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EMPLOYMENT HISTORY

Purdue University

Associate Department Head, Department of Computer Science
Professor, Department of Computer Science
Associate Professor, Department of Computer Science
Assistant Professor, Department of Computer Science

West Lafayette, IN
July 2018 — Present
August 2014 — Present
July 2008 — July 2014
August 2003 — June 2008

Stanford University

Research associate, Department of Computer Science
Supervisor: John C. Mitchell

Stanford, CA
September 2000 — July 2003

EDUCATION

New York University

Ph.D. student, Department of Computer Science

- Ph.D. in Computer Science
Advisor: Joan Feigenbaum

New York, NY
September 1995 — August 2000
September 2000

- M.S. in Computer Science

January 1998

The Graduate School of Chinese Academy of Sciences

Graduate student

Beijing, China
September 1993 — June 1995

University of Science and Technology of China

Undergraduate student, Special Class for Gifted Young

- B.S. in Computer Science

Hefei, Anhui, China
September 1988 — July 1993
July 1993

AWARDS

- IEEE ICDE (International Conference on Data Engineering)
Influential Paper Award (for paper published ten years ago in ICDE) 2017
- DASFAA (Database Systems for Advanced Applications) 10-year Best Paper Award 2017
- ASIACCS (ACM ASIA Conference on Computer & Communications Security)
Distinguished Paper Award 2017
- CODASPY (ACM Conference on Data and Application Security and Privacy)
Best paper award 2016
- Purdue University College of Science Graduate Student Mentoring Award 2008
- ICICS (International Conference on Information and Communications Security)
Best paper award 2006
- NSF CAREER Award 2005

PUBLICATIONS

Journal Articles

- 1 Jing Chen, Scott Mishler, Bin Hu, Ninghui Li, Robert W. Proctor. The description-experience gap in the effect of warning reliability on user trust and performance in a phishing-detection context. *International Journal Human-Computer Studies* 119:35–47 (2018)
- 2 Jing Chen, Huangyi Ge, Scott Moore, Weining Yang, Ninghui Li, Robert W. Proctor. Display of Major Risk Categories for Android Apps. *Journal of Experimental Psychology: Applied*. 24(3):306-330 (2018)
- 3 Scott R. Moore, Huangyi Ge, Ninghui Li, Robert W. Proctor. Cybersecurity for Android Applications: Permissions in Android 5 and 6. *International Journal of Human-Computer Interaction* <https://doi.org/10.1080/10447318.2018.1489580> (2018)
- 4 Dong Su, Jianneng Cao, Ninghui Li, Min Lyu. PrivPfC: differentially private data publication for classification. *The VLDB Journal*. 27(2): 201-223 (2018)
- 5 Isis Chong, Huangyi Ge, Ninghui Li, Robert W. Proctor. Influence of privacy priming and security framing on mobile app selection. *Computers & Security* 78: 143–154 (2018)
- 6 Steven Furnell, Warut Khern-am-nuai, Rawan Esmael, Weining Yang, Ninghui Li. Enhancing security behaviour by supporting the user. *Computers & Security* 75: 1-9 (2018)
- 7 Dong Su, Jianneng Cao, Ninghui Li, Elisa Bertino, Min Lyu, Hongxia Jin. Differentially Private K-Means Clustering and a Hybrid Approach to Private Optimization.. *ACM Transactions on Privacy and Security* 20(4): 16:1-16:33 (2017)
- 8 Min Lyu, Dong Su, Ninghui Li. Understanding the Sparse Vector Technique for Differential Privacy. *The Proceedings of the VLDB Endowment (PVLDB)* 10(6): 637-648 (2017)
- 9 Aiping Xiong, Robert W. Proctor, Weining Yang, Ninghui Li. Is Domain Highlighting Actually Helpful in Identifying Phishing Web Pages?. *Human Factors* 59(4): 640-660 (2017)
- 10 Lei Cen, Christopher S. Gates, Luo Si, Ninghui Li. A Probabilistic Discriminative Model for Android Malware Detection with Decompiled Source Code. *IEEE Transactions on Dependable and Secure Computing*, 12(4): 400-412 (2015)
- 11 Christopher S. Gates, Jing Chen, Ninghui Li and Robert W. Proctor. Influence of risk/safety information framing on Android app-installation decisions. *Journal of Cognitive Engineering and Decision Making*, 9, 149-168 (2015)
- 12 Jing Chen, Christopher S Gates, Ninghui Li, Robert W Proctor. Influence of risk/safety information framing on android app-installation decisions. *Journal of Cognitive Engineering and Decision Making* 9 (2), 149-168
- 13 Christopher S. Gates, Ninghui Li, Hao Peng, Bhaskar Sarma, Yuan Qi, Rahul Potharaju, Cristina Nita-Rotaru, Ian Molloy. Generating Summary Risk Scores for Mobile Applications. *IEEE Transactions on Dependable and Secure Computing*, 11(3):238–251, May 2014.
- 14 Christopher S. Gates, Jing Chen, Ninghui Li, Robert Proctor. Effective Risk Communication for Android Apps. *IEEE Transactions on Dependable and Secure Computing*, 11(3):252–265, May 2014.

- 15 Wahbeh Qardaji, Weining Yang, and Ninghui Li. Understanding Hierarchical Methods for Differentially Private Histograms. *Proceedings of the VLDB Endowment*, 6(14): 1954-1965 September 2013.
- 16 Mahesh Tripunitara and Ninghui Li. The Foundational work of Harrison-Ruzzo-Ullman Revisited. *IEEE Transactions on Dependable and Secure Computing*, 10(1):28-39, 2013.
- 17 Ninghui Li, Wahbeh Qardaji, Dong Su, and Jianneng Cao. PrivBasis: Frequent Itemset Mining with Differential Privacy. *Proceedings of the VLDB Endowment*, 5(11):1340-1351, 2012.
- 18 Tiancheng Li and Ninghui Li. Slicing: A New Approach to Privacy Preserving Data Publishing. *IEEE Transactions on Knowledge and Data Engineering* 24(3): 561-574 (2012).
- 19 Ziqing Mao, Ninghui Li, Hong Chen, and Xuxian Jiang. Combining Discretionary Policy with Mandatory Information Flow in Operating Systems. *ACM Transactions on Information and System Security (TISSEC)* 14(3): 30 pages (2011).
- 20 Yuqing Sun, Qihua Wang, Ninghui Li, Elisa Bertino, and Mikhail Atallah. On the Complexity of Authorization in RBAC under Qualification and Security Constraints. *IEEE Transactions on Dependable and Secure Computing* 8(6): 883-897 (2011)
- 21 Prathima Rao, Dan Lin, Elisa Bertino, Ninghui Li, Jorge Lobo. Fine-grained integration of access control policies. *Computers & Security* 30(2-3): 91-107 (2011).
- 22 Graham Cormode, Divesh Srivastava, Tiancheng Li, and Ninghui Li. Minimizing Minimality and Maximizing Utility: Analyzing Methodbased attacks on Anonymized Data. *Proceedings of the VLDB Endowment*, 3(1-2): 1045-1056, September 2010.
- 23 Ian Molloy, Hong Chen, Tiancheng Li, Qihua Wang, Ninghui Li, Elisa Bertino, Seraphin Calo, and Jorge Lobo. Mining Roles with Multiple Objectives. *ACM Transactions on Information and System Security (TISSEC)*, 13(4), 30 pages, December 2010.
- 24 Qihua Wang and Ninghui Li. Satisfiability and Resiliency in Workflow Systems. *ACM Transactions on Information and System Security (TISSEC)*, 13(4), 30 pages, December 2010.
- 25 Prathima Rao, Dan Lin, Elisa Bertino, Ninghui Li, Jorge Lobo. EXAM - A Comprehensive Environment for the Analysis of Access Control Policies. *International Journal of Information Security*, 9(4):253-273, August 2010 .
- 26 Ninghui Li, Tiancheng Li, and Suresh Venkatasubramanian. Closeness: A New Privacy Measure for Data Publishing. *IEEE Transactions on Data and Knowledge Engineering (TKDE)*, 22(7): 943-956, 2010.
- 27 Jiangtao Li, Ninghui Li, and William H. Winsborough. Automated Trust Negotiation Using Cryptographic Credentials. *ACM Transactions on Information and System Security (TISSEC)*, 13(1), 35 pages, October 2009.
- 28 Ninghui Li, Qihua Wang, and Mahesh V. Tripunitara. Resiliency Policies in Access Control. *ACM Transactions on Information and Systems Security (TISSEC)*, 12(4), 34 pages, April 2009.
- 29 Jiangtao Li, Ninghui Li, Xiaofeng Wang, and Ting Yu. Denial of Service Attacks and Defenses in Decentralized Trust Management. *International Journal on Information Security*, 8(2):89-101, April 2009.
- 30 Ji-Won Byun, Tiancheng Li, Elisa Bertino, Ninghui Li, and Yonglak Sohn. Privacy Preserving Incremental Data Dissemination. *Journal of Computer Security*. 17(1): 43-68. January 2009.

- 31 Somesh Jha, Ninghui Li, Mahesh V. Tripunitara, Qihua Wang, and William H. Winsborough. Towards Formal Verification of Role-Based Access Control Policies. *IEEE Transactions on Dependable and Secure Computing (TDSC)*. 5(4):242–255, Oct.-Dec. 2008.
- 32 Ninghui Li and Qihua Wang. Beyond Separation of Duty: An Algebra for Specifying High-level Security Policies. *Journal of the ACM*. 55(3), 46 pages, July 2008.
- 33 Ji-won Byun and Ninghui Li. Purpose Based Access Control for Privacy Protection in Relational Database Systems. *The VLDB Journal*. 17(4): 603-619, July 2008.
- 34 Tiancheng Li and Ninghui Li. Towards optimal k-anonymization.. *Data and Knowledge Engineering*. 23(2): 166–175, April 2008.
- 35 Rui Xue, Ninghui Li, and Jiangtao Li. Algebraic Construction for Zero-Knowledge Sets. *Journal of Computer Science and Technology (JCST)*. 23(2): 166-175, March 2008.
- 36 Ninghui Li, Mahesh V. Tripunitara, and Ziad Bizri. On Mutually Exclusive Roles and Separation of Duty. *ACM Transactions on Information and System Security (TISSEC)*. 10(2), May 2007.
- 37 Mahesh V. Tripunitara and Ninghui Li. A Theory for Comparing the Expressive Power of Access Control Models. *Journal of Computer Security (JCS)*. 15(2):231–272, March 2007.
- 38 Ninghui Li and Mahesh V. Tripunitara. Security Analysis in Role-Based Access Control. *ACM Transactions on Information and System Security (TISSEC)*. 9(4):391–420, November 2006.
- 39 Jiangtao Li and Ninghui Li. OACerts: Oblivious Attribute Certificates. *IEEE Transactions on Dependable and Secure Computing (TDSC)*. 3(4):340–352, October 2006.
- 40 Ninghui Li, Ting Yu, and Annie I. Anton. A Semantics-based Approach to Privacy Policies. *International Journal of Computer Systems Science and Engineering*. 21(5), September 2006.
- 41 William H. Winsborough and Ninghui Li. Safety in Automated Trust Negotiation. *ACM Transactions on Information and System Security (TISSEC)*. 9(3):352–390, August 2006.
- 42 Ninghui Li and John C. Mitchell. Understanding SPKI/SDSI Using First-Order Logic. *International Journal of Information Security*. 5(1):48–64, January 2006.
- 43 Ninghui Li, John C. Mitchell, and William H. Winsborough. Beyond Proof-of-compliance: Security Analysis in Trust Management. *Journal of the ACM*. 52(3):474–514, May 2005.
- 44 Ninghui Li, Wenliang Du, and Dan Boneh. Oblivious Signature-Based Envelope. *Distributed Computing*. PODC 2003 Special Issue, 17(4):293–302, May 2005.
- 45 Ninghui Li, William H. Winsborough, and John C. Mitchell. Distributed credential chain discovery in trust management. *Journal of Computer Security*. 11(1):35–86, February 2003.
- 46 Ninghui Li, Benjamin N. Grosz, and Joan Feigenbaum. Delegation Logic: a logic-based approach to distributed authorization. *ACM Transactions on Information and System Security (TISSEC)*. 6(1):128–171, February 2003.

Magazine Articles

- 47 Debin Liu, Ninghui Li, XiaoFeng Wang, and L. Jean Camp. Security Risk Management Using Incentives.. *IEEE Security and Privacy* 9(6): 20-28 (2011)
- 48 Ninghui Li, Ji-won Byun, and Elisa Bertino. A Critique of the ANSI Standard on Role Based Access Control. *IEEE Security and Privacy* 5(6):41–49, November 2007.

- 49 Annie I. Anton, Elisa Bertino, Ninghui Li, and Ting Yu. A Roadmap for Comprehensive Online Privacy Policy Management. *Communications of the ACM*. 50(7):109–116, July 2007.

Edited Conference Proceedings

- 50 Indrajit Ray, Ninghui Li, Christopher Krugel. *CCS 2015: Proceedings of the 2015 ACM SIGSAC Conference on Computer and Communications Security*. ACM Press.
- 51 Gail-Joon Ahn, Moti Yung, Ninghui Li. *CCS 2014: Proceedings of the 2014 ACM SIGSAC Conference on Computer and Communications Security*. ACM Press.
- 52 Kefei Chen, Qi Xie, Weidong Qiu, Ninghui Li, and Wen-Guey Tzeng. *ASIACCS 2013: Proceedings of the 8th ACM SIGSAC Symposium on Information, Computer and Communications Security*. ACM Press.
- 53 Elena Ferrari, Ninghui Li, Elisa Bertino, and Yuecel Karabulut. *Trust Management: Proceedings of IFIPTM 2009*. Springer.
- 54 Indrakshi Ray and Ninghui Li. *SACMAT'08: Proceedings of the 13th ACM Symposium on Access Control Models and Technologies*. ACM Press.
- 55 Peng Ning, Sihan Qing, Ninghui Li. *Information and Communications Security, Proceedings of the 8th International Conference (ICICS 2006)*. LNCS 4307, Springer.

Book

- 56 Ninghui Li, Min Lyu, Dong Su, Weining Yang: *Differential Privacy: From Theory to Practice*. Synthesis Lectures on Information Security, Privacy, & Trust, Morgan & Claypool Publishers 2016, pp. 1-138
- 57 Anupam Datta, Somesh Jha, Ninghui Li, David Melski, Thomas W. Reps: *Analysis Techniques for Information Security*. Morgan & Claypool Publishers, 2010.

Book Chapters

- 58 Elisa Bertino, Ji-Won Byun, and Ninghui Li. Privacy-Preserving Database Systems. in *Foundations of Security Analysis and Design III, FOSAD 2004/2005 Tutorial Lectures*, LNCS 3655, pages 178–206, Springer 2005.

Refereed Conference and Workshop Papers

- 59 Sze Yiu Chau, Bincheng Wang, Jianxiong Wang, Omar Chowdhury, Aniket Kate, Ninghui Li. Why Johnny Can't Make Money With His Contents: Pitfalls of Designing and Implementing Content Delivery Apps. Proceedings of Annual Computer Security Application Conference (ACSAC) 2018. Acceptance rate 20.1%(60/299)
- 60 Zhikun Zhang and Tianhao Wang and Ninghui Li and Shibo He and Jiming Chen. CALM: Consistent Adaptive Local Marginal for Marginal Release under Local Differential Privacy. Proceedings of ACM Conference on Computer and Communications Security (CCS) 2018. Acceptance rate 16.6% (134/809)
- 61 Yousra Aafer, Guanhong Tao, Jianjun Huang, Xiangyu Zhang, Ninghui Li. Precise Android API Protection Mapping Derivation and Reasoning. Proceedings of ACM Conference on Computer and Communications Security (CCS) 2018. Acceptance rate 16.6% (134/809)

- 62 Tianhao Wang, Ninghui Li, Somesh Jha. Locally Differentially Private Frequent Itemset Mining. IEEE Symposium on Security and Privacy: 127-143. (2018)
- 63 Yousra Aafer, Jianjun Huang, Yi Sun, Xiangyu Zhang, Ninghui Li, Chen Tian. AceDroid: Normalizing Diverse Android Access Control Checks for Inconsistency Detection. NDSS (2018)
- 64 Luke Deshotels, Razvan Deaconescu, Costin Carabas, Iulia Manda, William Enck, Mihai Chiroiu, Ninghui Li, Ahmad-Reza Sadeghi. iOracle: Automated Evaluation of Access Control Policies in iOS. AsiaCCS: 117-131. (2018) Acceptance rate 20% (62/310).
- 65 Haining Chen, Ninghui Li, William Enck, Yousra Aafer, Xiangyu Zhang. Analysis of SEAndroid Policies: Combining MAC and DAC in Android. ACSAC 2017: 553-565. Acceptance rate 19.7% (48/244)
- 66 Ruowen Wang, Ahmed M. Azab, William Enck, Ninghui Li, Peng Ning, Xun Chen, Wenbo Shen, Yueqiang Cheng. SPOKE: Scalable Knowledge Collection and Attack Surface Analysis of Access Control Policy for Security Enhanced Android. AsiaCCS 2017: 612-624 **Distinguished paper award**. Acceptance rate: 18.7% (67/359)
- 67 Md. Endadul Hoque, Omar Chowdhury, Sze Yiu Chau, Cristina Nita-Rotaru, Ninghui Li. Analyzing Operational Behavior of Stateful Protocol Implementations for Detecting Semantic Bugs. DSN 2017: 627-638 Acceptance rate: 22.3% (49/220)
- 68 Weining Yang, Aiping Xiong, Jing Chen, Robert W. Proctor, Ninghui Li. Use of Phishing Training to Improve Security Warning Compliance Evidence from a Field Experiment.. HotSoS 2017: 52-61
- 69 Tianhao Wang, Jeremiah Blocki, Ninghui Li, Somesh Jha. Locally Differentially Private Protocols for Frequency Estimation. USENIX Security Symposium 2017: 729-745
- 70 Sze Yiu Chau, Omar Chowdhury, Md. Endadul Hoque, Huangyi Ge, Aniket Kate, Cristina Nita-Rotaru, Ninghui Li. SymCerts: Practical Symbolic Execution for Exposing Noncompliance in X.509 Certificate Validation Implementations. IEEE Symposium on Security and Privacy 2017: 503-520. Acceptance rate 13.3% (60/450)
- 71 Aiping Xiong, Huangyi Ge, Wanling Zou, Ninghui Li, Robert W Proctor. Increasing the Influence of Permission Safety on App Selections by Changes in Visual Representation. Proceedings of the Human Factors and Ergonomics Society Annual Meeting, 61 (2017)
- 72 Weining Yang, Ninghui Li, Omar Chowdhury, Aiping Xiong, Robert W. Proctor. An Empirical Study of Mnemonic Sentence-based Password Generation Strategies. ACM Conference on Computer and Communications Security 2016: 1216-1229 Acceptance rate: 16.5% (137/831)
- 73 Tianhao Wang, Huangyi Ge, Omar Chowdhury, Hemanta K. Maji, Ninghui Li. On the Security and Usability of Segment-based Visual Cryptographic Authentication Protocols. ACM Conference on Computer and Communications Security 2016: 603-615 Acceptance rate: 16.5% (137/831)
- 74 Weining Yang, Ninghui Li, Ian M Molloy, Youngja Park, Suresh N Chari. Comparing Password Ranking Algorithms on Real-World Password Datasets. European Symposium on Research in Computer Security: 69-90 (2016) Acceptance rate: 21% (60/285)
- 75 Jing Chen, Huangyi Ge, Weining Yang, Ninghui Li, Proctor, R. W.. Display of Major Risk Categories for Mobile Apps. Human Factors and Ergonomics Society 60th Annual Meeting, 2016.
- 76 Wei-Yen Day, Ninghui Li, Min Lyu. Publishing Graph Degree Distribution with Node Differential Privacy.. SIGMOD Conference 2016. 123-138

- 77 Dong Su, Jianneng Cao, Ninghui Li, Elisa Bertino, Hongxia Jin. Differentially Private K-Means Clustering. CODASPY 2016: 26-37 **Best paper award**.
- 78 Haining Chen, Omar Chowdhury, Ninghui Li, Warut Khern-am-nuai, Suresh Chari, Ian Molloy, Youngja Park. Tri-Modularization of Firewall Policies. SACMAT 2016: 37-48
- 79 Youngja Park, Ian Molloy, Suresh Chari, Zenglin Xu, Christopher S. Gates, and Ninghui Li. Learning from Others: User Anomaly Detection Using Anomalous Samples from Other Users. ESORICS 2015:
- 80 Wei-Yen Day, Ninghui Li. Differentially Private Publishing of High-dimensional Data Using Sensitivity Control. ASIACCS 2015: 451-462
- 81 Zach Jorgensen, Jing Chen, Christopher S. Gates, Ninghui Li, Robert W. Proctor, Ting Yu. Dimensions of Risk in Mobile Applications: A User Study. CODASPY 2015: 49-60
- 82 Jing Chen, Christopher S. Gates, Ninghui Li, Robert W. Proctor. Effective Communication of Risks for Android Apps: Influence of Summary Risk information and Framing. In Proceedings of the 44th Annual Meeting of the Society for Computers in Psychology
- 83 Jing Chen, Christopher S. Gates, Robert W. Proctor, and Ninghui Li. Framing of summary risk/safety information and app selection. In Proceedings of the 2014 Annual Meeting of the Human Factors and Ergonomics Society (HFES), pages 1461-1465;
- 84 Christopher S. Gates, Ninghui Li, Zenglin Xu, Suresh N. Chari, Ian Molloy, Youngja Park. Detecting Insider Information Theft Using Features from File Access Logs. ESORICS (2) 2014: 383-400.
- 85 Wahbeh Qardaji, Weining Yang, Ninghui Li. PriView: Practical Differentially Private Release of Marginal Contingency Tables. Proceedings of ACM SIGMOD, pp. 1435-1446, 2014.
- 86 Lei Cen, Luo Si, Ninghui Li, Hongxia Jin. User Comment Analysis for Android apps and CSPI Detection with Comment Expansion. PIR@SIGIR 2014: 25-30.
- 87 Jerry Ma, Weining Yang, Min Luo, Ninghui Li. A Study of Probabilistic Password Models. Proceedings of IEEE Symposium on Security and Privacy, pp. 689-704, 2014.
- 88 Ninghui Li, Wahbeh Qardaji, Dong Su, Yi Wu, Weining Yang. Membership Privacy: A Unifying Framework For Privacy Definitions. In *Proceedings of ACM CCS* 2013: 12 pages.
- 89 Wahbeh Qardaji, Weining Yang, Ninghui Li. Differentially Private Grids for Geospatial Data. In *Proceedings of ICDE* 2013: 12 pages.
- 90 Jianneng Cao, Qian Xiao, Gabriel Ghinita, Ninghui Li, Elisa Bertino, Kian-Lee Tan. Efficient and accurate strategies for differentially-private sliding window queries. In *Proceedings of EDBT* 2013: pp. 191-202.
- 91 Chris Gates, Ninghui Li, Jing Chen, Robert Proctor. CodeShield: Towards Personalized Application Whitelisting. In *Proceedings of Annual Computer Security Applications Conference (ACSAC)*, pp. 279-288, 2012. Acceptance rate 19% (44/231).
- 92 Weining Yang, Ninghui Li, Yuan Qi, Wahbeh Qardaji, Steven McLaughlin and Patrick McDaniel. Minimizing Private Data Disclosures in the Smart Grid. In *Proceedings of ACM Conference on Computer and Communications Security (CCS)*, pp. 415-427, 2012. Acceptance rate 19% (80/423).

- 93 Hao Peng, Chris Gates, Bhaskar Sarma, Ninghui Li, Alan Qi, Rahul Potharaju, Cristina Nita-Rotaru and Ian Molloy. Using Probabilistic Generative Models For Ranking Risks of Android Apps. In *Proceedings of ACM Conference on Computer and Communications Security (CCS)*, pp. 241–252, 2012. Acceptance rate 19% (80/423).
- 94 Bhaskar Sarma, Ninghui Li, Chris Gates, Rahul Potharaju, Cristina Nita-Rotaru and Ian Molloy. Android Permissions: A Perspective Combining Risks and Benefits. In *ACM Symposium on Access Control Models and Technologies (SACMAT)*, pp. 13–22, 2012. Acceptance rate 24% (18/74).
- 95 Ninghui Li, Wahbeh Qardaji, and Dong Su. On Sampling, Anonymization, and Differential Privacy Or, K-Anonymization Meets Differential Privacy. In *Proceedings of ACM Symposium on Information, Computer and Communications Security (ASIACCS)*, 12 pages, 2012. Acceptance rate 23% (36/159).
- 96 Wahbeh Qardaji and Ninghui Li. Recursive Partitioning and Summarization: A Practical Framework for Differentially Private Data Publishing. *ACM Symposium on Information, Computer and Communications Security (ASIACCS)*, 13 pages, 2012. Acceptance rate 23% (36/159).
- 97 Wahbeh Qardaji and Ninghui Li. Anonymizing Network Traces with Temporal Pseudonym Consistency. *Proceedings of ICDCS Workshops*, pp. 622-633, 2012.
- 98 Ninghui Li, Haining Chen, Elisa Bertino. On Practical Specification and Enforcement of Obligations. In *Proceedings of ACM Conference on Data and Application Security and Privacy (CODASPY)*, pp. 71–82, 2012. Acceptance rate 19% (21/113).
- 99 Ian Molloy and Ninghui Li. Attack on the GridCode One-Time Password. In *Proceedings of ACM Symposium on InformAtion, Computer and Communications Security (ASIACCS)*, pp. 306–315, March 2011. Acceptance rate 16% (35/215).
- 100 Debin Liu, Ninghui Li, XiaoFeng Wang, L. Jean Camp. Beyond Risk-Based Access Control: Towards Incentive-Based Access Control. In *Proceedings of International Conference on Financial Cryptography and Data Security*, pp. 102–112, 2011. Acceptance rate 29%(16/56).
- 101 Hong Chen, Ninghui Li, Christopher S. Gates, Ziqing Mao. Towards analyzing complex operating system access control configurations.. In *Proceedings of 2010 ACM Symposium on Access Control Models and Technologies (SACMAT)*: pp. 13–22, June 2010. Acceptance rate: 25% (19/75).
- 102 Ian Molloy, Ninghui Li, Yuan (Alan) Qi, Jorge Lobo, Luke Dickens. Mining roles with noisy data.. In *Proceedings of 2010 ACM Symposium on Access Control Models and Technologies (SACMAT)*: pp. 45–54, June 2010. Acceptance rate: 25% (19/75).
- 103 Nan Ding, Yuan Qi, Rongjing Xiang, Ian Molloy, Ninghui Li. Nonparametric Bayesian Matrix Factorization by Power-EP. In *Proceedings of the Thirteenth International Conference on Artificial Intelligence and Statistics*, pp. 169–176, May 13-15, 2010.
- 104 Ian Molloy, Ninghui Li, and Tiancheng Li. On the (In)Security and (Im)Practicality of Outsourcing Precise Association Rule Mining. In *Proceedings of The Ninth IEEE International Conference on Data Mining (ICDM 2009)*, pages 872–877, December 2009. Acceptance rate 18% (139/786).
- 105 Qihua Wang, Hongxia Jin, and Ninghui Li. Usable Access Control in Collaborative Environments: Authorization Based on People-Tagging. In *Proceedings of the 14th European Symposium on Research in Computer Security (ESORICS 2009)*, pages 268–284, September 2009. Acceptance rate 19% (42/220).

- 106 Tiancheng Li, Xiaonan Ma, and Ninghui Li. WORM-SEAL: Trustworthy Data Retention and Verification for Regulatory Compliance. In *Proceedings of the 14th European Symposium on Research in Computer Security (ESORICS 2009)*, pages 472–488, September 2009. Acceptance rate 19% (42/220).
- 107 Tiancheng Li and Ninghui Li. On the Tradeoff Between Privacy and Utility in Data Publishing. In *2009 ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD-09)*, June 2009. Acceptance rate 20% (105/537).
- 108 Ziqing Mao, Ninghui Li, Hong Chen, Xuxian Jiang. Trojan Horse Resistant Discretionary Access Control. In *Proceedings of 2009 ACM Symposium on Access Control Models and Technologies (SACMAT)*, pages 237–246, June 2009. Acceptance rate 32% (24/75).
- 109 Ninghui Li, Qihua Wang, Wahbeh Qardaji, Elisa Bertino, Prathima Rao, Jorge Lobo, Dan Lin. Access Control Policy Combination: Theory Meets Practice. In *2009 ACM Symposium on Access Control Models and Technologies (SACMAT)*, pages 135–144, June 2009. Acceptance rate 32% (24/75).
- 110 Ian Molloy, Ninghui Li, Tiancheng Li, Ziqing Mao, Qihua Wang, Jorge Lobo. Evaluating Role Mining Algorithms. In *2009 ACM Symposium on Access Control Models and Technologies (SACMAT)*, pages 95–104, June 2009. Acceptance rate 32% (24/75).
- 111 Guneshi Wickramaarachchi, Wahbeh Qardaji, and Ninghui Li. An Efficient Framework for User Authorization Query in RBAC Systems. In *2009 ACM Symposium on Access Control Models and Technologies (SACMAT)*, pages 23–32, June 2009. Acceptance rate 32% (24/75).
- 112 Prathima Rao, Dan Lin, Elisa Bertino, Ninghui Li, and Jorge Lobo. An Algebra for Fine-Grained Integration of XACML Policies. In *2009 ACM Symposium on Access Control Models and Technologies (SACMAT)*, pages 63–72, June 2009. Acceptance rate 32% (24/75).
- 113 Tiancheng Li, Ninghui Li, and Jian Zhang. Modeling and Integrating Background Knowledge in Data Anonymization. In *Proceedings of the 2009 IEEE International Conference on Data Engineering (ICDE)*, pages 6–17, April 2009. Acceptance rate 19% (118/617).
- 114 Ziqing Mao, Ninghui Li, and Ian Molloy. Defeating Cross-Site Request Forgery Attacks with Browser-Enforced Authenticity Protection. In *Proceedings of 2009 International Conference on Financial Cryptography and Data Security (FC'09)*, pages 238–255, February 2009. Acceptance rate 27%, (20/75).
- 115 Hong Chen, Ninghui Li and Ziqing Mao. Analyzing and Comparing the Protection Quality of Security Enhanced Operating Systems. In *Proceedings of the 16th Annual Network & Distributed System Security Symposium (NDSS)*, 15 pages, February 2009.
- 116 Qihua Wang, Ninghui Li, Hong Chen. On the Security of Delegation in Access Control Systems. In *Proceedings of the 13th European Symposium on Research in Computer Security (ESORICS)*, pages 317–332, October 2008.
- 117 Hong Chen, Xiaonan Ma, Windsor Hsu, Ninghui Li, and Qihua Wang. Access Control Friendly Query Verification for Outsourced Data Publishing. In *Proceedings of the 13th European Symposium on Research in Computer Security (ESORICS)*, pages 177–191, October 2008.
- 118 Ian Molloy, Hong Chen, Tiancheng Li, Qihua Wang, Ninghui Li, Elisa Bertino, Seraphin Calo, and Jorge Lobo. Mining Roles with Semantic Meanings. In *2008 ACM Symposium on Access Control Models and Technologies (SACMAT)*, June 2008.

- 119 Dan Lin, Prathima Rao, Elisa Bertino, Ninghui Li, and Jorge Lobo. Policy Decomposition for Collaborative Access Control. In *2008 ACM Symposium on Access Control Models and Technologies (SACMAT)*, June 2008.
- 120 Tiancheng Li and Ninghui Li. Injector: Mining Background Knowledge for Data Anonymization. In *Proceedings of the 2008 IEEE International Conference on Data Engineering (ICDE)*, pages 446–455, April 2008. Acceptance rate 19% (118/617).
- 121 XiaoFeng Wang, Zhuowei Li, Ninghui Li, and Jong Youl Choi. PRECIP: Towards Practical and Retrofittable Confidential Information Protection. In *Proceedings of the 15th Annual Network & Distributed System Security Symposium (NDSS)*, 17 pages, February 2008.
- 122 Qihua Wang, Ting Yu, Ninghui Li, Jorge Lobo, Elisa Bertino, Ji-Won Byun and Keith Irwin. On the Correctness Criteria of Fine-Grained Access Control in Relational Databases. In *Proceedings of The 33rd International Conference on Very Large Data Bases (VLDB 2007)*, pages 555–566, September 2007. Acceptance rate 17% (91/538).
- 123 Qihua Wang and Ninghui Li. Satisfiability and Resiliency in Workflow Systems. In *Proceedings of the European Symposium on Research in Computer Security (ESORICS)*, pages 90–105, September 2007. Acceptance rate 24% (39/164).
- 124 Jiangtao Li, Ninghui Li, and Rui Xue. Universal Accumulators with Efficient Nonmembership Proofs. In *Proceedings of the 5th International Conference on Applied Cryptography and Network Security (ACNS)*, pages 253–169, June 2007. Acceptance rate 12% (31/260).
- 125 Ninghui Li, Ziqing Mao, and Hong Chen. Usable Mandatory Integrity Protection for Operating Systems. In *Proceedings of IEEE Symposium on Security and Privacy*, pp. 164–178, May 2007. Acceptance rate 9% (20 full papers/220 full submissions)
- 126 Ninghui Li, Tiancheng Li, and Suresh Venkatasubramanian. t -Closeness: Privacy Beyond k -Anonymity and ℓ -Diversity. In *Proceedings of International Conference on Data Engineering (ICDE)*, pages 106–115, April 2007. Acceptance rate 19% (122/659). **2017 ICDE Influential Paper Award**
- 127 Ji-Won Byun, Ashish Kamra, Elisa Bertino, and Ninghui Li. Efficient k -Anonymization using Clustering Techniques. In *Proceedings of International Conference on Database Systems for Advanced Applications (DASFAA)*, pages 188-200, April 2007. Acceptance rate 18% (68/375). **2017 DASFAA 10 Year Best Paper Award.**
- 128 Ninghui Li and Ziqing Mao. Administration in Role Based Access Control. In *Proceedings of ACM Symposium on InformAtion, Computer and Communications Security (ASIACCS)*, pp. 127–138, March 2007. Acceptance rate 18% (33/180).
- 129 Qihua Wang and Ninghui Li. Direct Static Enforcement of High-level Policies. In *Proceedings of ACM Symposium on InformAtion, Computer and Communications Security (ASIACCS)*, pp. 214–225, March 2007. Acceptance rate 18% (33/180).
- 130 Ian Molloy, Jiangtao Li, and Ninghui Li. Dynamic Virtual Credit Card Numbers. In *Proceedings of the International Conference on Financial Cryptography and Data Security (FC)*, pages 208–223, February 2007. Acceptance rate 21%. (18/85).
- 131 Tiancheng Li and Ninghui Li. Optimal k -Anonymity with Flexible Generalization Schemes through Bottom-up Searching. In *IEEE International Workshop on Privacy Aspects of Data Mining (PADM'06), Proceedings of ICDM Workshops*, pages 518–523, December 2006. Acceptance rate 38% (11/29).

- 132 Jiangtao Li and Ninghui Li. An Efficient Oblivious Commitment Based Envelope Protocol. In *Proceedings of the Eighth International Conference on Information and Communications Security (ICICS)*, pages 122–138, December 2006. Acceptance rate 19% (22/119) **Best paper award.**
- 133 Ziqing Mao, Ninghui Li, and William H. Winsborough. Distributed Credential Chain Discovery in Trust Management with Parameterized Roles and Constraints (Short Paper). In *Proceedings of the Eighth International Conference on Information and Communications Security (ICICS)*, pages 159–173, December 2006. Acceptance rate 33% (22 regular+17 short/119)
- 134 Ninghui Li and Qihua Wang. Beyond Separation of Duty: An Algebra for Specifying High-level Security Policies. In *Proceedings of the ACM Conference in Computer and Communications Security (CCS)*, pages 356–369, November 2006. Acceptance rate 15% (38/256).
- 135 Ninghui Li, Mahesh V. Tripunitara, and Qihua Wang. Resiliency Policies in Access Control. In *Proceedings of the ACM Conference in Computer and Communications Security (CCS)*, pages 113–123, November 2006. Acceptance rate 15% (38/256).
- 136 Xiaoxin Wu and Ninghui Li. Achieving Privacy in Mesh Networks. In *Proceedings of the 4th ACM Workshop on Security of ad hoc and Sensor Networks (SASN)*, pages 13–22, October 2006. Acceptance rate unknown.
- 137 Ji-Won Byun, Yonglak Sohn, Elisa Bertino, Ninghui Li. Secure Anonymization for Incremental Datasets. In *VLDB Workshop on Secure Data Management (SDM)*, pages 24–63, September 2006. Acceptance rate 39% (13/33).
- 138 Jiangtao Li, Ninghui Li, Xiaofeng Wang, and Ting Yu. Denial of Service Attacks and Defenses in Decentralized Trust Management. In *Proceedings of the Second International Conference on Security and Privacy in Communication Networks (SecureComm)*, August 2006. Acceptance rate 25% (32/126).
- 139 Hong Chen and Ninghui Li. Constraint Generation for Separation of Duty. In *Proceedings of ACM Symposium on Access Control Models and Technologies (SACMAT)*, pages 130–138, June 2006. Acceptance rate 30% (25/82).
- 140 Jiangtao Li, Ninghui Li, and William H. Winsborough. Automated Trust Negotiation Using Cryptographic Credentials. In *Proceedings of ACM Conference on Computer and Communications Security (CCS)*, pages 46–57, November 2005. Acceptance rate 15% (38/249).
- 141 Jiangtao Li and Ninghui Li. Policy-Hiding Access Control in Open Environment. In *Proceedings of ACM Symposium on Principal of Distributed Computing (PODC)*, pages 29–38, July 2005. Acceptance rate 23% (32/160).
- 142 Jiangtao Li and Ninghui Li. OACerts: Oblivious Attribute Certificates. In *Proceedings of the 3rd Applied Cryptography and Network Security Conference (ACNS)*, pages 301–317, June 2005. Acceptance rate 22% (35/158).
- 143 Ji-Won Byun, Elisa Bertino, and Ninghui Li. Purpose Based Access Control of Complex Data for Privacy Protection. In *Proceedings of ACM Symposium on Access Control Models and Technologies (SACMAT)*, pages 102–110, June 2005. Acceptance rate 21% (19/90).
- 144 Ninghui Li and Mahesh V. Tripunitara. On Safety in Discretionary Access Control. In *Proceedings of IEEE Symposium on Security and Privacy*, pages 96–109, May 2005. Acceptance rate 8% (17/192).

- 145 Ninghui Li, John C. Mitchell, and Derrick Tong. Securing Proxy-Based Distributed Systems. In *Proceedings of Annual Computer Security Applications Conference (ACSAC)*, pages 262–271, December 2004. Acceptance rate 26% (35/135).
- 146 Ninghui Li, Ziad Bizri, and Mahesh V. Tripunitara. On Mutually Exclusive Roles and Separation of Duty. In *Proceedings of ACM Conference on Computer and Communications Security (CCS)*, pages 42–51, October 2004. Acceptance rate 14% (35/252).
- 147 Mahesh V. Tripunitara and Ninghui Li. Comparing the Expressive Power of Access Control Models. In *Proceedings of ACM Conference on Computer and Communications Security (CCS)*, pages 62–71, October 2004. Acceptance rate 14% (35/252).
- 148 Ting Yu, Ninghui Li, and Annie I. Antón. A Formal Semantics for P3P. In *Proceedings of ACM Workshop on Secure Web Services (SWS)*, October 2004. Acceptance rate 38% (11/29).
- 149 Cristina Nita-Rotaru and Ninghui Li. A Framework for Role-Based Access Control in Group Communication Systems. In *Proceedings of 17th International Conference on Parallel and Distributed Computing Systems (PDCS-2004) Security Workshop*, pages 522–529, June 2004. Acceptance rate unknown.
- 150 Ninghui Li and Mahesh V. Tripunitara. Security Analysis in Role-Based Access Control. In *Proceedings of ACM Symposium on Access Control Models and Techniques (SACMAT)*, pages 126–135, June 2004. Acceptance rate 28% (18/659).
- 151 William H. Winsborough and Ninghui Li. Safety in Automated Trust Negotiation. In *Proceedings of IEEE Symposium on Security and Privacy*, pages 147–160, May 2004. Acceptance rate 10% (19/189).
- 152 Ninghui Li, Wenliang Du, and Dan Boneh. Oblivious signature-based envelope. In *Proceedings of ACM Symposium on Principles of Distributed Computing (PODC 2003)*, pages 182–189, July 2003. Acceptance rate: 16% (34/208).
- 153 Ninghui Li and John C. Mitchell. Understanding SPKI/SDSI using first-order logic. In *Proceedings of IEEE Computer Security Foundations Workshop (CSFW)*, pages 89–103, June 2003. Acceptance rate: 26% (17/65).
- 154 Ninghui Li, William H. Winsborough, and John C. Mitchell. Beyond proof-of-compliance: safety and availability analysis in trust management. In *Proceedings of IEEE Symposium on Security and Privacy*, pages 123–139, May 2003. Acceptance rate: 15% (19/131).
- 155 Ninghui Li and John C. Mitchell. *RT*: a role-based trust-management framework. In *Proceedings of the Third DARPA Information Survivability Conference and Exposition (DISCEX III)*. April 2003. Acceptance rate: 30% (27/90).
- 156 Ninghui Li and John C. Mitchell. Datalog with constraints: a foundation for trust-management languages. In *Proceedings of the Fifth International Symposium on Practical Aspects of Declarative Languages (PADL 2003)*, pages 58–73, January 2003. Acceptance rate: 40% (23/57).
- 157 William H. Winsborough and Ninghui Li. Protecting sensitive attributes in automated trust negotiation. In *Proceedings of ACM Workshop on Privacy in the Electronic Society (WPES)*, pages 41–51, November 2002. Acceptance rate: 28% (12/43).
- 158 William H. Winsborough and Ninghui Li. Towards practical automated trust negotiation. In *Proceedings of the Third International Workshop on Policies for Distributed Systems and Networks (POLICY 2002)*, pages 92–103, June 2002. Acceptance rate: 25% (17/67).

- 159 Ninghui Li, John C. Mitchell, and William H. Winsborough. Design of a role-based trust-management framework. In *Proceedings of 2002 IEEE Symposium on Security and Privacy*, pages 114–130, May 2002. Acceptance rate: 22% (21/95).
- 160 Ninghui Li, William H. Winsborough, and John C. Mitchell. Distributed credential chain discovery in trust management (extended abstract). In *Proceedings of the 8th ACM Conference on Computer and Communications Security (CCS-8)*, pages 156–165, November 2001. Acceptance rate: 18% (27/153).
- 161 Ninghui Li and Joan Feigenbaum. Nonmonotonicity, user interfaces, and risk assessment in certificate Revocation (position paper). In *Proceedings of the Fifth International Conference on Financial Cryptography (FC'01)*, pages 166–177, February 2001. Acceptance rate unknown.
- 162 Ninghui Li. Local names in SPKI/SDSI 2.0. In *Proceedings of the 13th IEEE Computer Security Foundations Workshop (CSFW-13)*, pages 2–15, July 2000. Acceptance rate: 44% (21/48).
- 163 Ninghui Li, Benjamin N. Grosf, and Joan Feigenbaum. A practically implementable and tractable Delegation Logic. In *Proceedings of the 21st IEEE Symposium on Security and Privacy*, pages 27–42, May 2000. Acceptance rate: 13% (18/137).
- 164 Ninghui Li, Joan Feigenbaum, and Benjamin N. Grosf. A logic-based knowledge representation for authorization with delegation (extended abstract). In *Proceedings of the 12th IEEE Computer Security Foundations Workshop (CSFW-12)*, pages 162–174, June 1999. Acceptance rate: 40% (19/47).

Other Papers

- 165 Chenyun Dai, Gabriel Ghinita, Elisa Bertino, Ji-Won Byun, and Ninghui Li. TIAMAT: a Tool for Interactive Analysis of Microdata Anonymization Techniques. Demo paper in Proceedings of the VLDB Endowment (PVLDB) 2(2): 1618-1621 (2009).

KEYNOTE ADDRESSES

- 1 2018 APWeb-WAIM (Asia Pacific Web and Web-Age Information Management Joint Conference on Web and Big Data), Macau, China, 23-25 July 2018.
- 2 2018 IWSPA (International Workshop on Security and Privacy Analytics), Tempe, AZ, Mar 21, 2018.
- 3 2017 SecureComm (EAI International Conference on Security and Privacy in Communication Networks), Niagara Falls, Canada, October 22-25, 2017.
- 4 2017 ACM TURC (ACM Turing 50th Celebration Conference - China) — SIGSAC China Symposium, Shanghai, China, May 12-14, 2018.
- 5 2016 ISC (Information Security Conference), Honolulu, HI, September 7-9, 2016

EXTERNAL RESEARCH FUNDING

- 1 I2DS: Intelligent Interaction Defense System. DARPA. 10/1/2018 to 9/30/2023. \$2,232,906, Co-PI. (PI Li' portion 33%)

- 2 Principles of Secure Bootstrapping for the Internet of Things. A Science of Security Lablet Project. NSA/NCSU. 07/1/2018 to 06/31/2023, (Total \$443,924, only Year 1 \$86,125 has arrived), PI. (PI Li's portion 100%)
- 3 SaTC: CORE: Improving Password Ecosystem: A Holistic Approach. National Science Foundation. 10/01/2017 to 09/31/2019, \$300,000 (PI) (PI Li's portion 34%)
- 4 EAGER: Bridging The Gap between Theory and Practice in Data Privacy. National Science Foundation. 09/01/2016 to 08/31/2018, \$300,000 (PI) (PI Li's portion 100%)
- 5 Correct Enforcement of Access Control Policy in Modern Operating Systems. 03/01/2016 to 02/29/2019, ARO/IU. \$253,000, PI. (PI Li's portion 100%)
- 6 Science of Security Lablet Projects. 03/28/2014 to 06/30/2017, NSA/NCSU, \$399,502, PI. (PI Li's portion 52%)
- 7 TWC SBE: Medium: Collaborative: User-Centric Risk Communication and Control on Mobile Devices, 8/1/2013 to 7/31/2016, National Science Foundation, 1314688, \$820,000, PI. (PI Li's portion 34%)
- 8 IBM OCR Project on Data Privacy, 4/1/2013 to 3/31/2014. IBM T.J. Watson Research Center, \$100,000. PI. (PI Li's portion 100%)
- 9 Data Privacy Research, 11/1/2013 to present. Samsung Research, \$43,000. PI. (PI Li's portion 100%)
- 10 IBM OCR Project on Analytics for Insider Threat Detection and Prevention, 4/1/2013 to 3/31/2014. IBM T.J. Watson Research Center, \$100,000. PI. (PI Li's portion 100%)
- 11 Risk Mining and Communication for Android Apps. Google. 9/1/2012 — 8/31/2013, \$44,000. PI. (PI Li's portion 100%)
- 12 Towards a Scientific Basis for User Centric Security Design, Army Research Office/NCSU, 5/15/2012-12/31/2013, \$157,166. PI. (PI Li's portion 52%)
- 13 TC: Small: Provably Private Microdata Publishing. National Science Foundation. NSF CNS-1116991. 09/01/2011 - 08/31/2014, \$439,227, PI. (PI Li's portion 100%)
- 14 TC: Medium: Collaborative Research: Techniques to Retrofit Legacy Code. NSF 0905442-CNS. 09/01/2009 - 08/31/2012. \$300,000, PI. (PI Li's portion 100%)
- 15 A Framework for Managing Assured Information Lifecycle (PI: Elisa Bertino). 5/1/08 — 4/30/2013. \$1,500,000, Co-PI. Subcontracted from UMBC. (PI Li's portion 23%)
- 16 Utility and Privacy in Data Anonymization. Google. 1/1/09 — 12/31/10, \$60,000. PI. (PI Li's portion 40%)
- 17 IBM OCR Project on Privacy and Security Management (PI: Elisa Bertino). 09/01/06 — 08/31/08. \$400,000, Co-PI. (PI Li's portion 28%)
- 18 CAREER: Access Control Policy Verification Through Security Analysis And Insider Threat Assessment. NSF CNS-0448204. 06/01/05 — 05/31/10. \$400,000, PI. (PI Li's portion 100%)
- 19 Collaborative Research: A Comprehensive Policy-Driven Framework for Online Privacy Protection: Integrating IT, Human, Legal and Economic Perspectives. NSF IIS-0430274. (PI: Elisa Bertino) 09/15/04 — 09/14/07. \$666,000, Co-PI. (PI Li's portion 27%)

20 ITR: Automated Trust Negotiation in Open Systems. NSF CCR-0325951, (PI: Kent Seamons) 09/01/03 — 08/31/08. \$1,750,000. Subcontracted from Brigham Young University. PI of the subcontract (\$210,000).

TEACHING

Courses Taught

Semester	Course	Student Count
Fall 2003	590U: Access Control: Theory & Practice	14
Spring 2004	555: Cryptography	24
Fall 2004	555: Cryptography	17
Spring 2005	590U: Access Control: Theory & Practice	10
Fall 2005	355: Introduction to Cryptography	28
Spring 2006	590U: Access Control: Theory & Practice	9
Fall 2006	426: Computer Security	18
Spring 2007	655: Advanced Cryptology	5
Fall 2007	426: Computer Security	29
Spring 2008	590N: Logical Methods for Information Security	9
Fall 2008	526: Information Security	31
Spring 2009	526: Information Security	20
Fall 2009		
Spring 2010		
Fall 2010	426: Computer Security	46
Spring 2011	526: Information Security	42
Fall 2011	526: Information Security	36
Spring 2012	555: Cryptography	34
	526: Information Security	18
Fall 2012	526: Information Security	36
Spring 2013	526: Information Security	39
Fall 2013	526: Information Security	59
Spring 2014	252: Systems Programming	158
Fall 2014	526: Information Security	38
Spring 2015	252: Systems Programming	142
Fall 2015	526: Information Security	42
Spring 2016		
Fall 2016		
Spring 2017	252: Systems Programming (2 sections)	277
Fall 2017	590SA0: Security Analytics	8
Spring 2018	590DSP: Data Security and Privacy	20

New Course Development (Taught the first offering of the course)

- CS355: Introduction to Cryptography (Fall 2005)
This undergraduate course was introduced in Fall 2005. I developed this course by adapting the graduate cryptography course (555) for undergraduate students, choosing a new textbook and redesigning most of the lectures.
- CS590U: Access Control: Theory and Practice. (Fall 2003, Spring 2005, Spring 2006)
This is a seminar course in my research area.
- CS591C: Research Seminar for First-Year Graduate Students (Spring 2006)
This course was introduced together with the new PhD degree requirement for graduate students. Together with Cristina Nita-Rotaru, we organized the first offering for this course.
- 590SA0: Security Analytics (Fall 2017, Fall 2018)

This course was introduced for the ISCP (Information Security for Computing Professionals) program. I developed the course from scratch. The course has been approved as a regular graduate course.

STUDENTS

Graduated Ph.D. Students (15)

- 1 Mahesh V. Tripunitara (Ph.D. December 2005) Joined Motorola Labs. Currently Tenured Associate Professor in Department of Electrical and Computer Engineering, University of Waterloo.

Dissertation: “A Theory Based On Security Analysis For Comparing The Expressive Power of Access Control Models”.

- 2 Jiangtao Li (Ph.D. May 2006, Co-advised with Professor Mike Atallah) Joined Intel.

Dissertation: “Privacy Enhanced Automated Trust Negotiation”.

- 3 Ji-Won Byun (Ph.D. May 2007, Co-advised with Professor Elisa Bertino) Joined Oracle.

Dissertation: Towards Privacy-Preserving Database Management Systems — Access Control and Data Anonymization.

- 4 Qihua Wang (Joined in August 2004, Ph.D. May 2009) Joined IBM Almaden Research Center. Currently with Google.

Dissertation: Access Control Policy Management.

- 5 Ziqing Mao (Joined in August 2005, Ph.D. December 2009) Joined Facebook.

Dissertation: Improving Real-World Access Control Systems by Identifying the True Origins of a Request.

- 6 Hong Chen (Joined in August 2004, Ph.D. December 2009) Joined Knight Financials.

Dissertation: Analysis of Access Control Policies in Operating Systems.

- 7 Ian Molloy (Joined in August 2004, Ph.D. August 2010) Joined IBM T.J.Watson Research Center

Dissertation: Automatic Inference of Access Control Policies and Migration to Role Based Access Control

- 8 Tiancheng Li (Joined in August 2005, Ph.D. August 2010) Joined Google, Inc.

Dissertation: Privacy Preservation in Data Publishing and Sharing.

- 9 Wahbeh Qardaji (Joined in August 2008, Ph.D. May 2012) Joined Google, Inc.

Dissertation: Differentially Private Data Publishing: From Histograms to Transaction Sets

- 10 Chris S. Gates (Joined in January 2009, Ph.D. August 2014) Joined Symantec, Inc.

Dissertation: Leveraging Machine Learning to Detect Abnormal Behavior and Communication Risk

- 11 Weining Yang (Joined in August 2011; Ph.D. August 2016) Joined Google, Inc.
Dissertation: Improving the Eco-System of Passwords
- 12 Dong Su (Joined in August 2010; Ph.D. Dec 2016) Joined IBM T.J.Watson Research Center
Dissertation: Differentially Private Data Publishing for Data Analysis.
- 13 Hao Peng (Joined in August 2011; Ph.D. May 2017) Joined Google, Inc.
Dissertation: Efficient Bayesian Machine Learning with Gaussian Processes
- 14 Wei-yen Day (Joined in August 2011; Ph.D. August 2017) Joined Google, Inc.
Dissertation: Practical Differential Privacy For High-dimensional and Graph Data
- 15 Haining Chen (Joined in August 2010; Ph.D. December 2017) Joined Samsung Research America.
Dissertation: Enhancing the Policy Specification of Practical Access Control Systems.

PhD Students Under Supervision (6)

- 16 Sze yiu Chau (Joined in August 2013; Co-advised with Aniket Kate)
- 17 Huangyi Ge (Joined in August 2014)
- 18 Tianhao Wang (Joined in August 2015)
- 19 Zitao Li (joined in August 2016)
- 20 Wuwei Zhang (joined in August 2016)
- 21 Jiacheng Li (joined in August 2017)

Supervised PostDocs (3)

- Omar chowdhury (PostDoc, September 2014 to August 2016)
Ph.D. in Computer Science, University of Texas at San Antonio, 2013. Joined the faculty of Iowa University.
- Zenglin Xu (PostDoc, September 2013 to August 2014)
Ph.D. in Computer Science, Hongkong University, 2011. Joined the faculty of University of Electronic Science and Technology of China.
- Xinming Ou (PostDoc, September 2005 to May 2006, Co-supervised with Dr. Sebastien Goasguen.)
Ph.D. in Computer Science, Princeton, 2005. Joined the faculty of Kansas State University. Now with University of Southern Florida.

DEPARTMENTAL AND COLLEGE OF SCIENCE SERVICES

- 2018-2019: Chair of Undergraduate Study Committee, Member of Head Search Committee, Member of Security Faculty Search Committee
- 2017-2018: Chair of Undergraduate Study Committee, CS Representative on UCAP Committee, Member of New Degree Programs Committee

- 2016-2017: Member of Faculty Search Committee, Member of Executive Committee, Faculty Coordinator of CS591 Graduate Seminar
- 2015-2016: Member of Faculty Search Committee, Member of New Degree Programs Committee, Member of Executive Committee, Alternate CS Representative on College of Science Promotion Committee
 - Led the development of the curriculum of the Information Security for Computing Professionals (ISCP) program.
- 2014-2015: Member of Faculty Search Committee, Member of Executive Committee, Alternate CS Representative on College of Science Promotion Committee
- 2013-2014: Member of Faculty Search Committee
- 2012-2013: Member of the Faculty Search Committee, College of Science Grade Appeal Committee
- 2011-2012: Member of the Admission Committee
- 2010-2011: Member of the Admission Committee
- 2009-2010: Member of the Graduate Study Committee
- 2008-2009: Chair of the Graduate Admission Committee
- 2007-2008: Chair of Graduate Admission Committee
 - Led the process to convert graduate admission from paper-based system to online system.
- 2006-2007: Member of Graduate Study Committee
 - Involved in the initiation of the annual graduate student review process.
- 2005-2006: Member of Graduate Admission Committee
- 2004-2005: Colloquium Chair.
 - Coordinated the 2004-2005 colloquium and the process for planning the distinguished lecture series in Fall 2005, with the following speakers: Greg Morrisett, David Patterson, Ron Rivest, Pam Samuelson.
- 2003-2004: Member of Graduate Admission Committee

PROFESSIONAL ORGANIZATION AND SERVICES

Membership

- ACM Distinguished Scientist
- IEEE Senior Member

Professional Organization

- **Chair**, ACM Special Interest Group in Security, Audit, and Control (SIGSAC). July 2017–present.
- **Vice Chair**, ACM Special Interest Group in Security, Audit, and Control (SIGSAC). July 2013–June 2017.

Editorial Board

- **Associate Editor**, ACM Transactions on Privacy and Security. January 2016–present.
- **Associate Editor**, Journal of Computer Security. January 2014–present.
- **Associate Editor**, ACM Transactions on Internet Technology. August 2014–present.

- **Associate Editor**, IEEE Transactions on Dependable and Secure Computing. November 2011–November 2015.
- **Associate Editor**, The VLDB Journal. September 2007– August 2013.

Conference and Workshop Organization

- Program Chair and Co-Chair:
 - *2017 IEEE International conference on Privacy-aware Computing (PAC)*
 - *2015 ACM Conference on Computer and Communications Security (CCS)*
 - *2014 ACM Conference on Computer and Communications Security (CCS)*
 - *2013 ACM Symposium on Information, Computer and Communications Security (ASIACCS)*
 - *2009 IFIP WG 11.11 International Conference on Trust Management (IFIPTM)*
 - *2008 ACM Symposium on Access Control Models and Technologies (SACMAT)*
- Steering Committee Member:
 - *ACM Conference on Computer and Communications Security (CCS)*, 2018 to present
 - *ACM Symposium on Access Control Models and Technologies (SACMAT)*, 2008 to 2017.
 - *ACM Symposium on InformAtion, Computer and Communications Security (ASIACCS)*, 2010 to 2015.
- Track Chair:
 - Security and Privacy track, *2014 International Conference on Data Engineering (ICDE)*
 - Security and Privacy track, *2011 World Wide Web Conference (WWW)*
 - Security and Privacy track, *2009 World Wide Web Conference (WWW)*
- Other Roles:
 - Workshop Chair, *2011 ACM Conference on Computer and Communications Security (CCS)*
 - Workshop Chair, *2010 ACM Conference on Computer and Communications Security (CCS)*
 - Tutorial Chair, *2009 ACM Conference on Computer and Communications Security (CCS)*
 - Publication Chair, *2006 International Conference on Information and Communications Security (ICICS)*
- Organizing Committee Member, *The Midwest Security Workshop (2006-2008)*
 - Program Chair, the 1st Midwest Security Workshop (May 2006)
 - Local Arrangement Chair, the 3rd Midwest Security Workshop (April 2007)

Program Committee Memberships

2019

- *IEEE International Conference on Data Engineering (ICDE)*
- *IEEE International Conference on Distributed Computing Systems (ICDCS)*

2018

- *ACM Conference on Computer and Communications Security (CCS)*
- *ACM SIGMOD*
- *VLDB*
- *European Symposium on Research in Computer Security (ESORICS)*

- *ACM Conference on Data and Application Security and Privacy (CODASPY)*
- 2017
- *IEEE European Symposium on Security and Privacy (EuroS&P)*
 - *European Symposium on Research in Computer Security (ESORICS)*
- 2016
- *ACM Symposium on Information, Computer and Communications Security (AsiaCCS)*
 - *ACM Symposium on Access Control Models and Technologies (SACMAT)*
 - *European Symposium on Research in Computer Security (ESORICS)*
 - *IEEE European Symposium on Security and Privacy (EuroS&P)*
- 2015
- *ACM Conference on Computer and Communications Security (CCS)*
 - *IEEE Conference on Data Engineering (ICDE)*
 - *International Conference on Extending Database Technology (EDBT)*
 - *ACM Symposium on Information, Computer and Communications Security (AsiaCCS)*
 - *ACM Symposium on Access Control Models and Technologies (SACMAT)*
 - *Conference on Principles of Security and Trust (POST)*
 - *International Conference on Cloud Computing Technology and Science (CloudCom)*
 - *China International Conference on Information Security and Cryptology (Inscrypt)*
- 2014
- *IEEE Symposium on Security and Privacy (SSP)*
 - *ACM Conference on Computer and Communications Security (CCS)*
 - *ACM SIGMOD*
 - *ACM SIGKDD (KDD)*
 - *IEEE Conference on Data Engineering (ICDE)*
 - *ACM Symposium on Information, Computer and Communications Security (AsiaCCS)*
 - *ACM Symposium on Access Control Models and Technologies (SACMAT)*
 - *Conference on Principles of Security and Trust (POST)*
 - *International Conference on Software Security and Reliability (SERE)*
- 2013
- *IEEE Symposium on Security and Privacy (SSP)*
 - *Network and Distributed Security Symposium (NDSS)*
 - *ACM SIGKDD (KDD)*
 - *International Conference on Distributed Computing Systems (ICDCS)*
 - *ACM Symposium on Information, Computer and Communications Security (AsiaCCS)*
 - *Applied Cryptography and Network Security (ACNS)*
 - *ACM Symposium on Access Control Models and Technologies (SACMAT)*
 - *ACM Conference on Data and Application Security and Privacy (CODASPY)*
 - *IEEE Conference on Software Security and Reliability (SERE)*
- 2012

- *ACM Conference on Computer and Communications Security (CCS)*
- *The World Wide Web Conference (WWW), the Security and Privacy track.*
- *IEEE Symposium on Security and Privacy (SSP)*
- *International Conference on Data Engineering (ICDE)*
- *International Conference on Financial Cryptography and Data Security (FC)*
- *ACM Symposium on Information, Computer and Communications Security (AsiaCCS)*
- *ACM Symposium on Access Control Models and Technologies (SACMAT)*
- *IEEE International Conference on Software Security and Reliability (SERE)*

2011

- *ACM Conference on Computer and Communications Security (CCS)*
- *The World Wide Web Conference (WWW), the Security and Privacy track.*
- *IFIP WG 11.11 International Conference on Trust Management (IFIPTM)*
- *Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)*
- *ACM Symposium on Access Control Models and Technologies (SACMAT)*
- *Information Security Practice and Experience Conference (ISPEC)*
- *International Workshop on Security and Trust Management (STM)*

2010

- *The World Wide Web Conference (WWW), the Security and Privacy track.*
- *IFIP WG 11.11 International Conference on Trust Management (IFIPTM)*
- *Applied Cryptography and Network Security Conference (ACNS)*
- *International Conference on Distributed Computing Systems (ICDCS)*
- *ACM Workshop on Assurable & Usable Security Configuration (SafeConfig)*
- *International Workshop on Security and Trust Management (STM)*

2009

- *ACM Conference on Computer and Communications Security (CCS)*
- *ACM Symposium on Access Control Models and Technologies (SACMAT)*
- *International Conference on Data Engineering (ICDE)*
- *Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)*
- *The World Wide Web Conference (WWW), the Security and Privacy track.*
- *Workshop on Assurable and Usable Security Configuration (SafeConfig), in association with ACM CCS*
- *International Conference on Financial Cryptography and Data Security (FC)*
- *IEEE Workshop on Policies in Networks and Distributed Systems (POLICY)*
- *IEEE International Conference on Advanced Information Networking and Applications (AINA)*
- *International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS-09), the System Safety and Security Track*

2008

- *IEEE Symposium on Security and Privacy (SSP)*
- *ACM Conference on Computer and Communications Security (CCS)*

- *ACM Symposium on Access Control Models and Technologies (SACMAT)*
- *Applied Cryptography and Network Security Conference (ACNS)*
- *International Conference on Financial Cryptography and Data Security (FC)*
- *The Joint iTrust and PST Conferences on Privacy, Trust Management and Security (IFIPTM)*
- *International Conference on Information and Communications Security (ICICS)*
- *Conference on Security and Privacy for Emerging Areas in Communication Networks (SecureComm)*
- *ACM Workshop on Privacy in the Electronic Society (WPES)*
- *ACM Workshop on Scalable Trustworthy Computing (STC)*
- *IEEE/IFIP International Symposium on Trust, Security and Privacy for Pervasive Applications (TSP-08)*
- *International Conference on Provable Security (ProvSec)*
- *International Conference on Availability, Reliability and Security (ARES)*
- *Workshop on Formal Aspects in Security and Trust (FAST)*
- *IEEE International Conference on Sensor Networks, Ubiquitous and Trustworthy Computing (SUTC), the Reliable Software Systems Track*
- *First International Workshop on Security and Privacy in GIS and LBS (SPRINGL2008)*
- *International Workshop on Security and Trust Management (STM)*
- *International Conference on Deontic Logic in Computer Science (DEON)*

2007

- *IEEE Symposium on Security and Privacy (SSP)*
- *The World Wide Web Conference (WWW), the Security, Privacy, Reliability and Ethics (SPRE) track.*
- *ACM Symposium on Access Control Models and Technologies (SACMAT)*
- *IEEE Computer Security Foundations Symposium (CSF)*
- *ACM Symposium on Information, Computer and Communications Security (AsiaCCS)*
- *Asian Computing Conference (ASIAN)*
- *International Symposium on Data, Privacy, and E-Commerce (ISDPE)*
- *IEEE International Workshop on Security in Software Engineering (IWSSE)*
- *Workshop on Software and Application Security: Methodologies, Tools and Practices (WSAS)*
- *International Workshop on Trust, Security and Privacy for Ubiquitous Computing (TSPUC)*

2006

- *ACM Conference on Computer and Communications Security (CCS)*
- *ACM Symposium on Access Control Models and Technologies (SACMAT)*
- *International Conference on Data Engineering (ICDE)*
- *Applied Cryptography and Network Security Conference (ACNS)*
- *Conference on Security and Privacy for Emerging Areas in Communication Networks (SecureComm)*
- *Workshop on Formal Aspects in Security and Trust (FAST)*
- *IEEE Workshop on Policies in Networks and Distributed Systems (POLICY)*

- *International Conference on Trust Management (iTrust)*
- *ACM Workshop on Scalable Trustworthy Computing (STC)*
- *Asian Computing Conference (ASIAN)*
- *Joint Workshop on Foundations of Computer Security and Automated Reasoning for Security Protocol Analysis (FCS-ARSPA)*
- *AusCERT Asia Pacific Information Technology Security Conference Academic Refereed Stream*

2005

- *ACM Conference on Computer and Communications Security (CCS)*
- *Network and Distributed Security Symposium (NDSS)*
- *ACM Symposium on Access Control Models and Technologies (SACMAT)*
- *Conference on Security and Privacy for Emerging Areas in Communication Networks (SecureComm)*
- *IEEE Workshop on Policies in Networks and Distributed Systems (POLICY)*
- *International Conference on Trust Management (iTrust)*
- *Information Security Practice and Experience Conference (ISPEC)*
- *AusCERT Asia Pacific Information Technology Security Conference Academic Refereed Stream*
- *International Conference on Service Oriented Computing (ICSOC)*
- *International Workshop on Information Assurance in Distributed Systems (IADS)*
- *International Workshop on Security in Distributed Computing Systems (SDCS)*

2004

- *ACM Conference on Computer and Communications Security (CCS)*
- *Workshop on Formal Aspects in Security and Trust (FAST)*
- *International Conference on Trust Management (iTrust)*
- *AusCERT Asia Pacific Information Technology Security Conference Academic Refereed Stream*

2003

- *International Conference on Trust Management (iTrust)*

2002

- *IEEE Computer Security Foundations Workshop (CSFW)*

Journal Reviewing

- *ACM Transactions on Information and Systems Security (TISSEC)*
- *Journal of Computer Security (JCS)*
- *IEEE Transactions on Dependable and Secure Computing (TDSC)*
- *ACM Transactions on Embedded Computing Systems (TECS)*
- *ACM Transactions on Internet Technology (TOIT)*
- *ACM Transactions on the Web (TWEB)*
- *ACM Computing Surveys*
- *Information and Computation*
- *IEEE Journal on Selected Areas in Communications (JSAC)*
- *IEEE Transactions on Computers (TC)*

- IEEE Transactions on Parallel and Distributed Systems (TPDS)
- IEEE Transactions on Knowledge and Data Engineering (TKDE)
- IEEE Transactions on Software Engineering (TSE)
- IEEE Transactions on Systems, Man and Cybernetics
- IEEE Internet Computing
- Journal of Digital Libraries
- Data & Knowledge Engineering
- International Journal of Applied Intelligence

Panel Members, Tutorials, etc.

- NSF SaTC Career Panel 2016, 2017, 2018
- NSF SaTC Panel 2014, 2015
- NSF Cyber Trust Panel 2005, 2006, 2009, 2010, 2013
- NSF Computing Research Infrastructure Panel 2005
- Give a 5-hour tutorial on “Logic and Logic Programming in Distributed Access Control”
2nd International Compulog/ALP Summer School in Computational Logic June 16-17, 2004