

## Adam J. Aviv

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CONTACT INFORMATION Department of Computer and Information Science  
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RESEARCH INTERESTS **Computer Security, Privacy, Side Channels, Delay Tolerate Networking, Smartphone Security**, Network Security, Mobile Networks, Steganography, Electronic Voting, Anonymous and Privacy Preserving Systems, Trust Management, Reputation Systems, and Applied Cryptography.

EDUCATION & PROFESSIONAL EXPERIENCE University of Pennsylvania, Philadelphia, PA USA  
Ph. D., in Computer and Information Science  
September 2007 - Present (expected graduation date: August 2012)

- Advisor: Professor Jonathan M. Smith and Matt Blaze
- Area of Study: Computer and Network Security

M.S.E, Computer and Information Science  
September 2007 - December 2009

- Advisor: Professor Jonathan M. Smith
- Area of Study: Computer and Network Security

AT&T Labs Research, Flohram Park, NJ USA

Summer Intern 2011 and 2012  
No-Cost Collaborator: August 2011 - Present

- Mentors: Trevor Jim, Shobah Venkataraman and Oliver Spatscheck
- Area of Study: Mobile and Smartphone Security

Columbia University, New York, NY USA

B.S., Computer Science  
September 2003 - May 2007

- Advisor: Professor Angelos Keromytis

REFEREED PUBLICATIONS

(\* indicates presentation given at workshop or conference)

1. **Adam J. Aviv\*** and Andreas Haeberlen. *Challenges in Experimenting with Botnet Detection Systems*. In proceedings of the 4th Workshop on Cyber Security Experimentation and Test (CSET'11). August 8, 2011.
2. Andrew West, **Adam J. Aviv**, Jian Chang, and Insup Lee. *Spam Mitigation using Spatio-Temporal Reputation from Blacklist History*. In proceedings of the 26th Annual Computer Security Application conference (ACSAC'10). December, 2010.
3. **Adam J. Aviv\***, Micah Sherr, Matt Blaze, and Jonathan M. Smith. *Evading Cellular Data Monitoring with Human Movement Networks*. In proceedings of the 5th Usenix Workshop on Hot Topics in Security (HotSec'10). August 11, 2010.

4. **Adam J. Aviv\***, Katherine Gibson, Evan Mossop, Matt Blaze, Jonathan M. Smith. *Smudge Attacks on Smartphone Touch Screens*. In the proceedings of the 4th Usenix Workshop on Offensive Technologies (WOOT'10). August 10, 2010.
5. Jason Reed, **Adam J. Aviv**, Daniel Wagner, Andreas Haeberlen, Benjamin Pierce, and Jonathan M. Smith. *Differential Privacy for Collaborative Security*, In the Proceeding of the Third European Workshop on System Security (EuroSec '10). March, 2010. Paris, France.
6. Andrew G. West, **Adam J. Aviv\***, Jian Chang, Vinayak S. Prabhu, Matt Blaze, Sampath Kannan, Insup Lee, Jonathan M. Smith, and Oleg Sokolsky. *QuanTM: A Quantified Trust Management System*. Proceedings of the Second European Workshop on System Security (EuroSec '09). pg. 28-35. 31 March 2009. Nuremberg, Germany.
7. **Adam Aviv**, Pavol Cerný, Sandy Clark, Eric Cronin, Gaurav Shah, Micah Sherr, and Matt Blaze. *Security Evaluation of ES&S Voting Machines and Election Management System*. Usenix EVT '08: Electronic Voting Technology Workshop, July 28-29, 2008.
8. Maritza L. Johnson, Chaitanya Atreya, **Adam J. Aviv**, Steven M. Bellovin, and Gail E. Kaiser. *RUST: A Retargetable Usability Testbed for Web Site Authentication Technologies*. Usenix UPSEC '08: Usability, Psychology, and Security, 2008
9. **Adam J. Aviv\***, Michael E. Locasto, Shaya Potter, and Angelos D. Keromytis. *SSARES : Secure Searchable Automated Remote Email Storage*. In Proceedings of the 23rd Annual Computer Security Applications Conference (ACSAC'07), pp. 129 - 138. December 2007, Miami Beach, FL.

UNDER REVIEW

1. **Adam J. Aviv**, Vin Mannino, Thanat Owlarn, Seth Shannin, Kevin Xu, and Boon Thau Loo. Experiences in Teaching an Educational User-Level Operating Systems Implementation Project. In submission. January 2012.
2. **Adam J. Aviv**, Matt Blaze, Jonathan M. Smith, and Micah Sherr. Privacy-Aware Message Exchanges for Geographically Routed Human Movement Networks. In submission. November 2011.

NON-REFEREED PUBLICATIONS

1. **Adam J. Aviv**, Vin Mannino, Thanat Owlarn, Seth Shannin, Kevin Xu, and Boon Thau Loo. Experiences in Teaching an Educational User-Level Operating Systems Implementation Project. Technical Report MS-CIS-12-02. University of Pennsylvania. January, 2012.
2. **Adam J. Aviv**, Guarav Shah, Matt Blaze. *Steganographic Timing Channels*. Technical Report MS-CIS-11-18. University of Pennsylvania. Posted December, 2011.
3. **Adam J. Aviv**. Detection of Peer-to-Peer Botnets. Adam J. Aviv. In Partial Fulfillment of the University of Pennsylvania's WPE-II Requirement. March 16, 2011.

4. **Adam J. Aviv**, Micah Sherr, Matt Blaze, Jonathan M. Smith. *Moving Targets: Geographic Routed Human Movement Networks*. Technical Report, MS-CIS-10-12. University of Pennsylvania. Posted March 2010.
5. Andrew G. West, **Adam J. Aviv**, Jian Chang, and Insup Lee. *Mitigating Spam Using Spatio-Temporal Reputation*. Technical Report MS-CIS-10-04, University of Pennsylvania. Posted February, 2010.
6. Patrick McDaniel, Matt Blaze, and Giovanni Vigna (Team Leads) et al.. *EVEREST: Evaluation and Validation of Election-Related Equipment, Standards and Testing*. Part of the Ohio Secretary of State EVEREST Review of electronic voting machines. December 2007
7. **Adam J. Aviv**\*, Michael E. Locasto, Shaya Potter, and Angelos D. Keromytis. *SSARES : Secure Searchable Automated Remote Email Storage*. In the Columbia Computer Science Student Research Symposium, Fall 2006.

#### TALKS

(excludes presentations at conferences/workshops, which are indicated above with a \*)

1. *Challenges in Experiment with Botnet Detection Systems*. Georgia Tech. Atlanta, Georgia. September 2, 2011.
2. *Detection of Peer-to-Peer Botnets*. FBI Cyber-Crime Field Office Philadelphia. Philadelphia, Pennsylvania. April 14, 2011.
3. *Smudge Attacks On Smartphone Touchscreens*. LeHigh University. Bethlehem, Pennsylvania. February 25, 2010.
4. *Smudge Attacks On Smartphone Touchscreens*. Columbia University. New York, New York. September 29. 2010.
5. *Smudge Attacks On Smartphone Touchscreens*. Carleton University. Ottawa, Ontario. August 31, 2010.

#### RESEARCH IN PROGRESS

(\* indicates research conducted in collaboration with undergraduates)

1. The Long Reveal: Measuring the Effects of Location Reveals Over the Years on Twitter
2. \* Homing in on Twitter: Learning Important Places on Twitter
3. \* Privacy Aware Link Shorteners
4. Accelerometer Side Channels as Applied to the Android Password Pattern
5. Side Channels in Cross Sensor Correlation for Smartphones: Your Video Game Knows Your Walking-Gait

#### PROFESSIONAL SERVICE

1. External Reviewer, ACM SIGMOD Demo 2012
2. External Reviewer, 13th International Conference on Ubiquitous Computing (Ubi-Comp 2011)

3. External Reviewer, 16th Conference on Computer and Communication Security (CCS 2009)
4. External Reviewer, 18th USENIX Security Symposium (Security 2009)
5. External Reviewer, 28th Conference on Computer Communications (Infocom 2009)
6. External Reviewer, 17th USENIX Security Symposium (Security 2008)

#### AWARDS AND HONORS

1. 2010-2011 University of Pennsylvania's Center for Teaching and Learning Graduate Fellowship for Teaching Excellence.  
Details on the fellows program can be found here: [http://www.upenn.edu/ctl/programs\\_services/graduate\\_student\\_programs/graduate\\_fellows\\_program](http://www.upenn.edu/ctl/programs_services/graduate_student_programs/graduate_fellows_program)
2. 2011 University of Pennsylvania's Center for Teaching and Learning Teaching Certificate.  
Details of the certificate program can be found here: [http://www.upenn.edu/ctl/programs\\_services/graduate\\_student\\_programs/ctl\\_teaching\\_certificate](http://www.upenn.edu/ctl/programs_services/graduate_student_programs/ctl_teaching_certificate)
3. Computer Research Association's (CRA) Outstanding Undergraduate Researcher Honorable Mention 2007, a National Award.
4. Columbia University's Theodore R. Bashkow Award Recipient 2007. A cash prize of \$200.00 presented to a computer science senior who has excelled in independent projects. This is awarded in honor of Professor Theodore R. Bashkow, whose contributions as a researcher, teacher and consultant have significantly advanced the state of the art of computer science.

#### TEACHING EXPERIENCE

1. Head TA: Operating Systems, Fall 2011. CIS 380 (University of Pennsylvania)
2. **Instructor:** Python Programming, Spring 2010. CIS 192. (University of Pennsylvania)
3. Head TA: Operating System, Fall 2010, CIS 380. (University of Pennsylvania)
4. **Instructor:** Introduction to Python, Spring 2009. CIS 39904. (University of Pennsylvania)
5. Head TA: Operating System, Fall 2009, CIS 380. (University of Pennsylvania)
6. Grader: Introduction to Python, Spring 2008. CIS 39904. (University of Pennsylvania)
7. TA: Operating System, Fall 2008, CIS 380/381. (University of Pennsylvania)
8. TA: Introduction to Computer Science, Spring 2007, COMS W1001. (Columbia University)
9. TA: Introduction to Computer Science, Fall 2006, COMS W1001. (Columbia University)

TEACHING  
WORKSHOPS  
ORGANIZED FOR  
CTL FELLOWSHIP  
AWARD

(\* indicates a workshop advertised university-wide)

1. *Designing and Encouraging Good Course Projects*. October 6, 2010.
2. *\*Preventing and Dealing with Student Teaching*. October 20, 2010.
3. *Teaching Students to Teach Themselves*. November 22, 2010.
4. *Designing an Intro Level Cours: A Computer Science Case Study in 120*. November 30, 2010.
5. *\*The Use and Abuse of Powerpoint*. March 1, 2011.
6. *Placing Your Teaching Within Your Department's Curriculum*. March 14, 2011
7. *Fostering Research in the Classroom: Getting Students into the Labs*. March 29, 2011.
8. *Designing a Research Seminar*. April 4, 2011.

SOFTWARE  
CONTRIBUTIONS

1. **ezPyKeynote**: A full python implementation of the KeyNote trust management language.  
<http://experience2.org/wiki/index.php?n=EzPyKeynote>. **EzPyKeynote**
2. **SSARES\_app**: A python and C implementation of the SSARES application including cryptographic libraries.  
<http://experience2.org/wiki/index.php?n=SSARESApp>. **SSARESApp**

REFERENCES

**Matthew Blaze**

Associate Professor of Computer and Information Science  
University of Pennsylvania  
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Philadelphia, PA 19104-6309  
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**Jonathan Smith**

Olga and Alberico Pompa Professor of Engineering and Applied Science  
Professor of Computer and Information Science  
University of Pennsylvania  
3330 Walnut Street, Room 302  
Philadelphia, PA 19104-6309  
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**Micah Sherr**

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