

# Apu Kapadia: Curriculum Vitae

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## Employment

*Indiana University*  
Associate Professor Jul 2015–Present  
Assistant Professor Sep 2009–Jun 2015  
Department of Computer Science and Informatics  
School of Informatics and Computing

*MIT Lincoln Laboratory* Sep 2008–Aug 2009  
Member of Technical Staff  
Information Systems Technology Group

*Dartmouth College* Jul 2008–Aug 2008  
Research Assistant Professor  
Department of Computer Science

*Dartmouth College* Oct 2005–Jun 2008  
Post-Doctoral Research Fellow  
Institute for Security Technology Studies (ISTS)

## Education

Ph.D. in Computer Science October 2005  
University of Illinois at Urbana-Champaign  
Dissertation Topic: *Models for Privacy in Ubiquitous Computing Environments*  
Advisor: Prof. Roy H. Campbell

M.S. in Computer Science May 2001  
University of Illinois at Urbana-Champaign  
Thesis: *I-RBAC 2000: A Dynamic Role Translation Model For Secure Interoperability*  
Advisor: Prof. Roy H. Campbell

B.S. in Computer Science with Honors May 1998  
University of Illinois at Urbana-Champaign

## Awards and Recognition

*Honorable Mention Award, 2016*  
Mohammed Korayem, Robert Templeman, Dennis Chen, David Crandall, and Apu Kapadia, "Enhancing Lifeloggging Privacy by Detecting Screens," In Proceedings of The ACM SIGCHI Conference on Human Factors in Computing Systems (CHI '16)

*Honorable Mention for Best Paper Award, 2015*  
Zheng Dong, Apu Kapadia, Jim Blythe, L. Jean Camp, "Beyond the lock icon: real-time detection of phishing websites using public key certificates," In Proceedings of APWG Symposium on Electronic Crime Research (eCrime '15)

*Distinguished Alumni Educator Award, 2015*  
Department of Computer Science, University of Illinois at Urbana-Champaign

*Google Research Award, Winter 2014*  
*Privacy-Enhanced Life-Logging with Wearable Cameras*  
(with David Crandall)

*Talks as Distinguished Speaker*

Distinguished Lecture Series, Laboratory of Education and Research in Security Assured Information Systems (LERSAIS), University of Pittsburgh, 2015.

Distinguished Lecturer Series, Dept. of Computer Science, Kansas State University, 2014.

Workshop on Information Security and Privacy, Colorado Research Institute for Security and Privacy, 2013.

Distinguished Visitor (Scottish Informatics and Computer Science Alliance), Univ. of St Andrews, 2012.

Distinguished Visitor (Scottish Informatics and Computer Science Alliance), Univ. of Glasgow, 2012.

*Trustees Teaching Award, Indiana University Bloomington, 2013*

"These awards were established to recognize and enhance excellent teaching at Indiana University, especially at the undergraduate level."

*Best of 2012: MIT Technology Review arXiv Blog*

Robert Templeman, Zahid Rahman, David Crandall, and Apu Kapadia, "PlaceRaider: Virtual Theft in Physical Spaces with Smartphones," CoRR arXiv Technical Report arXiv:1209.5982, September 2012.

*Runner-up for PET Award, 2009: Outstanding Research in Privacy Enhancing Technologies*

Patrick P. Tsang, Man Ho Au, Apu Kapadia, and Sean W. Smith, "PEREA: Towards Practical TTP-Free Revocation in Anonymous Authentication," In Proceedings of The 15th ACM Conference on Computer and Communication Security (CCS), 2008

*Runner-up for PET Award, 2009: Outstanding Research in Privacy Enhancing Technologies*

Patrick P. Tsang, Man Ho Au, Apu Kapadia, and Sean W. Smith, "Blacklistable Anonymous Credentials: Blocking Misbehaving Users without TTPs," In Proceedings of the 14th ACM Conference on Computer and Communication Security (CCS), 2007

*Honorable Mention Award (Runner-up for Best Paper)*

Apu Kapadia, Tristan Henderson, Jeffrey Fielding, and David Kotz, "Virtual Walls: Protecting Digital Privacy in Pervasive Environments," In Proceedings of The Fifth International Conference on Pervasive Computing (PERVASIVE), 2007

*Institute of Security Technology Studies (ISTS) Post-Doctoral Research Fellowship*

Funded by Department of Homeland Security (DHS)

Dartmouth College, October 2005–June 2008

*Department of Energy (DoE) High-Performance Computer Science Fellowship*

Four Year Research Fellowship, September 2001–August 2005

*Outstanding Department Service Award*

Department of Computer Science, University of Illinois at Urbana-Champaign. May 2003

*Invited Paper, The Journal of Supercomputing*

Annette C. Feng, Apu C. Kapadia, Wu-chun Feng, and Geneva G. Belford, "Packet Spacing: An Enabling Mechanism for Delivering Multimedia Content in Computational Grids," 23(1):51–66 (2002)

*Outstanding Class Project (CS 497 RHK)*

First Annual Illinois Computer Systems Symposium (iCSS), 2002

## Grants

**Personal Share: \$1.7M**

### As Principal Investigator (PI)

NSF Secure and Trustworthy Cyberspace (SaTC), IU Award: \$800K (Personal Share: \$400K, Total Award: \$1.2M), PI  
*TWC SBE: Medium: Collaborative: A Socio-Technical Approach to Privacy in a Camera-Rich World*  
Co-PI: David Crandall  
Collaborative award with Denise Anthony, Dartmouth College  
CNS-1408730  
October 2014–September 2018

NSF Secure and Trustworthy Cyberspace (SaTC), \$559K (projected, with REU Supplement), PI  
*CAREER: Sensible Privacy: Pragmatic Privacy Controls in an Era of Sensor-Enabled Computing*  
CNS-1252697  
September 2013–August 2018 (estimated)

NSF Secure and Trustworthy Cyberspace (SaTC), IU Award: \$244K (Personal Share: \$122K, Total Award: \$366K), PI  
*TWC SBES: Medium: Collaborative: Crowdsourcing Security*  
Co-PI: Kelly Caine (now at Clemson University)  
Collaborative award with Michael Reiter, University of North Carolina at Chapel Hill  
CNS-1228364  
September 2012–August 2014

NSF Secure and Trustworthy Cyberspace (SaTC), \$25K, PI  
*Workshop Organization Supplement: A Series of Workshops on Security in Emerging Areas at the 2012 ACM Conference on Computer and Communications Security*  
CNS-1245825  
July 2012–June 2014

NSF Networking Technology and Systems (NeTS), \$150K (Total Award: \$300K), PI  
*NeTS: Small: Collaborative Research: ReDS: Reputation for Directory Services in P2P Systems*  
Collaborative award with Matthew Wright, University of Texas Arlington  
CNS-1115693  
September 2011–August 2014

I3P, IU Award: \$305K (Personal Share: \$105K, Total Award: \$1.2M), PI  
*Developing Frameworks to Address Issues in Privacy*  
Co-PIs: Kelly Caine, Minaxi Gupta, Arun Chauhan  
Collaborative award with teams from: Carnegie Mellon University, Dartmouth College, University of California, Berkeley, and Georgia Tech  
I3P sub-award funded by Federal Prime DHS contract #2006-CS-001-000001  
February 1, 2011–July 31, 2013

NSF Trustworthy Computing, IU Award: \$286K (Total Award: \$420K) (with REU Supplement), PI  
*TC: Small: Collaborative Research: Improved Privacy through Exposure Control*  
Collaborative proposal with Adam J. Lee, University of Pittsburgh  
CNS-1016603  
September 2010–August 2014

Microsoft Research (MSR) Equipment Grant, \$5K, PI

Center for Applied Cybersecurity Research (CACR) Internal Grant, \$50K (Personal Share: \$25K), PI  
*Sourcing the Experts: Distributed Social Networks for Privacy-Aware Knowledge Sharing*  
Co-PIs: Katy Börner, Johan Bollen, Filippo Menczer  
CACR Research Grant funded by an award from the Lilly Endowment to the Pervasive Technology Institute  
and the Center for Applied Cybersecurity Research  
July 2010–June 2011

### As Co-PI

Google Research Award, \$46K (Personal Share: \$23K), Co-PI  
*Privacy-Enhanced Life-Logging with Wearable Cameras*  
PI: David Crandall  
March 2014–Feb 2015 (estimated)

Indiana University Faculty Research Support Program, \$40K (Personal Share: \$15K), Co-PI  
(PI Yong-Yeol Ahn and Co-PI Fabio Rojas)  
*Do Revelations about Internet Security have a Chilling Effect?*  
Office of the Vice Provost of Research at Indiana University Bloomington  
September 2014–February 2015

Indiana University Faculty Research Support Program, \$50K (Personal Share: \$25K), Co-PI with David  
Crandall  
*FRSP Type II: Vision for Privacy: Privacy-Aware Crowd Sensing Using Opportunistic Imagery*  
Office of the Vice Provost of Research at Indiana University-Bloomington  
January 2013–December 2013

## Publications

### Peer-Reviewed Journal and Magazine Articles

Tousif Ahmed, Roberto Hoyle, Patrick Shaffer, Kay Connelly, David Crandall, and Apu Kapadia, "Understanding Physical Safety, Security, and Privacy Concerns of People with Visual Impairments," **IEEE Internet Computing**, Special Issue on Usable Security (To appear: May/June 2017)  
JCR 5-Year Impact Factor in 2015: 2.3

Minho Shin, Cory Cornelius, Apu Kapadia, Nikos Triandopoulos, and David Kotz, "Location Privacy for Mobile Crowd Sensing through Population Mapping," **Sensors**, Vol 15, Issue 7, pp. 15285–15310 (June 2015).  
JCR 5-Year Impact Factor in 2015: 2.44

Ruj Akavipat, Mahdi N. Al-Ameen, Apu Kapadia, Zahid Rahman, Roman Schlegel, and Matthew Wright, "ReDS: A Framework for Reputation-Enhanced DHTs," **IEEE Transactions on Parallel and Distributed Systems (IEEE TPDS)**, Volume 25, Issue 2, pp. 321–331 (February 2014).  
JCR 5-Year Impact Factor in 2015: 2.75

Man Ho Au, Patrick P. Tsang, and Apu Kapadia, "PEREA: Practical TTP-Free Revocation of Repeatedly Misbehaving Anonymous Users," **ACM Transactions on Information and System Security (ACM TISSEC)**, Volume 14, Issue 4, Article 29, 34 pages (December 2011).  
JCR 5-Year Impact Factor in 2015: 1.61

Patrick P. Tsang, Apu Kapadia, Cory Cornelius, and Sean W. Smith, "Nymble: Blocking Misbehaving Users in Anonymizing Networks," **IEEE Transactions on Dependable and Secure Computing (IEEE TDSC)**, Volume 8, Number 2, pp. 256–269 (March–April 2011).  
JCR 5-Year Impact Factor in 2015: 1.91

Minho Shin, Cory Cornelius, Dan Peebles, Apu Kapadia, David Kotz, and Nikos Triandopoulos, "AnonySense: A System for Anonymous Opportunistic Sensing," *Journal of Pervasive and Mobile Computing (PMC)*, Volume 7, Issue 1, pp. 16–30 (February 2011).

JCR 5-Year Impact Factor in 2015: 2.37

Patrick P. Tsang, Man Ho Au, Apu Kapadia, and Sean W. Smith, "BLAC: Revoking Repeatedly Misbehaving Anonymous Users Without Relying on TTPs," *ACM Transactions on Information and System Security (ACM TISSEC)*, Volume 13, Issue 4, Article 39, 33 pages (December 2010).

JCR 5-Year Impact Factor in 2015: 1.61

Annette C. Feng, Apu C. Kapadia, Wu-chun Feng, and Geneva G. Belford, "Packet Spacing: An Enabling Mechanism for Delivering Multimedia Content in Computational Grids," *The Journal of Supercomputing (JSC)*, 23(1):51–66 (2002), (*Invited submission*).

JCR 5-Year Impact Factor in 2015: 1.013

### **Peer-Reviewed Conference and Workshop Papers**

Roberto Hoyle, Srijita Das, Apu Kapadia, Adam Lee, and Kami Vaniea, "Was my message read?: Privacy and Signaling on Facebook Messenger," To appear in The ACM SIGCHI Conference on Human Factors in Computing Systems (**CHI '17**), Denver, CO, USA, May 6–11, 2017.

Roberto Hoyle, Srijita Das, Apu Kapadia, Adam Lee, and Kami Vaniea, "Viewing the Viewers: Publishers' Desires and Viewers' Privacy Concerns in Social Networks," To appear in ACM Conference on Computer Supported Cooperative Work (**CSCW '17**), Portland, OR, USA, February 25–March 1, 2017.

Tousif Ahmed, Patrick Shaffer, Kay Connelly, David Crandall, and Apu Kapadia, "Addressing Physical Safety, Security, and Privacy for People with Visual Impairments," In Proceedings of the Twelfth Symposium on Usable Privacy and Security (**SOUPS '16**), pp. 341–354, Denver, CO, USA, June 22–24, 2016.

*Invited (peer reviewed article) to IEEE Internet Computing Special Issue on Usable Security*

Shirin Nilizadeh, Anne Groggel, Peter Lista, Srijita Das, Yong-Yeol Ahn, Apu Kapadia, and Fabio Rojas, "Twitter's Glass Ceiling: The Effect of Perceived Gender on Online Visibility," In Proceedings of The International AAAI Conference on Web and Social Media (**ICWSM '16**), pp. 289–298, Cologne, Germany, May 17–20, 2016.

Mohammed Korayem, Robert Templeman, Dennis Chen, David Crandall, and Apu Kapadia, "Enhancing Lifelogging Privacy by Detecting Screens," In Proceedings of The ACM SIGCHI Conference on Human Factors in Computing Systems (**CHI '16**), pp. 4309–4314, San Jose, CA, USA, May 7–12, 2016.

*Honorable Mention Award (Top 4% of Submissions)*

Zheng Dong, Apu Kapadia, Jim Blythe, L. Jean Camp, "Beyond the lock icon: real-time detection of phishing websites using public key certificates," In Proceedings of APWG Symposium on Electronic Crime Research (**eCrime '15**) pp. 112, May 26–29, 2015.

*Honorable Mention for Best Paper Award*

Tousif Ahmed, Roberto Hoyle, Kay Connelly, David Crandall, and Apu Kapadia, "Privacy Concerns and Behaviors of People with Visual Impairments," In Proceedings of The ACM SIGCHI Conference on Human Factors in Computing Systems (**CHI '15**), pp. 3523–3532, Seoul, South Korea, April 18–23, 2015.

Qatrunnada Ismail, Tousif Ahmed, Apu Kapadia, and Michael K. Reiter, "Crowdsourced Exploration of Security Configurations," In Proceedings of The ACM SIGCHI Conference on Human Factors in Computing Systems (**CHI '15**), pp. 467–476, Seoul, South Korea, April 18–23, 2015.

Roberto Hoyle, Robert Templeman, Denise Anthony, David Crandall, and Apu Kapadia, "Sensitive Lifelogs: A Privacy Analysis of Photos from Wearable Cameras," In Proceedings of The ACM SIGCHI Conference on Human Factors in Computing Systems (**CHI '15**), pp. 1645–1648, Seoul, South Korea, April 18–23, 2015.

Sameer Patil, Roberto Hoyle, Roman Schlegel, Apu Kapadia, and Adam Lee, "Interrupt Now or Inform Later?: Comparing Immediate and Delayed Privacy Feedback," In Proceedings of The ACM SIGCHI Conference on Human Factors in Computing Systems (**CHI '15**), pp. 1415–1418, Seoul, South Korea, April 18–23, 2015.

Shirin Nilizadeh, Apu Kapadia, and Yong-Yeol Ahn, "Community-Enhanced De-anonymization of Online Social Networks," In Proceedings of the 21st ACM Conference on Computer and Communications Security (**CCS '14**), pp. 537–548, Scottsdale, Arizona, USA, November 3–7, 2014.

Robert Templeman, Roberto Hoyle, Apu Kapadia, and David Crandall, "Reactive Security: Responding to Visual Stimuli from Wearable Cameras," In Proceedings of the Workshop on Usable Privacy & Security for wearable and domestic ubiquitous DEVICES (**UPSIDE '14**), pp. 1297–1306, Seattle, WA, USA, Sep 14, 2014.

Roberto Hoyle, Robert Templeman, Steven Armes, Denise Anthony, David Crandall, and Apu Kapadia, "Privacy Behaviors of Lifeloggers using Wearable Cameras," In Proceedings of The ACM International Joint Conference on Pervasive and Ubiquitous Computing (**UbiComp '14**), pp. 571–582, Seattle, WA, USA, September 13–17, 2014.

Luke Hutton, Tristan Henderson, and Apu Kapadia, "'Here I am, now pay me!': Privacy Concerns in Incentivised Location-Sharing Systems," In Proceedings of the 7th ACM Conference on Security and Privacy in Wireless and Mobile Networks (**WiSec '14**), pp. 81–86, Oxford, UK, July 23–25, 2014.

Sameer Patil, Roman Schlegel, Apu Kapadia, and Adam J. Lee, "Reflection or Action?: How Feedback and Control Affect Location Sharing Decisions," In Proceedings of The ACM SIGCHI Conference on Human Factors in Computing Systems (**CHI '14**), pp. 101–110, Toronto, Canada, Apr 26–May 1, 2014.

Robert Templeman, Mohammed Korayem, David Crandall, and Apu Kapadia, "PlaceAvider: Steering First-Person Cameras away from Sensitive Spaces," In Proceedings of The 21st Annual Network & Distributed System Security Symposium (**NDSS '14**), San Diego, CA, February 23–26, 2014.

Vaibhav Garg, Sameer Patil, Apu Kapadia, and L. Jean Camp, Peer-produced Privacy Protection, In Proceedings of the IEEE International Symposium on Technology and Society (**ISTAS '13**), pp. 147–154, Toronto, Canada, June 27–29, 2013.

Robert Templeman, Zahid Rahman, David Crandall, and Apu Kapadia, "PlaceRaider: Virtual Theft in Physical Spaces with Smartphones," In Proceedings of The 20th Annual Network & Distributed System Security Symposium (**NDSS '13**), San Diego, CA, February 24–27, 2013. *MIT Technology Review arXiv Blog's "Best of 2012"*

Shirin Nilizadeh, Sonia Jahid, Prateek Mittal, Nikita Borisov, and Apu Kapadia, "Cachet: A Decentralized Architecture for Privacy Preserving Social Networking with Caching," In Proceedings of The 8th ACM International Conference on Emerging Networking Experiments and Technologies (**CoNEXT '12**), pp. 337–348, Nice, France, December 10–13, 2012.

Man Ho Au and Apu Kapadia, "PERM: Practical Reputation-Based Blacklisting without TTPs," In Proceedings of The 19th ACM Conference on Computer and Communication Security (**CCS '12**), pp. 929–940, Raleigh, NC, October 16–18, 2012.

Zheng Dong, Vaibhav Garg, Jean Camp, and Apu Kapadia, "Pools, Clubs and Security: Designing for a

Party Not a Person,” In Proceedings of The New Security Paradigms Workshop (**NSPW '12**), pp. 77–86, Bertinoro, Italy, September 19–21, 2012.

Robert Templeman and Apu Kapadia, “GANGRENE: Exploring the Mortality of Flash Memory,” In Proceedings of The 7th USENIX Workshop on Hot Topics in Security (**HotSec '12**), Bellevue, WA, August 7, 2012.

Sameer Patil, Greg Norcie, Apu Kapadia, and Adam J. Lee, “Reasons, Rewards, Regrets: Privacy Considerations in Location Sharing as an Interactive Practice,” In Proceedings of The Eighth Symposium on Usable Privacy and Security (**SOUPS '12**), Article 5, 15 pages, Washington DC, July 11–13, 2012.

Yann Le Gall, Adam J. Lee, and Apu Kapadia, “PlexC: A Policy Language for Exposure Control,” In Proceedings of The 17th ACM Symposium on Access Control Models and Technologies (**SACMAT '12**), pp. 219–228, Newark, NJ, USA, June 20–22, 2012.

Sonia Jahid, Shirin Nilizadeh, Prateek Mittal, Nikita Borisov, and Apu Kapadia, “DECENT: A Decentralized Architecture for Enforcing Privacy in Online Social Networks,” In Proceedings of the 4th IEEE International Workshop on Security and Social Networking (**SESOC '12**), pp. 326–332, Lugano, Switzerland, March 19, 2012.

Sameer Patil, Yann Le Gall, Adam J. Lee, and Apu Kapadia, “My Privacy Policy: Exploring End-user Specification of Free-form Location Access Rules,” In Proceedings of the Workshop on Usable Security (**USEC '12**), pp. 86–97, Bonaire, March 2, 2012. Springer-Verlag LNCS 7398.

Man Ho Au, Apu Kapadia, and Willy Susilo, “BLACR: TTP-Free Blacklistable Anonymous Credentials with Reputation,” In Proceedings of the 19th Annual Network & Distributed System Security Symposium (**NDSS '12**), San Diego, CA, February 5–8, 2012.

Huina Mao, Xin Shuai, and Apu Kapadia, “Loose Tweets: An Analysis of Privacy Leaks on Twitter,” In Proceedings of the 2011 ACM Workshop on Privacy in the Electronic Society (**WPES '11**), pp. 1–11, Chicago, Illinois, October 17, 2011.

Shirin Nilizadeh, Naveed Alam, Nathaniel Husted, and Apu Kapadia, “Pythia: A Privacy Aware, Peer-to-Peer Network for Social Search,” In Proceedings of the 2011 ACM Workshop on Privacy in the Electronic Society (**WPES '11**), pp. 43–48, Chicago, Illinois, October 17, 2011.

Roman Schlegel, Apu Kapadia, and Adam J. Lee, “Eyeing your Exposure: Quantifying and Controlling Information Sharing for Improved Privacy,” In Proceedings of the 2011 Symposium on Usable Privacy and Security (**SOUPS '11**), Article 14, 14 pages, Pittsburgh, PA, July 20–22, 2011.

Apu Kapadia, Steven Myers, XiaoFeng Wang and Geoffrey Fox, “Toward securing sensor clouds,” In Proceedings of The 2011 International Symposium on Collaborative Technologies and Systems (**CTS '11**), pp. 280–289, Philadelphia, PA, May 23–27, 2011.

Roman Schlegel, Kehuan Zhang, Xiaoyong Zhou, Mehool Intwala, Apu Kapadia, and XiaoFeng Wang, “Soundcomber: A Stealthy and Context-Aware Sound Trojan for Smartphones,” In Proceedings of the 18th Annual Network and Distributed System Security Symposium (**NDSS '11**), pp. 17–33, San Diego, CA, February 6–9, 2011.

Emily K. Adams, Mehool Intwala, and Apu Kapadia, “MeD-Lights: A Usable Metaphor for Patient Controlled Access to Electronic Health Records,” In Proceedings of the 1st ACM International Health Informatics Symposium (**IHI '10**), pp. 800–808, Arlington, VA, November 11–12, 2010.

Ruj Akavipat, Apurv Dhadphale, Apu Kapadia, and Matthew Wright, “ReDS: Reputation for Directory

Services in P2P Systems,” In Proceedings of the ACM CCS Workshop on Insider Threats (**WITS '10**), pp. 47–54, Chicago, IL, October 8, 2010.

Michael N. Gagnon, John Truelove, Apu Kapadia, Joshua Haines, and Orton Huang, “Towards Net-centric Cyber Survivability for Ballistic Missile Defense,” 1st International Symposium on Architecting Critical Systems Federated (**ISARCS '10**), pp. 125–141, Prague, Czech Republic, June 23–25, 2010. Springer-Verlag, LNCS 6150.

Apu Kapadia, Steven Myers, XiaoFeng Wang and Geoffrey Fox, “Secure Cloud Computing with Brokered Trusted Sensor Networks,” In Proceedings of The 2010 International Symposium on Collaborative Technologies and Systems (**CTS '10**), pp. 581–592, Chicago, IL, May 17–21, 2010.

Patrick P. Tsang, Man Ho Au, Apu Kapadia, and Sean W. Smith, “PEREA: Towards Practical TTP-Free Revocation in Anonymous Authentication,” In Proceedings of The 15th ACM Conference on Computer and Communication Security (**CCS '08**), pp. 333–344, Alexandria, VA, October 27–31, 2008.

*Runner-up for PET Award, 2009: Outstanding Research in Privacy Enhancing Technologies*

Katelin Bailey, Apu Kapadia, Linden Vongsathorn, and Sean W. Smith, “TwoKind Authentication: Protecting Private Information in Untrustworthy Environments,” In Proceedings of The Seventh ACM Workshop on Privacy in the Electronic Society (**WPES '08**), pp. 39–43, Alexandria, VA, October 27, 2008.

Cory Cornelius, Apu Kapadia, David Kotz, Dan Peebles, Minh Shin and Nikos Triandopoulos, “AnonySense: Privacy-Aware People-Centric Sensing,” In Proceedings of The Sixth ACM/USENIX International Conference on Mobile Systems, Applications, and Services (**MOBISYS '08**), pp. 211–224, Breckenridge, Colorado, June 17–20, 2008.

Apu Kapadia, Nikos Triandopoulos, Cory Cornelius, Daniel Peebles, and David Kotz, “AnonySense: Opportunistic and Privacy-Preserving Context Collection,” In Proceedings of The Sixth International Conference on Pervasive Computing (**PERVASIVE '08**), pp. 280–297, Sydney, Australia, May 19–22, 2008. Springer-Verlag, LNCS 5013.

Apu Kapadia and Nikos Triandopoulos, “Halo: High-Assurance Locate for Distributed Hash Tables,” In Proceedings of the 15th Annual Network and Distributed System Security Symposium (**NDSS '08**), pp. 61–79, San Diego, CA, February 10–13, 2008.

Patrick P. Tsang, Man Ho Au, Apu Kapadia, and Sean W. Smith, “Blacklistable Anonymous Credentials: Blocking Misbehaving Users without TTPs,” In Proceedings of the 14th ACM Conference on Computer and Communication Security (**CCS '07**), pp. 72–81, Alexandria, VA, Oct 29–Nov 2, 2007.

*Runner-up for PET Award, 2009: Outstanding Research in Privacy Enhancing Technologies*

Peter C. Johnson, Apu Kapadia, Patrick P. Tsang, and Sean W. Smith, “Nymble: Anonymous IP-Address Blocking,” In Proceedings of The Seventh International Symposium on Privacy Enhancing Technologies (**PET '07**), pp. 113–133, Ottawa, Canada, June 20–22, 2007. Springer-Verlag, LNCS 4776.

Apu Kapadia, Prasad Naldurg, and Roy H. Campbell, “Distributed Enforcement of Unlinkability Policies: Looking Beyond the Chinese Wall,” In Proceedings of The Eighth IEEE Workshop on Policies for Distributed Systems and Networks (**POLICY '07**), pp. 141–150, Bologna, Italy, June 13–15, 2007.

Apu Kapadia, Tristan Henderson, Jeffrey Fielding, and David Kotz, “Virtual Walls: Protecting Digital Privacy in Pervasive Environments,” In Proceedings of The Fifth International Conference on Pervasive Computing (**PERVASIVE '07**), pp. 162–179, Toronto, Canada, May 13–16, 2007. Springer-Verlag, LNCS 4480.

*Honorable Mention Award (Runner-up for Best Paper)*

Apu Kapadia, Patrick P. Tsang and Sean W. Smith, “Attribute-Based Publishing with Hidden Credentials



and Hidden Policies,” In Proceedings of The Fourteenth Annual Network and Distributed System Security Symposium (**NDSS '07**), pp. 179–192, San Diego, CA, February 28–March 2, 2007.

Apu Kapadia, Geetanjali Sampemane, and Roy H. Campbell, “KNOW Why Your Access Was Denied: Regulating Feedback for Usable Security,” In Proceedings of Eleventh ACM Conference on Computer and Communications Security (**CCS '04**), pp. 52–61, Washington DC, October 25-29, 2004.

Apu Kapadia, Prasad Naldurg, and Roy H. Campbell, “Routing with Confidence: Supporting Discretionary Routing Requirements in Policy Based Networks,” In Proceedings of Fifth IEEE International Workshop on Policies for Distributed Systems and Networks (**POLICY '04**), pp. 45–54, Yorktown Heights, New York, June 7-9, 2004.

Wu-chun Feng, Apu Kapadia, and Sunil Thulasidasan, “GREEN: Proactive Queue Management over a Best-Effort Network,” In Proceedings of IEEE Global Telecommunications Conference (**GLOBECOM '02**), 21(1):1784-1788, Taipei, Taiwan, November 17-21, 2002.

Jalal Al-Muhtadi, Roy H. Campbell, Apu Kapadia, Dennis Mickunas, and Seung Yi, “Routing Through the Mist: Privacy Preserving Communication in Ubiquitous Computing Environments,” In Proceedings of The 22nd IEEE International Conference on Distributed Computing Systems (**ICDCS '02**), pp. 74–83, Vienna, Austria, July 2-5, 2002.

Apu Kapadia, Annette Feng, and Wu-chun Feng, “The Effects of Inter-Packet Spacing on the Delivery of Multimedia Content,” In Proceedings of The 21st IEEE International Conference on Distributed Computing Systems (**ICDCS '01**), pp. 665–672, Phoenix, Arizona, April 16-19, 2001.

Apu Kapadia, Jalal Al-Muhtadi, Roy H. Campbell, and Dennis Mickunas, “I-RBAC 2000: Secure Interoperability Using Dynamic Role Translation,” In Proceedings of The First International Conference on Internet Computing (**IC '00**), pp. 231–238, Las Vegas, Nevada, June 26-29, 2000.

### **Peer-Reviewed Posters, Poster Abstracts, Extended Abstracts, and Work-in-Progress Papers**

Mohammed Korayem, David Crandall, and Apu Kapadia, “Objectavoider: Detecting Sensitive Objects in Imagery from Wearable Cameras (Poster)”. In The 21st Annual Network & Distributed System Security Symposium (**NDSS '14**), San Diego, CA, February 23–26, 2014.

Roberto Hoyle, Sameer Patil, Dejanae White, Jerald Dawson, Paul Whalen, and Apu Kapadia, “Attire: Conveying Information Exposure through Avatar Apparel (Demo),” In Proceedings of The 2012 ACM Conference on Computer Supported Cooperative Work Companion (**CSCW '13**), pp. 19–22, San Antonio, Texas, USA, February 23–27, 2013.

Sameer Patil, Greg Norcie, Apu Kapadia, and Adam J. Lee, “‘Check out where I am!’: Location Sharing Motivations, Preferences, and Practices,” In Proceedings of the ACM SIGCHI Conference on Human Factors in Computing Systems Extended Abstracts (**CHI EA '12**), pp. 1997–2002, Austin, TX, May 5–10, 2012.

Sameer Patil and Apu Kapadia, “Are You Exposed? Conveying Information Exposure (Extended Abstracts),” In Proceedings of The 2012 ACM Conference on Computer Supported Cooperative Work Companion (**CSCW '12**), pp. 191–194, Seattle, WA, USA, February 11–15, 2012.

Matthew Wright, Apu Kapadia, Mohan Kumar, and Apurv Dhadphale, “ReDS: Reputation for Directory Services in P2P Systems (Extended Abstract),” In Proceedings of the 6th Annual Cyber Security and Information Intelligence Research Workshop (**CSIIRW '10**), Article 71, 4 pages, Oak Ridge, TN, April 21–23, 2010.

Fabeah Adu-Oppong, Casey K. Gardiner, Apu Kapadia, and Patrick P. Tsang, “Social Circles: Tackling Pri-

vacy in Social Networks (Poster Abstract),” Fourth Symposium on Usable Privacy and Security (**SOUPS '08**), Pittsburgh, Pennsylvania, July 23–25, 2008.

Minho Shin, Cory Cornelius, Daniel Peebles, Apu Kapadia, Patrick Tsang and David Kotz, “SenseRight: Reliable People-centric Sensing with Unreliable Participants (Poster Abstract),” The 6th ACM/USENIX International Conference on Mobile Systems, Applications, and Services (**MOBISYS '08**), Breckenridge, Colorado, June 17–20, 2008.

Katelin Bailey, Linden Vongsathorn, Apu Kapadia, Chris Masone, Sean W. Smith, “TwoKind Authentication: Usable Authenticators for Untrustworthy Environments (Poster Abstract),” In Proceedings of the Third Symposium on Usable Privacy and Security (**SOUPS '07**), pp. 169–170, Pittsburgh, Pennsylvania, July 18–20, 2007.

Patrick P. Tsang, Apu Kapadia, and Sean W. Smith, “Anonymous IP-Address Blocking in Tor with Trusted Computing (Work in Progress),” The Second Workshop on Advances in Trusted Computing (**WATC '06**), Tokyo, Japan, November 30–December 1, 2006.

Raquel Hill, Jalal Al-Muhtadi, Roy Campbell, Apu Kapadia, Prasad Naldurg, Anand Ranganathan, “A Middleware Architecture for Securing Ubiquitous Computing Cyber Infrastructures (Work in Progress),” ACM/IFIP/USENIX Fifth International Middleware Conference (**MIDDLEWARE '04**), Toronto, Canada, October 18th–22nd, 2004. Appears in IEEE Distributed Systems Online, 5(9), September 2004.

### **Peer-Reviewed Position Papers and Abstracts at Workshops without Proceedings**

Mohammed Korayem, Robert Templeman, Dennis Chen, Apu Kapadia, and David Crandall, “Enhancing lifelogging privacy through computer vision,” In ACM International Conference on Multimedia Workshop on Lifelogging Tools and Applications, 2016.

Patrick Shaffer, Tousif Ahmed, Roberto Hoyle, Kay Connelly, David Crandall, and Apu Kapadia, “Surveillance considerations concerning assistive devices for people with visual impairments,” In ACM SIGCHI Conference on Human Factors in Computing Systems Workshop on Everyday Surveillance, San Jose, CA, USA, 2016.

Tousif Ahmed, Roberto Hoyle, Patrick Shaffer, Kay Connelly, David Crandall, and Apu Kapadia, “Considering privacy implications of assistive devices for people with visual impairments,” ACM CHI Workshop on Interactive Systems in Healthcare (WISH), San Jose, CA, USA, 2016.

Roberto Hoyle, Apu Kapadia, and David Crandall, “Challenges in running wearable camera-related user studies,” In ACM Conference on Computer-Supported Cooperative Work and Social Computing Workshop on The Future of Networked Privacy: Challenges and Opportunities, 2015.

Sameer Patil and Apu Kapadia, “Are you exposed? Conveying information exposure.” Position paper for Workshop on Reconciling Privacy with Social Media at The ACM Conference on Computer Supported Cooperative Work (CSCW), Seattle, WA, USA, 2012.

Kavin Chandrasekaran, Srikanth Iyer, David Crandall, and Apu Kapadia, “Automated activity monitoring using Kinect,” Workshop on Evaluating Off-the-Shelf Technologies for Personal Health Monitoring at The ACM International Conference on Ubiquitous Computing (UbiComp), 2012.

### **Invited Journal and Magazine Articles (Not Peer-Reviewed)**

Apu Kapadia, “A Case (Study) For Usability in Secure Email Communication,” IEEE Security and Privacy, 5(2):80–84, March/April 2007.

**Invited Conference and Workshop Papers (Not Peer-Reviewed)**

Alana Libonati, Kelly Caine, Apu Kapadia, and Michael K. Reiter, "Defending Against Device Theft with Human Notarization," In Proceedings of The 10th IEEE International Conference on Collaborative Computing: Networking, Applications and Worksharing (**CollaborateCom '14**), Miami, FL, USA, October 22–25, 2014.

Apu Kapadia, David Kotz, and Nikos Triandopoulos, "Opportunistic Sensing: Security Challenges for the New Paradigm," In The First International Conference on Communication Systems and Networks (**COM-SNETS '09**), Bangalore, India, January 5–10, 2009.

**Theses**

Apu Kapadia, "Models for Privacy in Ubiquitous Computing Environments," Ph.D. Thesis, University of Illinois at Urbana-Champaign, October 2005.

Apu Kapadia, "I-RBAC 2000: A Dynamic Role Translation Model For Secure Interoperability," M.S. Thesis, University of Illinois at Urbana-Champaign, May 2001.

**Technical Reports**

Mohammed Korayem, Robert Templeman, Dennis Chen, David J. Crandall, and Apu Kapadia, "ScreenAvoider: Protecting Computer Screens from Ubiquitous Cameras," CoRR arXiv Technical Report arXiv:1412.0008, November 2014.

Robert Templeman, Zahid Rahman, David Crandall, and Apu Kapadia, "PlaceRaider: Virtual Theft in Physical Spaces with Smartphones," CoRR arXiv Technical Report arXiv:1209.5982, September 2012.

Ruj Akavipat, Mahdi N. Al-Ameen, Apu Kapadia, Zahid Rahman, Roman Schlegel, and Matthew Wright, "ReDS: A Framework for Reputation-Enhanced DHTs," CoRR arXiv Technical Report arXiv:1209.4867, September 2012.

Sonia Jahid, Shirin Nilizadeh, Prateek Mittal, Nikita Borisov, and Apu Kapadia, "DECENT: A Decentralized Architecture for Enforcing Privacy in Online Social Networks," CoRR arXiv Technical Report arXiv:1111.5377v1, November 2011.

Patrick P. Tsang, Man Ho Au, and Apu Kapadia, "PEREA: Practical TTP-Free Revocation of Repeatedly Misbehaving Anonymous Users," Indiana University Technical Report TR688, July 2011.

Shirin Nilizadeh, Naveed Alam, Nathaniel Husted, and Apu Kapadia, "Pythia: A Privacy Aware, Peer-to-Peer Network for Social Search," Indiana University Technical Report TR687, October 2010.

Patrick P. Tsang, Apu Kapadia, Cory Cornelius, and Sean W. Smith, "Nymble: Blocking Misbehaving Users in Anonymizing Networks," Dartmouth Computer Science Technical Report 2008-637, December 2008.

Patrick P. Tsang, Man Ho Au, Apu Kapadia and Sean W. Smith, "BLAC: Revoking Repeatedly Misbehaving Anonymous Users Without Relying on TTPs," Dartmouth Computer Science Technical Report 2008-635, October 2008.

Katelin Bailey, Apu Kapadia, Linden Vongsathorn, and Sean W. Smith, "TwoKind Authentication: Protecting Private Information in Untrustworthy Environments (Extended Version)," Dartmouth Computer Science Technical Report TR2008-632, August 2008.

Patrick P. Tsang, Man Ho Au, Apu Kapadia, and Sean W. Smith, "Blacklistable Anonymous Credentials:

Blocking Misbehaving Users without TTPs (Extended Version)," Dartmouth Computer Science Technical Report TR2007-601, September 2007.

Peter C. Johnson, Apu Kapadia, David Kotz, and Nikos Triandopoulos, "People-Centric Urban Sensing: Security Challenges for the New Paradigm," Dartmouth Computer Science Technical Report TR2007-586, Feb 2007.

Apu Kapadia, Prasad Naldurg, and Roy H. Campbell, "Distributed Enforcement of Unlinkability Policies: Looking Beyond the Chinese Wall," UIUC Technical Report UIUCDCS-R-2006-2689 (UILU-ENG-2006-1718), February 2006.

Apu Kapadia, Prasad Naldurg, and Roy H. Campbell, "Routing with Confidence: A Model for Trustworthy Communication," UIUC Technical Report UIUCDCS-R-2006-2680 (UILU-ENG-2006-1707), Jan 2006.

Apu Kapadia, Wu-chun Feng, and Roy H. Campbell, "GREEN: A TCP Equation-Based Approach to Active Queue Management," UIUC Technical Report: UIUCDCS-R-2004-2408/UILU-ENG-2004-1710, February 2004.

## Academic Activities

### Teaching Experience

G: Graduate course; U: Undergraduate course; U/G: Undergraduate and Graduate course

School of Informatics and Computing, Indiana University Bloomington  
*Instructor, CSCI-B 649/INFO-I 520: Security For Networked Systems (G)* Spring 2015  
*Instructor, CSCI-P 538: Computer Networks (G)* Fall 2014  
*Instructor, CSCI-B 649/INFO-I 590: Advanced Topics in Privacy (G)* Spring 2014  
*Instructor, CSCI-P 538: Computer Networks (G)* Fall 2013  
*Instructor, CSCI-B 649/INFO-I 430/520: Security For Networked Systems (U/G)* Spring 2013  
*Instructor, INFO-I 230: Analytical Foundations of Security (U)* Fall 2012  
*Instructor, CSCI-B 649/INFO-I 433/533: Systems & Protocol Security & Info. Assurance (U/G)* Spring 2012  
*Instructor, CSCI-B 649/INFO-I 590: Advanced Topics in Privacy (G)* Fall 2011  
*Instructor, I-308: Information Representation (U)* Spring 2011  
*Instructor, CSCI-B 649/INFO-I 590: Advanced Topics in Privacy (G)* Fall 2010  
*Instructor, INFO-I 400/590: Advanced Security and Privacy (U/G)* Spring 2010  
*Instructor, INFO-I 590: Advanced Topics in Privacy (G)* Fall 2009

*Instructor, CS 38: Security and Privacy (U/G)* Fall 2007  
 Department of Computer Science, Dartmouth College

*Faculty supervisor of Security Reading Group Seminar* Sep 2009–present  
 School of Informatics and Computing, Indiana University Bloomington

*Founder and facilitator of Security Reading Group Seminar* Nov 2005–Aug 2008  
 Institute for Security Technology Studies (ISTS), Dartmouth College

*Co-founder and co-facilitator of Security Reading Group Seminar* Sep 2000–May 2005  
 Department of Computer Science, University of Illinois at Urbana-Champaign

### Master Classes

*SICSA Masterclass: Mobile User Studies and Experience Sampling* August, 2012  
 Distinguished SICSA Visitor (Scottish Informatics and Computer Science Alliance)  
 Two-day master class held at University of St Andrews and University of Glasgow  
 Co-instructed with Tristan Henderson

### Outreach Activities

*Video host* October, 2010  
 Social Networking Do's and Don'ts (4 min, 19 sec)  
<http://www.securitymatters.iu.edu/social-networking/>  
 Produced by the Center for Applied Cybersecurity Research  
 Indiana University Bloomington

*Co-Lead Instructor* June 23–27, 2008  
 Make and Break Cryptographic Security Summer Camp for Grades 10–12  
 Department of Computer Science, Dartmouth College

*Lead Instructor* June 25–29, 2007  
 Cybersecurity Summer Camp for Grades 10–12  
 Department of Computer Science, Dartmouth College

*Security and Programming Instructor* July 10–28, 2006  
Summer Robotics Camp  
Camp I (Grades 6–8), Camp II (Grades 6–8), and Camp III (Grade 9)  
Department of Computer Science, Dartmouth College

**PhD Thesis Committees**

Sumayah Alrwais Indiana University	Defended Dec 2016
Roberto Hoyle Chair, Indiana University	Defended July 2016
Aarathi Prasad Dartmouth College	Defended April 2016
Zheng Dong Indiana University	Defended Aug 2015
Mohammed Korayem Indiana University	Defended May 2015
Roberto Templeman Chair, Indiana University	Defended Dec 2014
Xiaoyong Zhou Indiana University	Defended July 2014
Shirin Nilizadeh Chair, Indiana University	Defended June 2014
Nathaniel Husted Indiana University	Defended May 2014
Zhou Li Indiana University	Defended Nov 2013
Sonia Jahid University of Illinois at Urbana-Champaign	Defended Jul 2013
Vaibhav Garg Indiana University	Defended Dec 2012
Kehuan Zhang Indiana University	Defended Aug 2012
Youngsang Shin Indiana University	Defended Jul 2011
Alexander Iliev Dartmouth College	Defended Sep 2008
Andrew Kaizer Indiana University	Proposed Oct 2016

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Qatrunnada Ismail Chair, Indiana University	Proposed May 2016
Alana Libonati University of North Carolina at Chapel Hill	Proposed Sep 2014
John-Paul Verkamp Indiana University	Proposed Aug 2013
Christopher Dunn Indiana University	Proposed Aug 2013

**Advising**

Sameer Patil (Postdoc) School of Informatics and Computing, Indiana University Bloomington	Spring 2011–Summer 2012
Shirin Nilizadeh (Postdoc) School of Informatics and Computing, Indiana University Bloomington	Summer 2014–present
Srijita Das (PhD) School of Informatics and Computing, Indiana University Bloomington	Fall 2014–Current
Zheng Dong (PhD) Co-advised with Jean Camp School of Informatics and Computing, Indiana University Bloomington	Fall 2011–Current
Tousif Eshan (PhD) School of Informatics and Computing, Indiana University Bloomington	Fall 2013–Current
Roberto Hoyle (PhD) School of Informatics and Computing, Indiana University Bloomington	Summer 2012–Current
Qatrunnada Ismail (PhD) School of Informatics and Computing, Indiana University Bloomington	Fall 2013–Current
Shirin Nilizadeh (PhD) School of Informatics and Computing, Indiana University Bloomington	Fall 2010–Spring 2014
Greg Norcie (PhD) School of Informatics and Computing, Indiana University Bloomington	Fall 2011–Spring 2012
Zahidur Rahman (PhD) School of Informatics and Computing, Indiana University Bloomington	Fall 2011–on leave
Robert Templeman (PhD) School of Informatics and Computing, Indiana University Bloomington	Fall 2011–Fall 2014
Naveed Alam (MSSI) School of Informatics and Computing, Indiana University Bloomington	Fall 2010–May 2011
Roman Schlegel (PhD, Visiting Scholar) City University of Hong Kong Visiting School of Informatics and Computing, Indiana University Bloomington	Spring 2011–Fall 2011

Roman Schlegel (PhD, Intern)  
City University of Hong Kong  
Visiting School of Informatics and Computing, Indiana University Bloomington

Fall 2009

### Graduate Mentoring

Patrick P. Tsang (PhD student)  
Department of Computer Science, Dartmouth College

Fall 2005–Summer 2008

Peter C. Johnson (Masters student)  
Department of Computer Science, Dartmouth College

Fall 2006–Summer 2007

### Undergraduate Mentoring

#### *Undergraduate students*

Zhipeng Tian, Indiana University Bloomington  
Anthony Monaco, Indiana University Bloomington  
Paul Whalen, NSF REU, Indiana University Bloomington  
Steven Armes, NSF REU, Indiana University Bloomington  
Tadeusz Reyher, NSF REU, Indiana University Bloomington

Jeffrey Fielding, Dartmouth College

#### *Summer Interns (HBCU Internship Program), Indiana University Bloomington*

Ashley Clodfelter, North Carolina A&T State University, 2011  
Alana Anderson, North Carolina A&T State University, 2011  
Cornelius Myles, Mississippi Valley State University, 2012  
Jerald Dawson, Jackson State University, 2012  
Dejanae White, North Carolina A&T State University, 2012  
*Our research was published as a demo abstract at the ACM Conference on Computer Supported Cooperative Work (CSCW '13).*  
Ahmal Baloubi, Shaw University, 2013  
Jarvis Brewer, Savannah State University, 2013  
Joshua Pinckney-Pierce, University of the District of Columbia, 2014  
Joshua Sherfield, Norfolk State University, 2014

#### *Undergraduate interns for Women in Science Project (WISP), Dartmouth College*

Katelin Bailey, Linden Vongsathorn  
Our research was published as a poster abstract at the Symposium on Usable Privacy and Security (SOUPS '07), and as a short paper at the Workshop on Privacy in the Electronic Society (WPES '08).

Casey Gardiner, Fabeah Adu-Oppong

Our research was published as a poster abstract at the Symposium on Usable Privacy and Security (SOUPS '08)



## Research Appointments

### Indiana University Bloomington

ASSOCIATE PROFESSOR OF COMPUTER SCIENCE AND INFORMATICS, School of Informatics and Computing Jul 2015–Present

ASSISTANT PROFESSOR OF COMPUTER SCIENCE AND INFORMATICS, School of Informatics and Computing Sep 2009–Jun 2015

### MIT Lincoln Laboratory

MEMBER OF TECHNICAL STAFF, Information Systems Technology Group Research position exploring topics such as Intrusion Detection Sep 2008–Aug 2009

### Dartmouth College

RESEARCH ASSISTANT PROFESSOR, Department of Computer Science Jul 2008–Aug 2008

POST-DOCTORAL RESEARCH FELLOW, Institute for Security Technology Studies PKI/Trust Lab with Prof. Sean W. Smith, and Center for Mobile Computing (CMC) with Prof. David Kotz Oct 2005–Jun 2008

### Microsoft Research India, Bangalore (MSRI)

VISITING RESEARCHER, Rigorous Software Engineering Group (RSE) Policy languages for privacy Aug 2007

### University of Illinois at Urbana-Champaign (UIUC)

DOE RESEARCH FELLOW Advisor: Prof. Roy H. Campbell Anonymity, privacy, security aware routing, and policy protection Sep 2001–Aug 2005

RESEARCH ASSISTANT, Systems Software Research Group Advisor: Prof. Roy H. Campbell Secure interoperability using dynamic role translation Sep 1999–Aug 2001

### Los Alamos National Laboratory (LANL)

GRADUATE RESEARCH ASSISTANT, RADIANT Group Mentor: Prof. Wu-chun Feng Proactive queue management schemes May 2002–Aug 2002

GRADUATE RESEARCH ASSISTANT, RADIANT Group Mentor: Prof. Wu-chun Feng Rate-based protocols for congestion control May 2000–Aug 2000

### National Center for Supercomputing Applications (NCSA)

RESEARCH ASSISTANT, Horizon Group Implemented a distributed version of the Horizon Browser using RMI Jun 1999–Aug 1999

RESEARCH ASSISTANT, Hierarchical Data Format Group Sep 1998–May 1999

Performance evaluation of “chunking” for PO.DAAC’s (JPL, NASA) datasets

UNDERGRADUATE RESEARCH PROGRAMMER, Hierarchical Data Format Group  
Implemented a distributed version of the Java HDF Viewer using Java servlets Jan 1997–Jun 1997

## Industrial Appointments

### Jet Propulsion Laboratory (NASA)

SUMMER HIRE, Physical Oceanography DAAC (PO.DAAC)  
Developed Java client and server code to serve satellite data Jul 1998–Aug 1998

### Vosaic

UNDERGRADUATE RESEARCH PROGRAMMER  
Reflector code for streaming multimedia between Reflectors and RTSP servers Aug 1997–May 1998

### Strategic Technology Resources

SUMMER INTERN  
Developed a large multithreaded client application for an ISP system Jun 1997–Aug 1997

## Invited Talks

“When Electronic Privacy Gets Physical: Privacy in the Age of Sensors,”  
CS Colloquium, Dartmouth College, November 2016  
Privacy Seminar, Carnegie Mellon University, November 2016  
Distinguished Seminar, CyLab Carnegie Mellon University, October 2016  
CS Colloquium, University of Pittsburgh, September 2016  
Information Privacy Workshop at iConference, March 2016

“Privacy in the Age of Pervasive Cameras: When Electronic Privacy gets Physical,”  
Distinguished Lecture Series, Laboratory of Education and Research in Security Assured Information Systems (LERSAIS), University of Pittsburgh, March 2015.  
Indiana University Bloomington, CS Colloquium, February 2015.

“When Electronic Privacy gets Physical”  
Panelist, *Future of Privacy*, at NSF Secure and Trustworthy Cyberspace (SaTC) Principal Investigators’ Meeting, January 2015.

“Privacy in the Age of Pervasive Cameras”  
Dartmouth College, May 2014.  
Distinguished Lecturer Series, Kansas State University, April 2014.  
Security Seminar, Georgia Tech, April 2014.

“PlaceAvoider: Steering First-Person Cameras away from Sensitive Spaces”  
Department Colloquium, UNC Chapel Hill, February 2014.  
MSR Talk Series, Microsoft Research Redmond, February 2014.

“PlaceRaider: Virtual Theft in Physical Spaces with Smartphones”  
CMU CyLab Seminar, October 2013.  
AT&T Labs, October 2013.  
IEEE International Symposium on Technology and Society (ISTAS), June 2013.

University of Michigan, April 2013.

Kelley Technology Management Club, Indiana University, April 2013.

Palo Alto Research Center (PARC), February 2013.

Qualcomm Research Silicon Valley (QRSV), February 2013.

“(Ab)using Smartphone Sensors: Attacking and Reining in Privacy”

Distinguished Speaker, Workshop on Information Security and Privacy, Colorado Research Institute for Security and Privacy (CRISP), April 2013.

“Enhanced Privacy Through Exposure Control”

University of Glasgow, Scotland, August 2012.

I3P Privacy Workshop: Perceptions, Policies and Trade-offs, June 2012.

“(Ab)using Smartphone Sensors: Attacking and Reining in Privacy”

Information Trust Institute, University of Illinois at Urbana-Champaign, March 2012.

“Soundcomber: A Stealthy and Context-Aware Sound Trojan for Smartphones”

University of St Andrews, Scotland, August 2012.

Purdue University, December 2011.

“Halo: High-Assurance Searches in Peer-to-Peer Networks”

University of North Carolina, Chapel Hill, February 2010.

Naval Postgraduate School, April 2009.

Indiana University, March 2009.

New Jersey Institute of Technology, February 2009.

“Accountable Anonymity”

George Mason University, July 2008.

MIT Lincoln Laboratory, June 2008.

IBM Zurich, May 2008.

Harvard University, April 2008.

Rochester Institute of Technology, April 2008.

Johns Hopkins University, March 2008.

University of Massachusetts Lowell, February 2008.

George Washington University, February 2008.

Towson University, February 2008.

“Nymble: Anonymous IP-Address Blocking”

Indiana University, March 2009.

Microsoft Research India, Bangalore, August 2007.

“Attribute-Based Publishing with Hidden Credentials and Hidden Policies”

Microsoft Research India, Bangalore, August 2007.

“KNOW Why Your Access Was Denied: Usable Security in Ubiquitous Computing”

DOE High-Performance Computer Science Fellowship Conference, June 2005.

Presented by Geetanjali Sampemane and Apu Kapadia at CU Infosec, December 2004.

“Routing with Confidence: Supporting User Discretion in Policy Based Networks”

DOE High-Performance Computer Science Fellowship Conference, July 2004.

“Latency Based Triangulation—Augmenting Application Layer Multicast”

Outstanding Class Project, First Annual Illinois Computer Systems Symposium (iCSS), 2002.

## Talks at Conferences and Workshops

“Crowdsourced Exploration of Security Configurations,”

The ACM SIGCHI Conference on Human Factors in Computing Systems (CHI '15), Seoul, Korea, April 2015

“Cachet: A Decentralized Architecture for Privacy Preserving Social Networking with Caching”

The 8th ACM International Conference on Emerging Networking Experiments and Technologies (CoNEXT '12), Nice, France, December 2012

“Toward securing sensor clouds,”

The International Symposium on Collaborative Technologies and Systems (CTS '11), Philadelphia, PA, May 2011

“TwoKind Authentication: Protecting Private Information in Untrustworthy Environments,”

Seventh ACM Workshop on Privacy in the Electronic Society (WPES '08), Alexandria, VA, October 2008

“AnonySense: Opportunistic and Privacy-Preserving Context Collection”

Sixth International Conference on Pervasive Computing (PERVASIVE '08), Sydney, Australia, May 2008.

“Nymble: Anonymous IP-Address Blocking”

Seventh Privacy Enhancing Technologies Symposium (PETS '07), Ottawa, Canada, June 2007.

“Distributed Enforcement of Unlinkability Policies: Looking Beyond the Chinese Wall”

Eighth IEEE Workshop on Policies for Distributed Systems and Networks (POLICY '07), Bologna, Italy, June 2007.

“Virtual Walls: Protecting Digital Privacy in Pervasive Environments”

Fifth International Conference on Pervasive Computing (PERVASIVE '07), Toronto, Canada, May 2007.

“Attribute-Based Publishing with Hidden Credentials and Hidden Policies”

Fourteenth Annual Network and Distributed System Security Symposium (NDSS '07), San Diego, CA, February/March 2007.

“Anonymous IP-Address Blocking in Tor with Trusted Computing (Work in Progress)”

Second Workshop on Advances in Trusted Computing (WATC '06), Tokyo, Japan, November/December 2006.

“Routing with Confidence: Supporting User Discretion in Policy Based Networks”

Fifth IEEE International Workshop on Policies for Distributed Systems and Networks (POLICY 2004), Yorktown Heights, New York, June 2004.

“GREEN: Proactive Queue Management over a Best-Effort Network”

IEEE Global Telecommunications Conference (GLOBECOM 2002), Taipei, Taiwan, November 2002.

“I-RBAC 2000: Secure Interoperability Using Dynamic Role Translation”

First International Conference on Internet Computing (IC 2000), Las Vegas, Nevada, June 2000.

## Professional Activities

### NSF Review Panels

Years: 2011, 2012, 2013, 2015

### Panels

#### *Future of Privacy*

Panelist at NSF Secure and Trustworthy Cyberspace (SaTC) Principal Investigators' Meeting, January 2015.

#### *Cyber Spies and Cyber Warriors: The United States, China, and the Escalating Cybersecurity Crisis in World Affairs*

Panelist at Center on American and Global Security (CAGS) Seminar, Indiana University, March 2013.

### Award Committees

*PET Award Committee*, Award for Outstanding Research in Privacy Enhancing Technologies, 2010

### Editor

PoPETs (Proceedings on Privacy Enhancing Technologies) Journal Co-Editor-in-Chief, 2015–2016

ACM Transactions on the Web (TWEB) Associate Editor, 2016–present

### Program Chairs

*Program Co-Chair*, Privacy Enhancing Technologies Symposium (**PETS**), 2015–2016

*Program Co-Chair*, USENIX Summit on Health Information Technologies (**HealthTech**), 2015

*Chair*, Workshop on Privacy Enhancing Tools (**PETools**), 2013

### Organizing Committee Chair Positions

*Publications Co-Chair*, ACM Conference on Computer and Communications Security (**CCS**), 2017

*Workshop Co-chair*, ACM Conference on Computer and Communications Security (**CCS**), 2012

### Organizing Committees

*Board Member*, Privacy Enhancing Technologies Symposium (**PETS**), 2015–Present

*Steering Committee*, Symposium On Usable Privacy and Security, **SOUPS** 2016–2019

*Steering Committee*, Special Workshop on Information Privacy, **iConference** 2013

*Local Arrangements Committee*, Privacy Enhancing Technologies Symposium (**PETS**), 2013

### Session Chairs

*Legal and Policy Issues*, Workshop on Usable Privacy & Security for wearable and domestic ubiquitous Devices (**UPSIDE**), 2014

*Authentication and Identity I*, Network & Distributed System Security Symposium (**NDSS**), 2014

*Human-Centered Privacy and Security*, Birds-of-a-Feather session at IEEE Symposium on Security and Privacy (**Oakland**), 2013

*Authentication*, Network & Distributed System Security Symposium (**NDSS**), 2013

*Advertising Security & Privacy*, ACM Conference on Computer and Communications Security (**CCS**), 2012

*Wild Woolly Web*, ACM Conference on Computer and Communications Security (**CCS**), 2011

*Network and System Privacy*, ACM Workshop on Privacy in the Electronic Society (**WPES**), 2011

*Privacy Attacks, Risks, Countermeasures*, ACM Workshop on Privacy in the Electronic Society (**WPES**), 2010

*Anonymization*, ACM Conference on Computer and Communications Security (**CCS**), 2009

*Location Privacy*, ACM Workshop on Privacy in the Electronic Society (**WPES**), 2008  
*Privacy in distributed systems*, ACM Workshop on Privacy in the Electronic Society (**WPES**), 2007  
*Grid and Trusted Domain*, Workshop on Advances in Trusted Computing (**WATC**), 2006

## **Program Committees**

### **2017**

Symposium On Usable Privacy and Security (**SOUPS**), 2017  
International Privacy Enhancing Technologies Symposium (**PETS**), 2017  
The First International Workshop on The Bright and Dark Sides of Computer Vision: Challenges and Opportunities for Privacy and Security (**CV-COPS**), 2017

### **2016**

Symposium On Usable Privacy and Security (**SOUPS**), 2016  
International Workshop on Privacy Engineering (**IWPE**), 2016

### **2015**

ISOC Network & Distributed System Security Symposium (**NDSS**), 2015  
Workshop on Wearable Security and Privacy (**WEARABLE-S&P**), 2015

### **2014**

IEEE Symposium on Security and Privacy (**Oakland**), 2014  
ISOC Network & Distributed System Security Symposium (**NDSS**), 2014  
Privacy Enhancing Technologies Symposium (**PETS**), 2014  
Symposium On Usable Privacy and Security (**SOUPS**), 2014  
IEEE/IFIP International Conference on Dependable Systems and Networks (**DSN**), 2014  
ACM Conference on Security and Privacy in Wireless and Mobile Networks (**WiSec**), 2014  
USENIX Summit on Health Information Technologies (**HealthTech**), 2014  
Workshop on Usable Privacy & Security for wearable and domestic ubiquitous DEvices (**UPSIDE**), 2014  
International Conference on Mobile Computing, Applications and Services (**MobiCASE**), 2014

### **2013**

ACM Conference on Computer and Communications Security (**CCS**), 2013  
ISOC Network & Distributed System Security Symposium (**NDSS**), 2013  
Privacy Enhancing Technologies Symposium (**PETS**), 2013  
Symposium On Usable Privacy and Security (**SOUPS**), 2013  
ACM Workshop on Privacy in the Electronic Society (**WPES**), 2013  
International Conference on Distributed Computing Systems (**ICDCS**), 2013  
Annual Computer Security Applications Conference (**ACSAC**), 2013  
International Conference on Trust & Trustworthy Computing (**TRUST**), 2013  
Journal "mini-PC" for IEEE Transactions on Parallel and Distributed Systems (**TPDS**) Special Issue on Trust, Security and Privacy in Parallel and Distributed Systems

### **2012**

Symposium On Usable Privacy and Security (**SOUPS**), 2012  
ACM Workshop on Privacy in the Electronic Society (**WPES**), 2012  
International Conference on Trust and Trustworthy Computing (**TRUST**), 2012  
Australasian Conference on Information Security and Privacy (**ACISP**), 2012  
International Workshop on Security and Privacy in Spontaneous Interaction and Mobile Phone Use (**IWSSI/SPMU**), 2012

### **2011**

ACM Conference on Computer and Communications Security (**CCS**), 2011  
International Conference on Applied Cryptography and Network Security (**ACNS**), 2011

ACM Symposium on Information, Computer and Communications Security (**ASIACCS**), 2011  
Annual Computer Security Applications Conference (**ACSAC**), 2011  
International Workshop on Security and Privacy in Spontaneous Interaction and Mobile Phone Use (**IWSSI/SPMU**), 2011

**2010**

ACM CCS Workshop on Insider Threats (**WITS**), 2010  
ACM Workshop on Privacy in the Electronic Society (**WPES**), 2010  
ACM Conference on Computer and Communications Security (**CCS**), 2010  
International Conference on Distributed Computing Systems (**ICDCS**), 2010  
Second International Workshop on Security and Privacy in Spontaneous Interaction and Mobile Phone Use (**IWSSI/SPMU**), 2010  
Privacy Enhancing Technologies Symposium (**PETS**), 2010  
Security and Privacy Track at the International World Wide Web Conference (**WWW**), 2010  
Privacy on the Web, Technical Track at ACM Symposium on Applied Computing (**SAC**), 2010

**2009**

International Workshop on Data Privacy Management (**DPM**), 2009  
ACM Conference on Computer and Communications Security (**CCS**), 2009  
IEEE International Conference on Privacy, Security, Risk and Trust (**PASSAT**), 2009  
Privacy Enhancing Technologies Symposium (**PETS**), 2009

**2008**

ACM Workshop on Privacy in the Electronic Society (**WPES**), 2008  
Privacy Enhancing Technologies Symposium (**PETS**), 2008  
IEEE International Conference on Sensor Networks, Ubiquitous and Trustworthy Computing (**SUTC**), 2008

**2007, 2006**

ACM Workshop on Privacy in the Electronic Society (**WPES**), 2007  
International Workshop on the Value of Security through Collaboration (**SECOVAL**), 2007  
IEEE International Workshop on Trust, Security, and Privacy for Ubiquitous Computing (**TSPUC**), 2007  
International Conference on Computer Communications and Networks (**ICCCN**), 2006

**Reviewer (Partial Listing)****Journals**

ACM Transactions on Information and System Security (TISSEC)  
Journal of Computer Security (JCS)  
IEEE Transactions on Dependable and Secure Computing (TDSC)  
IEEE Security and Privacy Magazine  
ACM Computing Surveys  
IEEE Magazine  
IEEE Transactions on Multimedia  
IEEE Transactions on Mobile Computing (TMC)  
IEEE Pervasive  
Elsevier Ad Hoc Networks Journal (ADHOC)  
Elsevier Pervasive and Mobile Computing Journal (PMC)  
Elsevier Computer Networks, Journal of Computer and Telecommunications Networking  
Elsevier Journal of Systems and Software  
Journal of Zhejiang University SCIENCE (JZUS)

**Conferences and Workshops**

The Eighth International Conference on Pervasive Computing  
ACM Computer and Communications Security (CCS)

ACM Conference on Object-Oriented Programming Systems, Languages and Applications (OOPSLA)  
ACM/USENIX International Conference on Mobile Systems, Applications, and Services (MobiSys)  
ACM International Conference on Mobile Computing and Networking (MobiCom)  
IEEE International Conference on Distributed Computing Systems (ICDCS)  
IEEE International Conference on Communication Systems (ICCS)  
ISOC Network and Distributed System Security Symposium (NDSS)  
IFIPTM Joint iTrust and PST Conferences on Privacy, Trust Management and Security  
International Workshop on Security for Spontaneous Interaction (IWSSI)  
European PKI Workshop (EuroPKI)

### **Memberships**

Member of Association for Computing Machinery (ACM)  
The Institute of Electrical and Electronics Engineers (IEEE)

### **Other Professional Activities**

Affiliate of the Alliance for the Advancement of African-American Researchers in Computing (A4RC)

Co-organizer of ISTS Summer Cryptography Workshop (*Instructor: Patrick P. Tsang*),  
Dartmouth College, 2006

Fellowships, Awards, and Admissions Committee  
Department of Computer Science, University of Illinois at Urbana-Champaign, 2002

#### Volunteering

Pattern Languages of Programs Conference (PLoP '99)  
Graduate Student Recruiting Campus Tours, University of Illinois at Urbana-Champaign

Peer Advising  
Tau Beta Pi