia.
8. "Privacy-Preserving Linear Programming", Jaideep Vaidya, in Proceedings of the 24th Annual ACM Symposium on Applied Computing, Security Track, March 8-12, 2009, Honolulu, Hawaii, USA.
9. "The Role Hierarchy Mining Problem: Discovery of Optimal Role Hierarchies", Qi Guo, Jaideep Vaidya, and Vijayalakshmi Atluri, in Proceedings of the 24th Annual Computer Security Applications Conference, December 8-12, 2008, Anaheim, California.

10. "Towards a holistic approach to privacy-preserving data analysis", Jaideep Vaidya, in Proceedings of the 2008 Workshop on Secure Knowledge Management, November 3-4, 2008, Richardson, TX, USA.
11. "Ontology Driven Resource Management for Emergency Response", Basit Shafiq, Nabil Adam, Vijay Atluri, Jaideep Vaidya, and Soon Ae Chun, in Proceedings of the 2008 Workshop on Secure Knowledge Management, November 3-4, 2008, Richardson, TX, USA.
12. "Secure Construction of Contingency Tables from Distributed Data", Haibing Lu, Xiaoyun He, Jaideep Vaidya, and Nabil Adam, in Proceedings of the 22nd Annual IFIP WG 11.3 Working Conference on Data and Applications Security (DBSEC '08), pp. 144 - 157, July 13-16, 2008, London, UK.
13. "Migrating to Optimal RBAC with Minimal Perturbation", Jaideep Vaidya, Vijayalakshmi Atluri, Qi Guo, and Nabil Adam, in Proceedings of the 13th ACM Symposium on Access Control Models and Technologies (SACMAT), June 11-13, 2008, Estes Park, Colorado, USA.
14. "Secure Information Sharing and Analysis for Effective Emergency Management", Nabil Adam, Vijayalakshmi Atluri, Soon Ae Chun, John Ellenberger, Basit Shafiq, Jaideep Vaidya, and Hui Xiong, in Proceedings of the 9th Annual International Conference on Digital Government Research, May 18-21, 2008, Montreal, Canada.
15. "A Profile Anonymization Model for Privacy in a Personalized Location Based Service Environment", Heechang Shin, Vijayalakshmi Atluri, and Jaideep Vaidya, in Proceedings of the 9th International Conference on Mobile Data Management, April 27-30, 2008, Beijing, China.
16. "Privacy-preserving Link Discovery", Xiaoyun He, Basit Shafiq, Jaideep Vaidya, and Nabil Adam, in Proceedings of the 23rd Annual ACM Symposium on Applied Computing, Data Mining Track, March 16-20, 2008, Fortaleza, Ceara, Brazil.
17. "Optimal Boolean Matrix Decomposition: Application to Role Engineering", Haibing Lu, Jaideep Vaidya, and Vijay Atluri, in Proceedings of the 24th International Conference on Data Engineering, April 7-12, 2008, Cancun, Mexico.
18. "Privacy Preserving Integration of Health Care Data", Nabil Adam, Thomas White, Basit Shafiq, Jaideep Vaidya, and Xiaoyun He, American Medical Informatics Association 2007 Annual Symposium, November 10-14, 2007, Chicago, Illinois.
19. "Enabling better Medical Image Classification through Secure Collaboration", Jaideep Vaidya and Bhakti Tulpule, in Proceedings of the 14th IEEE International Conference on Image Processing, September 16-19, 2007, San Antonio, Texas.
20. "The Role Mining Problem: Finding a Minimal Descriptive Set of Roles", Jaideep Vaidya, Vijay Atluri, and Qi Guo, in Proceedings of the 12th ACM Symposium on Access Control Models and Technologies, June 20-June 22, 2007, Sophia Antipolis, France.
21. "Using Semantics for Automatic Enforcement of Access Control Policies among Dynamic Coalitions", Janice Warner, Vijay Atluri, Ravi Mukkamala and Jaideep Vaidya, in Proceedings of the 12th ACM Symposium on Access Control Models and Technologies, June 20-June 22, 2007, Sophia Antipolis, France.
22. "RoleMiner: Finding Roles using Subset Enumeration", Jaideep Vaidya, Vijay Atluri, and Janice Warner, in Proceedings of the 13th ACM Conference on Computer and Communications Security, October 30-November 3, Alexandria, VA, USA.
23. "Privacy-Preserving SVM Classification on Vertically Partitioned Data", Hwanjo Yu, Jaideep Vaidya and Xiaoqian Jiang, in Proceedings of the 10th Pacific-Asia conference on Knowledge Discovery and Data Mining, April 9-12, Singapore.
24. "Privacy-Preserving SVM using Nonlinear Kernels on Horizontally Partitioned Data", Hwanjo Yu, Xiaoqian Jiang and Jaideep Vaidya, in the 21st Annual ACM Symposium on Applied Computing, Data Mining Track, April 23-27, 2006, Dijon, France.

25. "Privacy Preserving Decision Tree Classification for vertically partitioned data", Jaideep Vaidya and Chris Clifton, in the proceedings of the Nineteenth Annual IFIP WG 11.3 Working Conference on Data and Applications Security, August 7-10, 2005, Storrs, CT.
26. "Collusion Set Detection through Outlier Discovery", Vandana Janeja, Vijay Atluri, Jaideep Vaidya and Nabil R. Adam, IEEE International Conference on Intelligence and Security Informatics, May 19-20, 2005, Atlanta, GA.
27. "Knowledge Discovery from Transportation Network Data". Wei Jiang, Jaideep Vaidya, Zahir Balaporia, Chris Clifton, and Brett Banich, in proceedings of the Twenty First IEEE International Conference on Data Engineering, April 5-8, 2005, Tokyo, Japan. Best Industrial Paper award.
28. "Privacy Preserving Top-K Queries". Jaideep Vaidya and Chris Clifton, in proceedings of the Twenty First IEEE International Conference on Data Engineering, April 5-8, 2005, Tokyo, Japan.
29. "Privacy Preserving Outlier Detection". Jaideep Vaidya and Chris Clifton, in proceedings of the Fourth IEEE International Conference on Data Mining, November 1-4, 2004, Brighton, UK.
30. "Privacy Preserving Data Integration and Sharing". Chris Clifton, AnHai Doan, Ahmed Elmagarmid, Murat Kantarcioglu, Gunther Schadow, Dan Suciu, and Jaideep Vaidya, The 9th ACM SIGMOD Workshop on Research Issues in Data Mining and Knowledge Discovery (DMKD'2004) June 13, 2004, Paris, France.
31. "Privacy Preserving Naïve Bayes Classifier for Vertically Partitioned Data". Jaideep Vaidya and Chris Clifton, in the Proceedings of the 2004 SIAM International Conference on Data Mining, April 22-24, 2004, Lake Buena Vista, Florida, USA.
32. "Privacy Preserving Naive Bayes Classifier for Horizontally Partitioned Data". Murat Kantarcioglu and Jaideep Vaidya, in the 2^{nd} Workshop on Privacy Preserving Data Mining held in association with The Third IEEE International Conference on Data Mining, November 19 - 22, 2003, Melbourne, FL.
33. "Leveraging the "Multi" in Secure Multi-Party Computation". Jaideep Vaidya and Chris Clifton, in the Workshop on Privacy in the Electronic Society held in association with The Tenth ACM Conference on Computer and Communications Security, October 27 - 31, 2003, Washington, D.C.
34. "Privacy-Preserving K-Means Clustering over Vertically Partitioned Data". Jaideep Vaidya and Chris Clifton, The Ninth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, August 24 - 27, 2003, Washington, D.C. Honorable mention (runner up), best research paper.
(Revised paper invited for submission at Interface '04).
35. "Privacy Preserving Association Rule Mining in Vertically Partitioned Data". Jaideep Vaidya and Chris Clifton, The Eighth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, July 23 - 26, 2002, Edmonton, Alberta, Canada.
36. "An architecture for Privacy-preserving Mining of Client Information". Murat Kantarcioglu and Jaideep Vaidya, in Volume 14 - Privacy, Security and Data Mining of the ACS Series Conferences in Research and Practice in Information Technology.

Editor Refereed Articles

1. "Using Secure-coprocessor for creating efficient Privacy-Preserving Distributed Data Mining Toolbox". Murat Kantarcioglu, Jaideep Vaidya and Chris Clifton, in International Workshop on Privacy and Security Issues in Data Mining held in conjuction with ECML/PKDD 2004, September 20, 2004, Italy. Invited paper.
2. "Defining Privacy for Data Mining". Chris Clifton, Murat Kantarcioglu and Jaideep Vaidya, in Proceedings of the National Science Foundation Workshop on Next Generation Data Mining, November 1-3, 2002, Baltimore, MD. Invited paper.

Research Funding

- Co-Principal Investigator, "Homeland Defense Research & Development Effort", $498,430, Department of Homeland Security, January 2010 - December 2011. (Vijayalakshmi Atluri, PI).
- Co-Principal Investigator, "DG: Secure Agency Interoperation for Effective Data Mining in Border Control and Homeland Security Applications", Supplement, $50,000, NSF, October 2008 - September 2009. (Nabil R. Adam, PI).
- Principal Investigator, "Collaborative Optimization with Limited Information Disclosure", $450,000, NSF Career Award 2008, February 2008 - January 2013 (No Co-PIs).
- Co-Principal Investigator, "Improving Business Knowledge Management & Analysis Through the use of the RFID Technology and Semantic Web Services", $566,000, SAP Corporation, August 2007 - June 2009.
- Co-Principal Investigator, "Improving Business Knowledge Management and Analysis Through the use of Semantic Web Services and RFID Technology", SAP Research Labs, $420,000, June 2004 - June 2007. (Nabil R. Adam, PI).
- Internal Grant: Co-Principal Investigator, "The Rutgers University Research Initiative on Cybersecurity Economics (RICE)", $60,000, Rutgers Academic Excellence Fund, 2008-2009. (Rebecca Wright, PI).
- Internal Grant: Co-Principal Investigator, "Information Technology for Emergency Management (iTeam)", $40,000, Rutgers Academic Excellence Fund, 2007-2008. (Nabil R. Adam, PI).
- Internal Grant: Principal Investigator, "Privacy Preserving Optimization", Rutgers FOM Research Grant, $1,500, July 2006 - June 2007.
- Internal Grant: Principal Investigator, "Privacy Preserving Data Analysis", Rutgers FOM Research Grant, $9,500, July 2005 - June 2006.

Presentations

1. The Role Mining Problem – A Formal Perspective, University of Pittsburgh, Pittsburgh, PA, February 13, 2009.
2. Effective Query Log Anonymization, Google, Inc., Mountain View, CA, December 8, 2008.
3. The Role Mining Problem - A Formal Perspective, Syracuse University, Syracuse, NY, December 3, 2008.
4. The Role Mining Problem – A Formal Perspective, University of Texas at San Antonio, San Antonio, TX, November 5, 2008.
5. The Role Mining Problem – A Formal Perspective, Stevens Institute of Technology, Hoboken, NJ, October 20, 2008.
6. Role Engineering and the Role Mining Problem, University of Texas at Dallas, Dallas, TX, September 17, 2007.
7. Role Engineering and the Role Mining Problem, Tata Research Design & Development Center, August 1, 2007, Pune, India.
8. "RoleMiner: Role Mining via Subset Enumeration", at the 13th ACM Conference on Computer and Communications Security, November 1, 2006.
9. "Privacy-Preserving Data Mining", at the Tata Research Design & Development Center, Pune, India, June 21, 2005.
10. "Privacy-Preserving Outlier Detection", at the Stevens Institute of Technology, Hoboken, NJ, May 2, 2005.
11. "Privacy Preserving Collaboration – Supply Chain, Transportation Logistics and Other problems", Supply Chain Management Research Seminar Series, Rutgers Business School, April 28, 2005.

12. "Privacy Preserving K-Means Clustering on Vertically Partitioned Data", invited talk at Interface '04, the best of data mining at KDD session, Baltimore, Maryland, May 27, 2004.
13. "Privacy Preserving Data Mining over Vertically Partitioned Data" at the CSIS Seminar at the Department of Information and Software Engineering, George Mason University, May 25, 2004.
14. "Privacy Preserving Data Mining on Vertically Partitioned Data" at the CERIAS Security Seminar, Purdue University, January 14, 2004.
15. "Privacy Preserving Data Mining over Vertically Partitioned Data" at the DAIS Seminar at the CS Department at University of Illinois at Urbana-Champaign, October 24, 2003.
16. "Leveraging the "Multi" in Secure Multi-Party Computation" at the Workshop on Privacy in Electronic Society held in conjunction with ACM CCS, October 30, 2003.
17. "Privacy Preserving K-Means Clustering over Vertically Partitioned Data" at the Ninth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, August 25, 2003.
18. "A new architecture for Privacy Preserving Data Mining" at the Workshop on Privacy, Security and Data Mining held in conjunction with ICDM, December 9, 2002.
19. "Privacy Preserving Data Mining" with Chris Clifton in CERIAS Security Seminar, February 27, 2002.
20. "A new architecture for Privacy Preserving Data Mining" in Indiana Center for Database Systems seminar, December 4, 2002.

Professional Activities

Co-Program Chair

- 23rd Annual IFIP WG 11.3 Working Conference on Data and Applications Security (DBSEC '09), July 12-15, 2009, Montreal, Canada.
- 6th International Workshop on Privacy Aspects of Data Mining, held in conjunction with the 2007 IEEE International Conference on Data Mining, October 28, 2007, Omaha, NE, USA.

Proceedings Chair

- The Eleventh ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, August 21-24, 2005, Chicago, IL.

Publicity Chair

- 2008 Workshop on Secure Knowledge Management, November 3-4, 2008, Richardson, TX, USA.
- International Conference and Workshop on Cyber Security, Cyber Crime and Cyber Forensics, August 19-21, 2009, Cochin, India .

Registrations Chair

- 14th ACM Symposium on Access Control Models and Technologies (SACMAT '09), June 3-5, 2009, Stresa, Italy.

Book Donations Chair

- ACM SIGMOD/PODS 2005 Conference, June 14-16, 2005, Baltimore, MD.

SIGKDD Doctoral Dissertation Awards Committee, 2009-2012.

Session Chair

- 23rd Annual IFIP WG 11.3 Working Conference on Data and Applications Security (DBSEC '09), July 12-15, 2009, Montreal, Canada.
- 24th Annual ACM Symposium on Applied Computing, Security Track, March 8-12, 2009, Honolulu, Hawaii, USA.

Program Committee

- The 26th International Conference on Data Engineering (ICDE '10), March 28 - April 3, 2010, Los Angeles, CA, USA.
- 2009 IEEE International Conference on Data Mining (ICDM '09), December 6-9, 2009, Miami, Florida, USA.
- The 2009 Information Security Conference (ISC '09), September 7-9, 2009, Pisa, Italy.
- 2009 Workshop on Privacy in the Electronic Society (WPES '09), in conjunction with the 16th ACM Conference on Computer and Communications Security (CCS '09), November 9, 2009.
- The 2009 IEEE International Conference on Granular Computing (GRC '09), August 17-19, 2009, Lushan Mountain/Nanchang, China.
- The 14th ACM Symposium on Access Control Models and Technologies (SACMAT '09), June 3-5, 2009, Stresa, Italy.
- The 10th Annual International Conference on Digital Government Research (DGO '09), May 17-20, 2009, Puebla, Mexico.
- The First Workshop on Management and mining of UNcertain Data (MOUNDS 2009), March 29, 2009, Shanghai, China.
- 2008 IEEE International Conference on Data Mining (ICDM '08), December 15-19, 2008, Pisa, Italy.
- 2008 Workshop on Secure Knowledge Management, November 3-4, 2008, Richardson, TX, USA.
- 2008 IEEE International Conference on Granular Computing, August 26-28, 2008, Hangzhou, China.
- 10th International Conference on Data Warehousing and Knowledge Discovery (DaWaK '08), September 1-5, 2008, Turin, Italy.
- The Second International Workshop on Privacy-Aware Location-based Mobile Services (PALMS), April 27, 2008, Beijing, China.
- The Eleventh IEEE International Conference on Computational Science and Engineering, July 16-18, 2008, Sao Paolo, Brazil.
- The Twenty-Second Annual IFIP WG 11.3 Working Conference on Data and Applications Security, July 13-16, 2008, London, UK.
- The First Workshop on Data Mining of Uncertain Data (DUNE 2007), October 28, 2007, Omaha, NE, USA.
- The First Ph.D. Workshop in CIKM (PIKM), November 5, 2007, Lisboa, Portugal.
- The Third International Conference on Information Systems Security (ICISS 2007), December 16-20, 2007, Delhi, India.
- The Third International Workshop on Data Mining and Knowledge Discovery (ADMKD 2007), October 2, 2007, Varna, Bulgaria.
- The Ninth International Conference on Data Warehousing and Knowledge Discovery (DaWaK '07), September 3-7, 2007, Regensburg, Germany.
- The Twenty-Second National Conference on Artificial Intelligence, July 22-26, 2007, Vancouver, British Columbia, Canada.
- Second International Conference on Information Systems Security, December 17-21, 2006, Kolkata, India.
- International Workshop on Privacy Aspects of Data Mining (PADM'06).
- 2006 IEEE International Conference on Data Mining, December 18-22, 2006, Hong Kong, China.
- 2nd ADBIS Workshop on Data Mining and Knowledge Discovery, September 6, 2006, Thessaloniki, Greece.

- 8th International Conference on Data Warehousing and Knowledge Discovery (DaWaK '06), September 4-8, 2006, Krakow, Poland.
- IEEE International Conference on Granular Computing, May 10-12, 2006, Atlanta, Georgia, USA.
- 2005 ACM Symposium on Applied Computing Special Track on Data Mining (DM), March 13-17, 2005, Santa Fe, New Mexico.
- Workshop on Privacy and Security Aspects of Data Mining associated with the Fourth IEEE International Conference on Data Mining, November 1-4, 2004, Brighton, UK.

Proposal Review Panel

- National Science Foundation, April 2008.
- Kentucky Science & Engineering Foundation, November 2006.
- NASA Intelligent Systems Project, January 2004.

Reviewer (only journals listed)

- ACM Transactions on Knowledge Discovery from Data.
- Knowledge and Information Systems, Springer-Verlag, London.
- Journal of Artificial Intelligence Research.
- IEEE Transactions of Knowledge and Data Engineering.
- IEEE Transactions on Systems, Man, and Cybernetics.
- IEEE Transactions on Dependable and Secure Computing.
- IEEE Transactions on Neural Networks.
- Journal of Database Management, Idea Group Inc.
- Journal of Official Statistics, Statistics Sweden.
- Journal of Computing and Information Technology, University Computing Centre, Croatia.
- Journal of Computer Security, IOS Press, The Netherlands.
- International Journal on Digital Libraries, Springer-Verlag.
- International Journal on Very Large Data Bases, Springer-Verlag.
- Data and Knowledge Engineering, Elsevier.
- Data Mining and Knowledge Discovery, Springer.
- International Journal of Information and Computer Security, Inderscience.

University Service

1. Member, Teaching Methods Innovations Committee, 2005 – 2006
2. Member, Undergraduate - NB Curriculum Committee, 2005 – 2006
3. Member, Undergraduate - NWK Curriculum Committee, 2005 – 2006
4. Member, Graduate Admissions Committee, 2005 – present
5. Member, Policy Committee for the Master of Information Technology Program, 2006 – 2007
6. Member, Search Committee for Director of Information Technology, Rutgers Business School, 2008

Students

Qi Guo, A Formal Approach To The Role Mining Problem, co-advised with V. Atluri (Expected Graduation: Spring '09)

Heechang Shin, co-advised with V. Atluri (Expected Graduation: Spring '10)

Xiaoyun He, co-advised with N. Adam (Expected Graduation: Fall '10)

Haibing Lu, co-advised with V. Atluri (Expected Graduation: Spring '11)

Yuan Hong (Expected Graduation: Fall '11)