

Kami Vaniea

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Research Interests

I am interested Usable Security and Privacy, or in other words: Human Computer Interaction (HCI) as it applies to Security and Privacy applications. Specifically, I am interested in supporting access-control policy upkeep and modification by end users in a variety of domains. I want to further understand how people control access to content and information they generate through the design, creation, and implementation of policy.

Education

2005–present **PhD Candidate**, *Carnegie Mellon University*, Pittsburgh, PA 15313.

2001–2005 **Bachelors of Science**, *Oregon State University*, Corvallis, OR.

Experience

July–Oct. 2010 **Microsoft Research Intern**, *Microsoft Research*, Redmond, WA.

Implemented a system based on laissez-fair access-control principles.

May–Sep. 2007 **IBM Research Intern**, *IBM Research TJ Watson*, Hawthorn, NY.

- Conducted research on the design of an interface to support the composition of machine readable privacy policies using natural language.

- Implemented a new authoring interface and ran a user study which evaluated its effect on policy authors' efficiency and accuracy.

June–Aug. 2004 **Center for Cyber Defenders Intern**, *Sandia National Laboratories*, Livermore, CA.

Undergraduate and graduate program to encourage students to consider a research career in computer security.

- Conducted a security analysis, red team, on several video conferencing systems with team of fellow students.

- Assisted in the creation of a network sniffer/analysis tool designed to monitor network traffic passively and build profiles on each node.

2002–2005 **Undergraduate Research Assistant**, *Oregon State University*, Corvallis, OR.

Attached to a research lab working on machine learning solutions for recommendation systems.

- Assisted with research on recommender systems including running studies to test new algorithms and creating web applications.

- Integrated a search engine and a recommender system to test how users make use of recommendations while searching online.

- June–Aug. 2003 **Undergraduate Research Assistant, Columbia University, New York, NY.**
 Distributed Research Experiences for Undergraduates (DREU)
- Designed and taught classes using Lego Mindstorms at a Harlem community center, an upper west side 6th grade classroom and a pre-college program. Presented and taught the final curriculum at a workshop for teachers as part of Technology Integration Partnerships.
 - Personal duties included: designing curriculum, collaborating with teachers and other students, teaching classes/workshops and building a web page.
- 1999 **Forestry Aid, US Forest Service, La Grande, OR.**
 Assisted in testing and improving a new method of assessing soil compression after logging operations. Worked on a team of three people doing field work.
- 1998 **Forestry Intern, US Forest Service, La Grande, OR.**
 Saturday Academy run program to interest high school students in research as a career by finding them summer positions in research labs.
 Assisted in an ongoing three-year project to study the effects of cattle grazing on riparian zones (rivers).

Awards and Honors Societies

- 2005 **Barbara Lazarus Women@IT Fellowship**
 Presented to promising first year Carnegie Mellon graduate students
- 2004 **Google's Anita Borg Scholarship**
 Award for outstanding female student computer scientists
- 2004 **Burgess Tektronix Award for outstanding Engineering senior of the year**
 Awarded to one outstanding Electrical Engineering and Computer Science student at Oregon State University each year.
- 2003,2004 **Waldo - Cummings Outstanding student Honorable Mention Recipient**
 Awarded to exceptional students at Oregon State University for extracurricular activities and dedication to their community. Ten receive award and additional ten get honorable mentions.
- Upsilon Pi Epsilon**
Alpha Lambda Delta

Outreach

- 2009 **Gwens Girls**
- Group of minority middle school age girls from impoverished families
 - Taught a class on internet safety
- 2008–2010 **Technights for Girls**
- Group organized by Women@SCS which exposes middle school girls to creative technologies
 - Taught a class on the importance of privacy and security on the internet and the use of cryptography and cipher technologies
- 2001–2002 **Cyber Sisters**
- Mentored a high school girl interested in Science and Engineering.

Extracurricular Activities / Leadership

- 2005–Present **Women@SCS**
- Women in Computer Science student organization designed to support and promote women in the field.
 - Outreach Roadshow – do presentations at schools, teachers and outreach events
- 2005–Present **Tea Time**
- Organize a weekly departmental tea tasting social event designed to promote communication between graduate students with different interests and backgrounds. As well as a healthy understanding of tea.
- 2003–2004 **Women and Minorities in Engineering**
- Action counsel representative for Computer Science.
 - Presented at outreach events and talked with potential students about career options in computer science.
 - Mentored and tutored incoming female computer science majors.
 - Web master for Women and Minorities in Engineering and the Action Counsel.
- 2002–2003 **Aerial Robotics**
- As part of the computer science team I assisted in the design of the helicopter control algorithm.
- 2001–2005 **Association for Computing Machinery (ACM)**
- President of local chapter (2003-2005), Secretary (2002-2003)
 - Designed and ran the first Electrical Engineering and Computer Science departmental graduation ceremony in over 30 years.
 - Initiated, taught, and participated in weekly student taught workshop sessions on basic skills not taught in the classroom such as bash shell scripting and LaTeX.
 - Tutored underclassmen in Java and C programming.
 - Hosted and spoke at several dinners and receptions to assist graduating seniors in connecting with corporate representatives.
- 2001–2005 **Society for Women Engineers**
- Participated in events as a member.
- 2004 **Joint Conference on Digital Libraries Volunteer Coordinator**
- Coordinated volunteers and worked as a go-between for volunteers and conference center staff. Organized poster/demo session with over 60 presenters.
- Pre-college**
- 1999 **HIV Prevention Planning Group**
- Worked with local HIV prevention planning group as a student adviser, assisted in designing the survey that was administered to all local high and middle schools.
- 1999 **24 Hour Relay Planning Board**
- Student member on the planning board for the local 24 Hour Relay. Worked as a roving assistant during the actual event.
- 1999 **Oregon Student Safety on the Move**
- High school group dedicated to student safety.
- 1992–2001 **4-H**
- Lead a local chapter for rabbits for a year. Member for eight years. Competed at local and state levels.

Programming Languages

Compiled	Java, C#
Web	JavaScript, J Query, PHP, .NET
Scripting	Perl
Some Experience	C, Ruby

Publications

- [1] Lujo Bauer, Lorrie Cranor, Robert W. Reeder, Michael K. Reiter, and Kami Vaniea. Comparing access-control technologies: A study of keys and smartphones. Technical Report CMU-CYLAB-07-005, Carnegie Mellon University, 2007.
- [2] Lujo Bauer, Lorrie F. Cranor, Robert W. Reeder, Michael K. Reiter, and Kami Vaniea. Effects of access-control policy conflict-resolution methods on policy-authoring usability. Technical Report CMU-Cylab-09-006, Cylab, Carnegie Mellon University, 2009.
- [3] Lujo Bauer, Lorrie F. Cranor, Robert .W. Reeder, Michael K. Reiter, and Kami Vaniea. Real life challenges in access-control management. In *Proceedings of the 27th international conference on Human factors in computing systems*, 2009.
- [4] Lujo Bauer, Lorrie Faith Cranor, Robert W. Reeder, Michael K. Reiter, and Kami Vaniea. A user study of policy creation in a flexible access-control system. In *Proceedings of the 26th international conference on Human factors in computing systems*, 2008.
- [5] Lujo Bauer, Lorrie Faith Cranor, Michael K. Reiter, and Kami Vaniea. Lessons learned from the deployment of a smartphone-based access-control system. In *SOUPS '07: Proceedings of the 3rd symposium on Usable privacy and security*, pages 64–75, New York, NY, USA, 2007. ACM.
- [6] Michelle L. Mazurek, J.P. Arsenault, Joanna Breese, Nitin Gupta, Iulia Ion, Christina Johns, Daniel Lee, Yuan Liang, Jenny Olsen, Brandon Salmon, Richard Shay, Kami Vaniea, Lujo Bauer, Lorrie Faith Cranor, Gregory R. Ganger, and Michael K. Reiter. Access control for home data sharing: Attitudes, needs and practices. In *CHI 2010: Conference on Human Factors in Computing Systems*, 2010.
- [7] Michelle L. Mazurek, J.P. Arsenault, Joanna Bresee, Nitin Gupta, Christina Johns Iulia Ion, Daniel Lee, Yuan Liang, Jenny Olsen, Brandon Salmon, Richard Shay, Kami Vaniea, Lujo Bauer, Lorrie Faith Cranor, Gregory R. Ganger, and Michael K. Reiter. Access control for home data sharing: Attitudes, needs and practices. Technical Report CMU-CyLab-09-013, Carnegie Mellon University, 2009.
- [8] Robert W. Reeder, Lujo Bauer, Lorrie Faith Cranor, Michael K. Reiter, and Kami Vaniea. More than skin deep: Measuring effects of the underlying model on access-control system usability. In *Proceedings of the 29th international conference on Human factors in computing systems*, 2011.
- [9] K. Vaniea, Q. Ni, L. Cranor, and E. Bertino. Access Control Policy Analysis and Visualization Tools for Security Professionals. In *Workshop on Usable IT Security Management (USM '08)*, 2008.
- [10] Kami Vaniea, Clare-Marie Karat, Joshua B. Gross, John Karat, and Carolyn Brodie. Evaluating assistance of natural language policy authoring. In *SOUPS*, 2008.