

Adam J. Lee

Curriculum Vitæ

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Department of Computer Science
University of Pittsburgh
210 S. Bouquet St.
Pittsburgh, PA 15260, USA

Phone: (412) 624-8416
Fax: (412) 624-8854
<http://www.cs.pitt.edu/~adamlee>
adamlee@cs.pitt.edu

EDUCATION

Ph.D. in Computer Science (October 2008)
University of Illinois at Urbana-Champaign
Advisor: Professor Marianne Winslett

M.S. in Computer Science (August 2005)
University of Illinois at Urbana-Champaign
Advisor: Professor Marianne Winslett

B.S. in Computer Science (May 2003)
Minor in Applied Mathematics
Cornell University
GPA: 3.89/4.0 Major (*Magna Cum Laude*)

APPOINTMENTS

Assistant Professor (September 2008–Present)
Department of Computer Science, University of Pittsburgh

Graduate Teaching/Research Assistant (August 2003–July 2008)
Department of Computer Science, University of Illinois at Urbana-Champaign

Research Assistant (Summer 2004, Summer 2005)
National Center for Supercomputing Applications; Urbana, IL

Computer Security Intern (2001–2003, Summer 2006, Winter 2007, Summer 2007)
Sandia National Laboratories; Livermore, CA

TEACHING EXPERIENCE

Courses Taught

- CS/COE 0441: Discrete Structures for Computer Science (Fall 2008)
- CS 1653: Applied Cryptography and Network Security (Spring 2010)

- CS 2530: Computer and Network Security (Spring 2009, Fall 2010)
- CS 3525: Advanced Topics in Security and Privacy (Fall 2009)
- CS 101: Introduction to Computing for Engineers and Applied Scientists (Fall 2003 and Spring 2004; *at UIUC*)

Courses Organized

- CS 3525: Advanced Topics in Security and Privacy
 - University of Pittsburgh Security Reading Group (Spring 2009–Present)
 - CS 591RHC: Security Reading Group (Fall 2005–Spring 2008; *at UIUC*)
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AWARDS AND HONORS

Conference Papers Invited to Journals

- 12th ACM Symposium on Access Control Models and Technologies (SACMAT 2007) paper [20] invited to ACM Transactions on Information and System Security (appears as [3]).
- 13th ACM Conference on Computer and Communications Security (CCS 2006) paper [22] invited to ACM Transactions on Information and System Security (appears as [4]).
- 11th ACM Symposium on Access Control Models and Technologies (SACMAT 2006) paper [25] invited to ACM Transactions on Information and System Security (appears as [5]).

Research and Academic Honors

- Motorola Center for Communications Graduate Fellowship: 2005–2006 Academic Year
- Cisco Systems Information Assurance Scholarship: Fall 2005
- Tau Beta Pi (TBPI) – National Engineering Honor Society

Teaching and Service Awards

- UIUC Computer Science Department Service Award: 2004–2005 Academic Year
 - UIUC Computer Science Department Teaching Excellence Award: Fall 2003, Spring 2004
 - UIUC Center for Teaching Excellence Incomplete List of Teachers Ranked as Excellent: Fall 2003, Spring 2004
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PROFESSIONAL SERVICE

Grant Proposal Panelist/Reviewer

- National Science Foundation Computing in the Cloud Program (2010)
- National Science Foundation Trustworthy Computing Program (2010)
- National Science Foundation CAREER Panelist (2009)

Organizing Committees

- Publicity Chair, 25th Annual IFIP WG 11.3 Conference on Data and Applications Security and Privacy (DBSec)
- Poster Co-Chair, 17th ACM Conference on Computer and Communications Security (CCS)

Program Committees

- 16th European Symposium on Research in Computer Security (ESORICS 2011)
- 12th IEEE International Symposium on Policies for Distributed Systems and Networks (POLICY 2011)
- 25th Annual IFIP WG 11.3 Conference on Data and Applications Security and Privacy (DBSec 2011)
- Fifth IFIP WG 11.11 International Conference on Trust Management (IFIPTM 2011)
- 12th International Conference on Mobile Data Management (MDM 2011)
- 16th ACM Symposium on Access Control Models and Technologies (SACMAT 2011)
- Sixth ACM Symposium on Information, Computer, and Communications Security (ASIACCS 2011)
- Ninth ACM Workshop on Privacy in the Electronic Society (WPES 2010)
- Second IEEE International Conference on Privacy, Security, Risk, Trust (PASSAT 2010)
- 11th IEEE International Symposium on Policies for Distributed Systems and Networks (POLICY 2010)
- 10th Symposium on Identity and Trust on the Internet (IDtrust 2010)
- 15th ACM Symposium on Access Control Models and Technologies (SACMAT 2010)
- 19th International World Wide Web Conference (WWW2010), Security & Privacy Track
- Fourth IFIP WG 11.11 International Conference on Trust Management (IFIPTM 2010)
- 12th Information Security Conference (ISC 2009)
- 14th ACM Symposium on Access Control Models and Technologies (SACMAT 2009)
- Ninth Symposium on Identity and Trust on the Internet (IDtrust 2009)
- Third IFIP WG 11.11 International Conference on Trust Management (IFIPTM 2009)
- Seventh ACM Workshop on Privacy in the Electronic Society (WPES 2008)
- Second International Workshop on Cluster Security (Cluster-Sec '06)
- First International Workshop on Storage Security and Survivability (StorageSS '05)

Journal Reviewer

- ACM Transactions on Information and System Security
- ACM Transactions on the Web
- Computers and Security (Elsevier)
- Future Generation Computer Systems (Elsevier)
- IEEE Communications Letters
- IEEE Journal on Selected Areas in Communications
- IEEE Transactions on Dependable and Secure Computing
- IEEE Transactions on Knowledge and Data Engineering
- IEEE Transactions on Services Computing
- International Journal of Information Security (Springer)
- The VLDB Journal
- The SIGMOD Record

External Reviewer

- ACM Conference on Computer and Communications Security (CCS)
 - ACM SIGMOD Conference
 - ACM Symposium on Access Control Models and Technologies (SACMAT)
 - ACM Workshop on Privacy in the Electronic Society (WPES)
 - ACM Workshop on Visualization for Computer Security
 - European Symposium on Research in Computer Security (ESORICS)
 - IEEE/ACM International Conference on Grid Computing (Grid)
 - IEEE Symposium on Security and Privacy
 - IEEE Workshop on Policies for Distributed Systems and Networks (POLICY)
 - International Conference on Data Engineering (ICDE)
 - International Conference on Deontic Logic in Computer Science (DEON)
 - International Conference on Emerging Trends in Information and Communication Security (ETRICS)
 - International Conference on Trust Management (iTrust)
 - International Conference on Trust, Privacy, and Security in Digital Business (TrustBus)
 - International Conference on Very Large Data Bases (VLDB)
 - International Semantic Web Conference (ISWC)
 - Joint iTrust and PST Conferences on Privacy, Trust Management, and Security (IFIPTM)
 - Secure Knowledge Management Workshop (SKM)
 - The Workshop on the Value of Security through Collaboration (SECOVAL)
 - WWW 2005 Workshop on Policy Management for the Web
 - WWW 2006 Workshop on Models of Trust for the Web
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PUBLICATIONS

Theses

- [1] **Adam J. Lee**, "Towards Practical and Secure Decentralized Attribute-Based Authorization Systems," Ph.D. Dissertation, University of Illinois at Urbana-Champaign Department of Computer Science Technical Report No. UIUCDCS-R-2008-2985, July 2008.
- [2] **Adam J. Lee**, "Traust: A Trust Negotiation Based Authorization Service for Open Systems." Master's Thesis, University of Illinois at Urbana-Champaign, August 2005.

Journal Articles

- [3] **Adam J. Lee**, Kazuhiro Minami, and Marianne Winslett, "On the Consistency of Distributed Proofs with Hidden Subtrees," *ACM Transactions on Information and System Security*, 13(3), July 2010.
- [4] **Adam J. Lee** and Marianne Winslett, "Enforcing Safety and Consistency Constraints in Policy-Based Authorization Systems," *ACM Transactions on Information and System Security*, 12(2), December 2008.
- [5] **Adam J. Lee**, Marianne Winslett, Jim Basney, and Von Welch, "The Traust Authorization Service," *ACM Transactions on Information and System Security*, 11(1), February 2008.

Magazine Articles and Book Chapters

- [6] **Adam J. Lee** and Ting Yu, "Report on the Sixth ACM Workshop on Privacy in the Electronic Society (WPES 2007)," in *The SIGMOD Record*, 37(1):56–58, March 2008.
- [7] **Adam J. Lee**, Kent E. Seamons, Marianne Winslett, and Ting Yu, "Automated Trust Negotiation in Open Systems," in *Secure Data Management in Decentralized Systems*, Ting Yu and Sushil Jajodia (Editors), Springer, Berlin, 2007.

Refereed Conference and Workshop Papers

- [8] Kazuhiro Minami, Nikita Borisov, Marianne Winslett, and **Adam J. Lee**, "Confidentiality-Preserving Proof Theories for Distributed Proof Systems," in Proceedings of the Sixth ACM Symposium on Information, Computer, and Communication Security (ASIACCS 2011), March 2011.
- [9] Andrew K. Adams, **Adam J. Lee**, and Daniel Mossé, "Receipt-Mode Trust Negotiation: Efficient Authorization Through Outsourced Interactions," in Proceedings of the Sixth ACM Symposium on Information, Computer, and Communication Security (ASIACCS 2011), March 2011.
- [10] Nicholas Farnan, **Adam J. Lee**, and Ting Yu, "Investigating Privacy-Aware Distributed Query Evaluation," *Proceedings of the Ninth ACM Workshop on Privacy in the Electronic Society (WPES 2010)*, October 2010.
- [11] **Adam J. Lee** and Ting Yu, "On the Quantitative Analysis of Proofs of Authorization: Applications, Framework, and Techniques," *Proceedings of the 23rd IEEE Computer Security Foundations Symposium (CSF 2010)*, July 2010.
- [12] Brian Wongchaowart and **Adam J. Lee**, "Oblivious Enforcement of Hidden Information Release Policies," in *Proceedings of the Fifth ACM Symposium on Information, Computer, and Communication Security (ASIACCS 2010)*, April 2010.
- [13] **Adam J. Lee**, Ting Yu, and Yann G. Le Gall, "Effective Trust Management Through a Hybrid Logical and Relational Approach," in *Proceedings of the Fifth ACM Symposium on Information, Computer, and Communication Security (ASIACCS 2010)*, April 2010.
- [14] **Adam J. Lee** and Ting Yu, "Towards a Dynamic and Composite Model of Trust," in *Proceedings of the 14th ACM Symposium on Access Control Models and Technologies (SACMAT 2009)*, June 2009.
- [15] **Adam J. Lee**, Marianne Winslett, and Kenneth J. Perano, "TrustBuilder2: A Reconfigurable Framework for Trust Negotiation," in *Proceedings of the Third IFIP WG 11.11 International Conference on Trust Management (IFIPTM 2009)*, June 2009.
- [16] **Adam J. Lee**, Kazuhiro Minami, and Nikita Borisov, "Confidentiality-Preserving Distributed Proofs of Conjunctive Queries," in *Proceedings of the Fourth ACM Symposium on Information, Computer, and Communication Security (ASIACCS 2009)*, March 2009.
- [17] Kazuhiro Minami, **Adam J. Lee**, Marianne Winslett, and Nikita Borisov, "Secure Aggregation in a Publish-Subscribe System," in *Proceedings of the Seventh ACM Workshop on Privacy in the Electronic Society (WPES 2008)*, October 2008.
- [18] **Adam J. Lee** and Marianne Winslett, "Towards Standards-Compliant Trust Negotiation for Web Services," in *Proceedings of the Second IFIP WG 11.11 Conference on Trust Management (IFIPTM 2008)*, June 2008.

- [19] **Adam J. Lee** and Marianne Winslett, "Towards an Efficient and Language-Agnostic Compliance Checker for Trust Negotiation Systems," in *Proceedings of the Third ACM Symposium on Information, Computer and Communications Security (ASIACCS 2008)*, March 2008.
- [20] **Adam J. Lee**, Kazuhiro Minami, and Marianne Winslett, "Lightweight Consistency Enforcement Schemes for Distributed Proofs with Hidden Subtrees," in *Proceedings of the 12th ACM Symposium on Access Control Models and Technologies (SACMAT 2007)*, June 2007.
- [21] **Adam J. Lee**, Jodie P. Boyer, Lars E. Olson, and Carl A. Gunter, "Defeasible Security Policy Composition for Web Services," in *Proceedings of the Fourth ACM Workshop on Formal Methods in Security Engineering (FMSE 2006)* held in conjunction with the *13th ACM Conference on Computer and Communications Security (CCS 2006)*, November 2006.
- [22] **Adam J. Lee** and Marianne Winslett, "Safety and Consistency in Policy-Based Authorization Systems," in *Proceedings of the 13th ACM Conference on Computer and Communications Security (CCS 2006)*, October/November 2006.
- [23] **Adam J. Lee**, Parisa Tabriz, and Nikita Borisov, "A Privacy-Preserving Interdomain Audit Framework," in *Proceedings of the Fifth ACM Workshop on Privacy in the Electronic Society (WPES 2006)* held in conjunction with the *13th ACM Conference on Computer and Communications Security (CCS 2006)*, October 2006.
- [24] Mehran Ahsant, Jim Basney, Olle Mulmo, **Adam J. Lee**, and Lennart Johnsson, "Toward an On-Demand Restricted Delegation Mechanism for Grids," in *Proceedings of the Seventh IEEE/ACM International Conference on Grid Computing (Grid 2006)*, September 2006.
- [25] **Adam J. Lee**, Marianne Winslett, Jim Basney, and Von Welch, "Traust: A Trust Negotiation-Based Authorization Service for Open Systems," in *Proceedings of the 11th ACM Symposium on Access Control Models and Technologies (SACMAT 2006)*, June 2006.
- [26] **Adam J. Lee** and Marianne Winslett, "Virtual Fingerprinting as a Foundation for Reputation in Open Systems," in *Proceedings of the Fourth International Conference on Trust Management (iTrust 2006)*, May 2006.
- [27] **Adam J. Lee**, Marianne Winslett, Jim Basney, and Von Welch, "Traust: A Trust Negotiation Based Authorization Service," Demonstration Short Paper, in *Proceedings of the Fourth International Conference on Trust Management (iTrust 2006)*, May 2006.
- [28] **Adam J. Lee** and Marianne Winslett, "Open Problems for Usable and Secure Open Systems," *ACM CHI 2006 Workshop on Usability Research Challenges for Cyberinfrastructure and Tools*, April 2006.
- [29] Ragib Hasan, Suvda Myagmar, **Adam J. Lee**, and William Yurcik, "Toward a Threat Model for Storage Systems," in *Proceedings of the International Workshop on Storage Security and Survivability (StorageSS)* in conjunction with the *12th ACM Conference on Computer and Communications Security (CCS 2005)*, November 2005.
- [30] **Adam J. Lee**, Gregory A. Koenig, and William Yurcik, "Cluster Security with NVisionCC: The Forseti Distributed File Integrity Checker," in *Proceedings of the Los Alamos Computer Science Institute Symposium (LACSI 2005)*, October 2005.
- [31] Suvda Myagmar, **Adam J. Lee**, and William Yurcik, "Threat Modeling as a Basis for Security Requirements," in *Proceedings of the IEEE Symposium on Requirements Engineering for Information Security (SREIS)*, August 2005.

- [32] **Adam J. Lee**, Gregory A. Koenig, Xin Meng, and William Yurcik, "Searching for Open Windows and Unlocked Doors: Port Scanning in Large-Scale Commodity Clusters," in *Proceedings of the First International Workshop on Cluster Security* held in conjunction with the *Fifth IEEE/ACM International Symposium on Cluster Computing and the Grid (CCGrid)*, May 2005.
- [33] Gregory A. Koenig, Xin Meng, **Adam J. Lee**, Michael Treaster, Nadir Kiyancilar, and William Yurcik, "Cluster Security with NVisionCC: Process Monitoring by Leveraging Emergent Properties," in *Proceedings of the First International Workshop on Cluster Security* held in conjunction with the *Fifth IEEE/ACM International Symposium on Cluster Computing and the Grid (CCGrid)*, May 2005.
- [34] **Adam J. Lee**, Jodie P. Boyer, Chris Drexelius, Prasad Naldurg, Raquel L. Hill, and Roy H. Campbell, "Supporting Dynamically Changing Authorizations in Pervasive Communication Systems," in *Proceedings of the Second International Conference on Security in Pervasive Computing*, April 2005.
- [35] Kiran Lakkaraju, William Yurcik, **Adam J. Lee**, Ratna Bearavolu, Yifan Li, and Xiaoxin Yin, "NVisionIP: NetFlow Visualizations of System State for Security Situational Awareness," in *Proceedings of the Workshop on Visualization and Data Mining for Computer Security (VizSEC/DMSEC)* held in conjunction with the *11th ACM Conference on Computer and Communications Security*, October 2004.

Other Publications

- [36] **Adam J. Lee**, Kazuhiro Minami, and Nikita Borisov, "Confidentiality-Preserving Distributed Proofs of Conjunctive Queries (Extended Version)," University of Pittsburgh Department of Computer Science Technical Report No. TR-08-161, December 2008.
- [37] **Adam J. Lee** and Marianne Winslett, "Towards Standards-Compliant Trust Negotiation for Web Services (Extended Version)," University of Illinois at Urbana-Champaign Department of Computer Science Technical Report No. UIUCDCS-R-2008-2944, March 2008.
- [38] **Adam J. Lee** and Marianne Winslett, "Towards an Efficient and Language-Agnostic Compliance Checker for Trust Negotiation Systems," University of Illinois at Urbana-Champaign Department of Computer Science Technical Report No. UIUCDCS-R-2007-2903, October 2007.
- [39] **Adam J. Lee**, Kazuhiro Minami, and Marianne Winslett, "Lightweight Consistency Enforcement Schemes for Distributed Proofs with Hidden Subtrees (Extended Version)," University of Illinois at Urbana-Champaign Department of Computer Science Technical Report No. UIUCDCS-R-2007-2839, April 2007.
- [40] **Adam J. Lee** and Marianne Winslett, "Virtual Fingerprinting as a Foundation for Reputation in Open Systems," University of Illinois at Urbana-Champaign Department of Computer Science Technical Report No. UIUCDCS-R-2006-2691, February 2006.
- [41] William Yurcik, **Adam J. Lee**, Gregory A. Koenig, Nadir Kiyancilar, Dmitry Mogilevsky, and Michael Treaster, "Cluster Security Research Challenges," NSF Infrastructure Experience 2005, NSF/CISE/CNS Cluster Computing Infrastructure Experience Workshop, Siebel Center for Computing Science, University of Illinois at Urbana-Champaign, July 27, 2005.

FUNDED RESEARCH

- Improved Privacy Through Exposure Control
 Adam J. Lee (PI)
 National Science Foundation Award No. CNS-1017229
 09/2010–08/2013, \$149,859

- Towards Formal, Risk-Aware Authorization
Adam J. Lee (PI)
National Science Foundation Award No. CNS-0964295
06/2010–05/2014, \$329,274
 - Towards a Dynamic and Composable Model of Trust
Adam J. Lee (PI)
National Science Foundation Award No. CCF-0916015
09/2009–08/2012, \$231,248
-

SELECT INVITED PRESENTATIONS

- “Composite Trust Management,” Fuji Xerox Palo Alto Laboratory (FXPAL), August 2010.
- “Privacy and Access Control for Inter-Domain Data Sharing,” Fuji Xerox Palo Alto Laboratory (FXPAL), July 2009.
- “Privacy, Security, and Performance in Distributed Proof Systems,” Università di Trento, June 2009.
- “Privacy, Security, and Performance in Distributed Proof Systems,” University of Texas at San Antonio, May 2009.
- “Confidentiality-Preserving Distributed Proofs of Conjunctive Queries,” University of Pittsburgh LER-SAIS Seminar Series, September 2008.
- “Towards Practical and Secure Decentralized Attribute-Based Authorization Systems,” Purdue University, April 2008.
- “Towards Practical and Secure Decentralized Attribute-Based Authorization Systems,” Michigan State University, March 2008.
- “Towards Practical and Secure Decentralized Attribute-Based Authorization Systems,” University of Pittsburgh, February 2008.
- “Towards Practical and Secure Decentralized Attribute-Based Authorization Systems,” University of Illinois at Urbana-Champaign Information Trust Institute (ITI) Trust and Security Seminar Series, February 2008.
- “Trust Negotiation: From Theory to Practice,” Sandia National Laboratories, December 2007.
- “Safety and Consistency in Policy-Based Authorization Systems,” University of Illinois at Urbana-Champaign Systems and Networking Seminar, September 2006.
- “Safety and Consistency in Policy-Based Authorization Systems,” University of Illinois at Urbana-Champaign Information Trust Institute (ITI) Trust and Security Seminar Series, September 2006.
- “Trust Negotiation and Security Policy Composition,” Sandia National Laboratories, August 2005.