

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

Associate Professor of Computer Information Systems.

July, 2010 – present

Assistant Professor of Computer Information Systems.

August, 2004 – June, 2010

Purdue University

August, 1999 – June, 2004

Research and Teaching Assistant affiliated with CERIAS, ICDS and the Department of Computer Sciences.
August, 1999 – June, 2004

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. Best Poster or Demo Award, 12th Annual International Conference on Digital Government Research (dg.o 2011)
2. Rutgers Board of Trustees Research Fellowship for Scholarly Excellence
3. Junior Faculty Research Award (One Per School), Rutgers Business School, 2009
4. NSF Career Award, 2008
5. Listed in Marquis Who's Who, 2006
6. University Nominee (One Per University), Microsoft New Faculty Fellowship, Rutgers University, 2005
7. Best Paper Award (Industrial Track) at IEEE ICDE '05
8. Best Paper Award (Research Track), Runner Up, at ACM SIGKDD '03
9. Elected member of Upsilon Pi Epsilon, the CS Honor Society
10. AAAI and SIGMOD Student Scholarship (Travel Award for KDD '03)
11. 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. "Statistical Databases", Nabil Adam, Haibing Lu, Jaideep Vaidya, Basit Shafiq in *Encyclopedia of Cryptography and Security*, van Tilborg, Henk; Jajodia, Sushil (Eds.), Springer, 2011.
2. "Vertically Partitioned data", Jaideep Vaidya in *Encyclopedia of Database Systems*, zsu, M. Tamer; Liu, Ling (Eds.), Springer, December 2009.
3. "Secure Multiparty Computation Methods", Murat Kantarcioglu and Jaideep Vaidya in *Encyclopedia of Database Systems*, zsu, M. Tamer; Liu, Ling (Eds.), Springer, December 2009.
4. "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.
5. "Privacy, Profiling, Targeted Marketing, and Data Mining", Jaideep Vaidya and Vijay Atluri in *Digital Privacy: Theory, Technologies, and Practices*, A. Acquisti, S. Gritzalis, C. Lambri-noudakis, S. di Vimercati, eds., Taylor and Francis, December 18, 2007.
6. "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.
7. "Privacy-Preserving Data Mining". Chris Clifton, Murat Kantarcioglu 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. "Constraint-Aware Role Mining Via Extended Boolean Matrix Decomposition", Haibing Lu, Jaideep Vaidya, Vijayalakshmi Atluri, and Yuan Hong, *IEEE Transactions on Dependable and Secure Computing*, Special Issue on Data & Application Security (DAS), accepted, 2012.
2. "Resource Sharing using DHS-UICDS Framework for Incident Management", Vijayalakshmi Atluri, Basit Shafiq, Soon Chun, Ghulam Nabi, and Jaideep Vaidya, *Transforming Government: People, Process and Policy*, accepted, 2011.
3. "Structure-Aware Graph Anonymization", Xiaoyun He, Jaideep Vaidya, Basit Shafiq, Nabil Adam, and Vijay Atluri, accepted for publication in *Web Intelligence and Agent Systems: An International Journal*, IOS Press, NL.
4. "Semantics Based Automated Service Discovery", Aabhas Paliwal, Basit Shafiq, Jaideep Vaidya, Hui Xiong, and Nabil Adam, accepted for publication in *IEEE Transactions on Services Computing*, IEEE Computer Society, Los Alamitos, CA.
5. "Efficient Privacy-Preserving Collaborative Filtering Based on the Weighted Slope One Predictor", Anirban Basu, Jaideep Vaidya, and Hiroaki Kikuchi, in the *Journal of Internet Services and Information Security (JISIS)*, 1(4), November 2011, pp. 26-46.
6. "A Profile Anonymization Model for Location Based Services", Heechang Shin, Jaideep Vaidya, and Vijayalakshmi Atluri, *Journal of Computer Security*, 19(5), 2011, pp. 795-833, IOS Press, NL.
7. "Secure Construction and Publication of Contingency Tables from Distributed Data", Xiaoyun He, Haibing Lu, Jaideep Vaidya, and Nabil Adam, *Journal of Computer Security*, 19(3), pp. 453-484, May 2011, IOS Press, NL.
8. "Similar Document Detection with Limited Information Disclosure", Mummoorthy Murugesan, Wei Jiang, Chris Clifton, Luo Si, and Jaideep Vaidya, *International Journal on Very Large Data Bases (VLDB Journal)*, 19(4), pp. 457-475, August, 2010, VLDB Endowment.
9. "Privacy Preserving Integration of Health Care Data", Xiaoyun He, Jaideep Vaidya, Basit Shafiq, Nabil Adam, Thomas White, *International Journal of Computational Models and Algorithms in Medicine*, 1(2), special issue on Privacy and Security Issues for Medical Data, 2010, pp. 22-36, IGI Global.
10. "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, 20(2), March 2010, pp. 221-258, Springer.
11. "A Unified Index Structure for Efficient Enforcement of Spatiotemporal Authorizations", Vijayalakshmi Atluri, Qi Guo, Heechang Shin, and Jaideep Vaidya, *International Journal of Information and Computer Security*, 4(2), August 2010, pp. 118 - 151, Inderscience.
12. "Role Engineering via Prioritized Subset Enumeration", Jaideep Vaidya, Vijayalakshmi Atluri, Janice Warner, and Qi Guo, *IEEE Transactions on Dependable and Secure Computing*, 7(3), pp. 300-314, July-September, 2010, IEEE Computer Society.
13. "The Role Mining Problem: A Formal Perspective", Jaideep Vaidya, Vijayalakshmi Atluri, and Qi Guo, *ACM Transactions on Information Systems Security*, 13(3), pp. 27:1-27:31, July, 2010, ACM. (Invited extension of SACMAT '07 paper).
14. "Anonymization Models for Directional Location Based Service Environments", Heechang Shin, Jaideep Vaidya, and Vijayalakshmi Atluri, *Computers and Security*, 29(1), pp. 59-73, February 2010, Elsevier.
15. "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.

16. 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.
17. "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.
18. "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.
19. "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.
20. "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.
21. "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.
22. "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.
23. "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.
24. "Privacy-Preserving Data Mining: Why, How, and When?". Jaideep Vaidya and Chris Clifton, *IEEE Security & Privacy*, New York, NY, November/December 2004.
25. "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. "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).
2. "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.

REFEREED CONFERENCE AND WORKSHOP PAPERS

1. Differentially Private Search Log Sanitization with Optimal Output Utility, Yuan Hong, Jaideep Vaidya, Haibing Lu, and Mingrui Wu, in *Proceedings of the 15th International Conference on Extending Database Technology (EDBT)*, March 26-30, 2012, Berlin, Germany.
2. Feasibility of a privacy preserving collaborative filtering scheme on the Google App Engine – a performance case study, Anirban Basu, Jaideep Vaidya, Theo Dimitrakos, and Hiroaki Kikuchi, in *Proceedings of the 27th ACM Symposium on Applied Computing (SAC)*, Cloud Computing Track, Mar 26 - 30, 2012, Trento, Italy.
3. Role Engineering: From Theory to Practice, Nino Verde, Jaideep Vaidya, Vijayalakshmi Atluri, Alessandro Colantonio, in *Proceedings of the Second ACM Conference on Data and Application Security and Privacy (CODASPY '12)*, Feb 7-9, 2012, San Antonio, TX, USA.

4. Privacy-preserving collaborative filtering for the cloud, Anirban Basu, Jaideep Vaidya, Hiroaki Kikuchi, and Theo Dimitrakos, in Proceedings of the Third IEEE International Conference on Cloud Computing Technology and Science (CloudCom '11), Nov 29 - Dec 1, 2011, Athens, Greece.
5. Privacy-preserving Tabu Search for Distributed Graph Coloring, Yuan Hong, Jaideep Vaidya, Haibing Lu, and Basit Shafiq, in Proceedings of the Third IEEE International Conference on Information Privacy, Security, Risk and Trust (PASSAT '11), October 9-11, 2011, MIT, Boston, USA.
6. Search Engine Query Clustering using Top-k Search Results, Yuan Hong, Jaideep Vaidya, and Haibing Lu, in Proceedings of the Tenth IEEE/WIC/ACM International Conference on Web Intelligence (WI '11), August 22-27, 2011, Campus Scientifique de la Doua, Lyon, France.
7. An Optimization Model for the Extended Role Mining Problem, Emre Uzun, Vijayalakshmi Atluri, Haibing Lu, and Jaideep Vaidya, in Proceedings of the 25th Annual IFIP WG 11.3 Working Conference on Data and Applications Security and Privacy (DBSEC '11), July 11-13, 2011, Richmond, VA, USA.
8. Efficient Distributed Linear Programming with Limited Disclosure, Yuan Hong, Jaideep Vaidya, and Haibing Lu, in Proceedings of the 25th Annual IFIP WG 11.3 Working Conference on Data and Applications Security and Privacy (DBSEC '11), July 11-13, 2011, Richmond, VA, USA.
9. Privacy Preserving weighted Slope One predictor for Item-based Collaborative Filtering, Anirban Basu, Hiroaki Kikuchi, and Jaideep Vaidya, Proceedings of the International Workshop on Trust and Privacy in Distributed Information Processing (workshop at the IFIPTM 2011), Copenhagen, Denmark, 2011.
10. UICDS-based Information Sharing among Emergency Response Application Systems, Vijayalakshmi Atluri, Basit Shafiq, Soon Ae Chun, Ghulam Nabi and Jaideep Vaidya, in Proceedings of the 12th Annual International Conference on Digital Government Research (dg.o 2011), June 12-15 2011, University of Maryland, College Park, MD, USA. (Demo Paper - Best Demo or Poster Award)
11. Weighted Rank-One Binary Matrix Factorization, Haibing Lu, Jaideep Vaidya, Vijayalakshmi Atluri, Heechang Shin, and Lili Jiang, in Proceedings of the Eleventh SIAM International Conference on Data Mining (SDM '11), April 28-30, 2011, Phoenix, Arizona, USA.
12. Identifying a Critical Threat to Privacy through Automatic Image Classification, David Lorenzi, and Jaideep Vaidya, in Proceedings of the First ACM Conference on Data and Application Security and Privacy (CODASPY 2011), Feb 21-23, 2011, San Antonio, TX, USA.
13. Information Sharing Infrastructure for Pharmaceutical Supply Chain Management in Emergency Response, Vijayalakshmi Atluri, Basit Shafiq, Jaideep Vaidya, Soon Chun, Michael Trocchia, Nabil Adam, Christopher Doyle and Lawrence Skelly, in Proceedings of the 2010 IEEE International Conference on Technologies for Homeland Security, 8-10 November 2010, Westin Hotel, Waltham, MA.
14. Reachability Analysis in Privacy-Preserving Perturbed Graphs, Xiaoyun He, Jaideep Vaidya, Basit Shafiq, Nabil Adam, and Xiaodong Lin, in Proceedings of the 2010 IEEE/WIC/ACM International Conference on Web Intelligence, August 31 - September 3, 2010, York University, Toronto, Canada.
15. Role Mining in the Presence of Noise, Jaideep Vaidya, Vijayalakshmi Atluri, Qi Guo, and Haibing Lu, in Proceedings of the 24th Annual IFIP WG 11.3 Working Conference on Data and Applications Security (DBSEC '10), June 21-23, 2010, Rome, Italy.
16. Privacy-preserving Trust Verification, Jaideep Vaidya, Vijayalakshmi Atluri, Basit Shafiq, and Nabil Adam, in Proceedings of the 15th ACM Symposium on Access Control Models and Technologies (SACMAT '10), June 9-11, 2010, Pittsburgh, PA, USA.
17. Information Sharing among Incident Management Systems using UICDS, Basit Shafiq, Jaideep Vaidya, Vijayalakshmi Atluri, and Soon Chun, in Proceedings of the 11th Annual Conference on Digital Government Research (DGO '10), May 17-20, 2010, Puebla, Mexico.

18. "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.
19. "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.
20. "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.
21. "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.
22. "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.
23. "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.
24. "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.
25. "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.
26. "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.
27. "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.
28. "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.
29. "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.
30. "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.
31. "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.
32. "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.

33. "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.
34. "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.
35. "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.
36. "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.
37. "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.
38. "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.
39. "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.
40. "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.
41. "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.
42. "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.
43. "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.
44. "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.
45. "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.
46. "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.
47. "Privacy Preserving Data Integration and Sharing". Chris Clifton, AnHai Doan, Ahmed Elmagarmid, Murat Kantarcioglu, Gunther Schadow, Dan Suci, and Jaideep Vaidya, The 9th ACM SIGMOD Workshop on Research Issues in Data Mining and Knowledge Discovery (DMKD'2004) June 13, 2004, Paris, France.
48. "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.

49. "Privacy Preserving Naive Bayes Classifier for Horizontally Partitioned Data". Murat Kantarcioglu and Jaideep Vaidya, in the 2nd Workshop on Privacy Preserving Data Mining held in association with The Third IEEE International Conference on Data Mining, November 19 - 22, 2003, Melbourne, FL.
50. "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.
51. "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).
52. "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.
53. "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 conjunction 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. “Automating Security Configuration and Administration: An Access Control Perspective”, Winter 2011 Security and Privacy Day, New Jersey Institute of Technology, December 2, 2011.
2. The Role Mining Problem – A formal perspective, University of Maryland, Baltimore County, June 15, 2011.
3. The Role Mining Problem – A formal perspective, Arizona State University, April 28, 2011.
4. Privacy-preserving Graph Analysis, Tokai University, Tokyo, Japan, November 26, 2010.
5. Keynote: Automated Security Configuration and Administration – An Access Control Perspective, 5th International Workshop on Security (IWSEC’ 2010), November 22-24, 2010, Kobe, Japan.
6. Tutorial: Role Engineering and Role Mining, 5th International Conference on Information Systems Security (ICISS 2009), 14-18 December 2009, Eastern Zone Cultural Center, Kolkata, India.
7. The Role Mining Problem – A Formal Perspective, University of Pittsburgh, Pittsburgh, PA, February 13, 2009.
8. Effective Query Log Anonymization, Google, Inc., Mountain View, CA, December 8, 2008.
9. The Role Mining Problem - A Formal Perspective, Syracuse University, Syracuse, NY, December 3, 2008.
10. The Role Mining Problem – A Formal Perspective, University of Texas at San Antonio, San Antonio, TX, November 5, 2008.
11. The Role Mining Problem – A Formal Perspective, Stevens Institute of Technology, Hoboken, NJ, October 20, 2008.
12. Role Engineering and the Role Mining Problem, University of Texas at Dallas, Dallas, TX, September 17, 2007.
13. Role Engineering and the Role Mining Problem, Tata Research Design & Development Center, August 1, 2007, Pune, India.
14. “RoleMiner: Role Mining via Subset Enumeration”, at the 13th ACM Conference on Computer and Communications Security, November 1, 2006.
15. “Privacy-Preserving Data Mining”, at the Tata Research Design & Development Center, Pune, India, June 21, 2005.
16. “Privacy-Preserving Outlier Detection”, at the Stevens Institute of Technology, Hoboken, NJ, May 2, 2005.
17. “Privacy Preserving Collaboration – Supply Chain, Transportation Logistics and Other problems”, Supply Chain Management Research Seminar Series, Rutgers Business School, April 28, 2005.
18. “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.
19. “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.
20. “Privacy Preserving Data Mining on Vertically Partitioned Data” at the CERIAS Security Seminar, Purdue University, January 14, 2004.
21. “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.
22. “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.

23. "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.
24. "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.
25. "Privacy Preserving Data Mining" with Chris Clifton in CERIAS Security Seminar, February 27, 2002.
26. "A new architecture for Privacy Preserving Data Mining" in Indiana Center for Database Systems seminar, December 4, 2002.

PROFESSIONAL ACTIVITIES

Program Chair

- 10th Annual Workshop on Privacy in Electronic Society (WPES), October 17th, 2011, Chicago, IL, USA.

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.

Associate Editor (Editorial Board)

- IEEE Transactions on Dependable and Secure Computing (TDSC), 2011 - 2013.
- International Journal of Security and Networks (IJSN), 2011 - 2013.

Proceedings Chair

- The 16th ACM Symposium on Access Control Models and Technologies (SACMAT '11), June 9-11, 2011, Innsbruck, Austria.
- 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.

Special Issue Editor

- Journal of Computer Security, Selected papers from IFIP DBSEC '09 Conference (co-edited with Ehud Gudes).

Session Chair

- 25th Annual IFIP WG 11.3 Working Conference on Data and Applications Security and Privacy (DBSEC '11), July 11-13, 2011, Richmond, VA, USA.

- The 15th ACM Symposium on Access Control Models and Technologies (SACMAT '10), June 9-11, 2010, Pittsburgh, PA, USA.
- 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.

Panel Participant

- The Twenty-First Conference on Computers, Freedom, and Privacy, June 14-16, 2011, Washington, DC.
- 2009 IEEE/WIC/ACM International Conference on Web Intelligence, September 15-18, Milan, Italy.

Program Committee

- The ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) – '12, '11, '10.
- The International Conference on Very Large Data Bases (VLDB) – '12 (Ph.D. Program Track)
- The International Conference on World Wide Web (WWW) – '12, '11.
- The Annual WG 11.3 Conference on Data and Applications Security and Privacy (DBSec) – '12, '11, '10, '08.
- The ACM Symposium on Access Control Models and Technologies (SACMAT) – '12, '11, '10, '09.
- The Annual International Conference on Digital Government Research (dg.o) – '12, '11, '10, '09.
- The IEEE International Conference on Data Mining (ICDM) – '10, '09, '08, '06.
- The International Conference on Applied Cryptography and Network Security (ACNS) – '12.
- International Conference on Data Warehousing and Knowledge Discovery (DaWaK) – '08, '07, '06.
- The IEEE International Conference on Granular Computing (GRC) – '09, '08, '06.
- International Workshop on Privacy Aspects of Data Mining (PADM) – '11, '06, '04.
- Workshop on Privacy in the Electronic Society (WPES), in conjunction with the ACM Conference on Computer and Communications Security (CCS) – '10, '09.
- The Second ACM Conference on Data and Application Security and Privacy (CODASPY), February 8-10, 2012, San Antonio, TX, USA.
- The IEEE International Conference on Privacy, Security, Risk and Trust (PASSAT) – '12, '11.
- The International Conference on Network and System Security (NSS) – '12, '11.
- The International workshop on Trust and Privacy in Distributed Information Sharing 2011 (TPDIS 2011) colocated with IFIPTM 2011, 28 June 2011, Copenhagen, Denmark.
- The European Symposium on Research in Computer Security (ESORICS) – '12, '11.
- The 2nd International Symposium on Data, Privacy, and E-Commerce (ISDPE '10), September 13-14, 2010, Buffalo/Niagara Falls, NY, USA.
- The 5th International Conference on Information Technology (FutureTech 2010), Security and Trust Computing Track, May 21-23, 2010, Busan, Korea.
- The 26th International Conference on Data Engineering (ICDE '10), March 28 - April 3, 2010, Los Angeles, CA, USA.
- The 2009 Information Security Conference (ISC '09), September 7-9, 2009, Pisa, Italy.
- The First Workshop on Management and mining of UNcertain Data (MOUNDS 2009), March 29, 2009, Shanghai, China.
- 2008 Workshop on Secure Knowledge Management, November 3-4, 2008, Richardson, TX, USA.

- 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 Paulo, Brazil.
- 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 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.
- 2nd ADBIS Workshop on Data Mining and Knowledge Discovery, September 6, 2006, Thessaloniki, Greece.
- 2005 ACM Symposium on Applied Computing Special Track on Data Mining (DM), March 13-17, 2005, Santa Fe, New Mexico.

Proposal Review Panel

- National Science Foundation, May 2011.
- 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
7. Member, Technology Policy Committee, 2010-2011
8. Member, Masters in Information Technology Coordinating Committee, 2010-2011
9. Member, Newark Undergraduate Scholastic Standing Committee, 2010-2011
10. Member, MSIS Hiring Committee, 2011-2012

PH.D. STUDENTS

1. Qi Guo, A Formal Approach To The Role Mining Problem, co-advised with V. Atluri, August 2010. Employed at: Bed, Bath, and Beyond, Inc.
2. Heechang Shin, Security and Privacy in Personalized Mobile Service Environments, co-advised with V. Atluri, August 2010. Employed at: Tenure Track Assistant Professor at Iona College
3. Haibing Lu, Boolean Matrix Decomposition with Extensions: Application to Role Mining, co-advised with V. Atluri, October 2011. Employed at: Tenure Track Assistant Professor at Santa Clara University
4. Xiaoyun He, Privacy-Preserving Analysis of Graph-Structured Data, co-advised with N. Adam, October 2011. Employed at: Tenure Track Assistant Professor at Kean University
5. Yuan Hong (Expected Graduation: Fall '12)
6. David Lorenzi (Expected Graduation: Fall '13)