

PATRICK GAGE KELLEY

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@patrickgage

My research centers on privacy, visualization, media, and the influence of technology on culture. I direct **EXIT**. I have worked on projects related to passwords, location-sharing, privacy policies, mobile apps, Twitter, Facebook relationship grouping, and the design of standardized, user-friendly privacy displays.

EDUCATION

2013	Carnegie Mellon	Doctor of Science in Computation, Organizations & Society
2010	University	Masters of Science in Computation, Organizations & Society
2006	Rochester Institute	Bachelor of Science in Computer Engineering
2006	of Technology	Bachelor of Science in Creative Writing and Literature

EMPLOYMENT

2012–Present	University of New Mexico	Assistant Professor of Computer Science School of Engineering
2006–2012	Carnegie Mellon University	I received my PhD from Carnegie Mellon University working with the Mobile Commerce Lab and the CyLab Usable Privacy and Security (CUPS) Lab.

CONFERENCE & JOURNAL PUBLICATIONS

- 2015 [p.26] S Garcia, PG Kelley, Y Yang. “Fast image segmentation on mobile phone using multi-level graph cut.” Proceedings of the 41st Graphics Interface Conference, 2015.
- [p.25] M Sleeper, A Aquisti, LF Cranor, PG Kelley, S Munson, N Sadeh. “I would like to..., I shouldn’t..., I wish I...: Exploring behavior-change goals for social networking sites.” CSCW 2015.
- 2014 [p.24] A Paturi, PG Kelley, S Mazumdar. Introducing Privacy Threats from Ad Libraries to Android Users Through Privacy Granules. USEC 2015.
- [p.23] T Adamson, J Baxter, K Manavi, A Suknot, B Jacobson, PG Kelley, L. Tapia. “Molecular tetris: crowdsourcing molecular docking using path-planning and haptic devices.” ACM Conference on Motion in Games (MIG) 2014.
- [p.22] JB Cranshaw, K Luther, PG Kelley, N Sadeh. Curated city: capturing individual city guides through social curation. CHI 2014
- 2013 [p.21] ML Mazurek, S Komanduri, T Vidas, L Bauer, N Christin, LF Cranor, PG Kelley. Measuring password guessability for an entire university Proceedings of the 2013 ACM SIGSAC conference, 2013

TEACHING

University of New Mexico	2015-2016	UNM Teaching Fellow	
	Spring & Fall '13, '14, '15, Sp. '16	Social and Ethical Issues in Computing	CS 293
	Spring '15	Holistic Mobile Application Development	CS 491/591
	Spring '14	Special Topics in Information Visualization and Computational Design	CS 491/591
	Fall '13	Computer Programming Fundamentals	CS 152
	Fall '12	Intermediate Programming	CS 251
Carnegie Mellon University	Spring '12	Special Topics in Interactive Art and Computational Design <i>Teaching Assistant for Golan Levin</i>	
	Spring '12	College News: The Process to the Press <i>Student-led course developed and taught with Greg Hanneman</i>	
	Spring '10	Special Topics in Interactive Art and Computational Design <i>Teaching Assistant for Golan Levin</i>	
	Spring '09	Mobile and Pervasive Computing Services <i>Teaching Assistant for Gregory Kesden and Norman Sadeh</i>	
	Fall '08	Privacy Policy, Law, and Technology <i>Teaching Assistant for Lorrie Faith Cranor</i>	
Rochester Inst. of Tech.	Spring '04	City as Text: Rochester <i>Co-taught and developed with Dr. Jessica Lieberman</i>	

EMPLOYMENT (cont.)

2011	Intel Labs Seattle / University of Washington	I interned at Intel Labs Seattle with Sunny Consolvo (ILS) and David Wetherall (UW) working on the UI/UX of several privacy related applications, including: a sleep sensing project, a browser privacy plugin, and a project explaining mobile application permissions to users.
2008–2012	Wombat Security Technologies	My research at Carnegie Mellon contributed to the creation of the startup company Wombat Security Technologies. I have continued to work as consultant for Wombat, assisting in future development of anti-phishing tools, educational materials, and website design and maintenance.
2004–2005	National Security Agency	<i>Knowledge Discovery Sciences Office</i> Development work on a tool for separating a document's content from extraneous formatting, part of a larger project for automatic semantic document clustering based on content. <i>Laboratory for Physical Sciences at University of Maryland</i> Planned a controller update for a Scanning Tunneling Microscope; redesigned, updated, and maintained content of the group's website; and studied Quantum Computing and Quantum Information Science.

CONFERENCE & JOURNAL PUBLICATIONS (cont.)

- 2013 [p.20] PG Kelley, S Komanduri, ML Mazurek, R Shay, T Vidas ... The impact of length and mathematical operators on the usability and security of system-assigned one-time PINs. *Financial Cryptography and Data Security*, 2013
- [p.19] Kelley, P.G., Cranor, L.F., Sadeh, N. "Privacy as Part of the App Decision-Making Process." *CHI* 2013.
- [p.18] Sleeper, M., Cranshaw, J., Kelley, P.G., Ur, B., Acquiti, A., Cranor, L.F., Sadeh, N. "I read my Twitter the next morning and was astonished: A conversational perspective on Twitter regrets." *CHI* 2013.
- 2012 [p.17] Ur, B., Kelley, P.G., Komanduri, S., Lee, J., Maass, M., Mazurek, M.L., Passaro, T., Shay, R., Vidas, T., Bauer, L., Christin, N., and Cranor, L.F. "How does your password measure up? The effect of strength meters on password creation." *USENIX* 2012.
- [p.16] Shay, R., Kelley, P.G., Komanduri, S., Mazurek, M.L., Ur, B., Vidas, T., Bauer, L., Christin, N., and Cranor, L.F. "Correct horse battery staple: Exploring the usability of system-assigned passphrases." *SOUPS* 2012.
- [p.15] Kelley, P.G., Komanduri, S., Mazurek, M.L., Shay, R., Ur, B., Vidas, T., Bauer, L., Christin, N., and Cranor, L.F. "Guess again (and again and again): Measuring password strength by simulating password-cracking algorithms." *IEEE Security & Privacy* 2012.
- 2011 [p.14] Kelley, P.G., Brewer, R., Mayer, Y., Cranor, L.F., and Sadeh, N. "An Investigation into Facebook Friend Grouping." *INTERACT* 2011.
- [p.13] Komanduri, S., Shay, R., Kelley, P.G., Mazurek, M.L., Bauer, L., Christin, N., and Cranor, L.F. "Of Passwords and People: Measuring the Effect of Password-Composition Policies." *CHI* 2011.
- [p.12] Kelley, P.G., Benisch, M., Cranor, L.F., and Sadeh, N. "When Are Users Comfortable Sharing Locations with Advertisers?" *CHI* 2011.
- 2010 [p.11] Benisch, M., Kelley, P.G., Sadeh, N., and Cranor, L.F. Capturing location-privacy preferences: quantifying accuracy and user-burden tradeoffs. *PUC* 2010.
- [p.10] Shay, R., Komanduri, S., Kelley, P.G., Leon, P.G., Mazurek, M.L., Bauer, L., Christin, N., Cranor, L.F., and Egelman, S. "Encountering Stronger Password Requirements: User Attitudes and Behaviors." *SOUPS* 2010.
- [p.09] Toch, E., Cranshaw, J., Hankes Drielsma, P., Tsai, J.Y., Kelley, P.G., Cranor, L., Hong, J., and Sadeh, N. "Empirical Models of Privacy in Location Sharing." *UBICOMP* 2010.
- [p.08] Tsai, J., Kelley, P.G., Cranor, L.F., and Sadeh, N. "Location-Sharing Technologies: Privacy Risks and Controls." *I/S* 2010.
- [p.07] Kelley, P.G., Cesca, L.J., Bresee, J., and Cranor, L.F. "Standardizing Privacy Notices: An Online Study of the Nutrition Label Approach." *CHI* 2010.
- 2009 [p.06] McDonald, A., Reeder, R., Kelley, P.G., and Cranor, L.F. "A Comparative Study of Online Privacy Policies and Formats." *PETS* 2009.
- [p.05] Kelley, P.G., Bresee, J., Reeder, R., and Cranor, L.F. "Design of A Privacy Label." *SOUPS* 2009.
- [p.04] Tsai, J., Kelley, P.G., Hankes Drielsma, P., Cranor, L.F., Hong, J., and Sadeh, N. "Who's Viewed You? The Impact of Feedback in a Mobile-location System." *Computer Human Interaction (CHI)* 2009.

CONFERENCE & JOURNAL PUBLICATIONS (cont.)

- [p.03] Ravichandran, R., Benisch, M., Kelley, P.G., and Sadeh, N. "Capturing Social Networking Privacy Preferences: Can Default Policies Help Alleviate Tradeoffs between Expressiveness and User Burden?" PETS 2009.
- [p.02] Sadeh, N., Hong, J., Cranor, L., Fette, I., Kelley, P.G., Prabaker, M., and Rao, J. "Understanding and Capturing People's Privacy Policies in a People Finder Application", Privacy Usability Journal. Vol. 13, No. 6, August 2009.
- 2007 [p.01] DeBartolo, E., Bailey, M., Zaczek, M., Schriefer, T., Kelley, P.G., Ramaswamy, M., and Ryczko, N. "Traveling Engineering Activity Kits - Energy and the Environment." ASEE Conference, Honolulu, 2007.

WORKSHOP & MAGAZINE PUBLICATIONS (selected)

- 2015 [w.17] Kelley, P.G. Privacy as iconography: [Failing to] Reduce complex concepts to pixels. 5th Annual Symposium on Communicating Complex Information (SCCI) 2015
- 2014 [w.16] A Suknot, T Chavez, N Rackley, PG Kelley. "Immaculacy: a game of privacy." Proceedings of the first ACM SIGCHI CHIPlay 2014.
- 2013 [w.15] Kelley, P.G., Sleeper, M., and Cranshaw, J. Conducting Research on Twitter: A Call for Guidelines and Metrics. CSCW Measuring Networked Social Privacy Workshop 2013.
- 2012 [w.14] Ur, B., Kelley, P.G., Komanduri, S., Lee, J., Maass, M., Mazurek, M.L., Passaro, T., Shay, R., Vidas, T., Bauer, L., Christin, N., Cranor, L.F., Egelman, S., and Lopez, J. Helping Users Create Better Passwords. ;login: Vol 37, No. 6, December 2012.
- [w.13] Kelley, P.G., Consolvo, S., Cranor, L.F., Jung, J., Sadeh, N., Wetherall, D. "A Conundrum of Permissions: Installing Applications on an Android Smartphone." USEC FC 2012.
- 2011 [w.12] Sadeh, N, and Kelley, P.G. "User-Controllable Location Privacy" PriMo 2011.
- [w.11] Kelley, P.G., Tsai, J., Cranor, L.F., and Sadeh, N. "Location-Sharing Technologies: Privacy Risks and Controls." PriMo 2011.
- [w.10] Wang, X.S., Choffnes, D., Kelley, P.G., Greenstein, B., and Wetherall, D. "Measuring and Predicting Web Login Safety." W-MUST 2011
- [w.09] Kay, M., Choe, E.K., Shepherd, J., Greenstein, B., Consolvo, S., Kelley, P.G., and Kientz, J. "Lullaby: environmental sensing for sleep self-improvement" Workshop on Personal Informatics, CHI 2011.
- [w.08] Kelley, P.G., Cesca, L.J., Bresee, J., and Cranor, L.F. "Intentional Privacy Policy Design" CHI Workshop on Networked Privacy 2011.
- [w.07] Balebako, R., Leon, P., Almuhimedi, H., Kelley, P.G., Mugan, J., Acquisti, A., Cranor, L.F., and Sadeh, N. "Nudging Users Towards Privacy on Mobile Devices" CHI PINC 2011.
- 2010 [w.06] Kelley, P.G. "Conducting Usable Privacy & Security Studies with Amazon's Mechanical Turk." USER 2010
- [w.05] B. Meeder, J. Tam, P.G. Kelley, and L.F. Cranor. "RT @IWantPrivacy: Widespread Violation of Privacy Settings in the Twitter Social Network" W2SP 2010.
- 2009 [w.04] Tsai, J., Kelley, P.G., and Cranor, L.F. "The Risk and Benefit Perceptions of Location-Sharing Technologies." TPRC 2009.

WORKSHOP & MAGAZINE PUBLICATIONS (selected, cont.)

- 2008 [w.03] Kelley, P.G., Hankes Drielsma, P., Sadeh, N., and Cranor L. "User Controllable Learning of Security and Privacy Policies." AISec 2008.
- [w.02] Reeder R.W., Kelley, P.G., McDonald, A.M., and Cranor, L.F. "A User Study of the Expandable Grid Applied to P3P Policy Visualization." Workshop on Privacy in the Electronic Society (WPES). 2008.
- 2007 [w.01] Prabaker, M., Rao, J., Fette, I., Kelley, P.G., Cranor, L., Hong, J., and Sadeh, N. "Understanding and Capturing People's Privacy Policies in a People Finder Application." UbiComp Workshop on Privacy, Austria, 2007.

ACADEMIC SERVICE, LEADERSHIP

- Reviewing SOUPS, CHI, UBICOMP, CSCW, ToCHI, ICIS, DIS, UIST, IET Information Security, IEEE Pervasive Computing, IEEE Security & Privacy, IEEE Industrial Electronics Magazine, Information Systems Research
- Program PSOSM 2013, CHI 2014, WPES 2014,
Committees Networked Privacy 2015, WWW 2015
- UNM UNM-CS Undergraduate Curriculum Committee, UNM-CS Faculty Search 2013,
Committees Farris Engineering Center Master Planning Committee, UNM Lobo Experience 2016, University Libraries Committee, UNM Service-Learning Advisory Board, UNM Liberal Arts & Integrative Studies Faculty Advisory Committee
- External ACM SIGCHI Adjunct Chair for Media+Brand
Service ACM SIGCHI Conference Management Committee
SOUPS Publicity Chair 2015, 2016

RESEARCH AWARDS

- "Digital Privacy Notice Generator" Third place prize winner of the ONC Digital Privacy Notice Challenge. May 2014
- "Of Passwords and People: Measuring the Effect of Password- Composition Policies." CHI Best Paper Honorable Mention. CHI 2011.
- "A Investigation into Facebook Friend Grouping." Honorable Mention for Best Student Paper at INTERACT 2011 in Lisbon, Portugal.
- "A "Nutrition Label" for Privacy" 1st Place, ACM Grand Finals Graduate Student Research Competition. 2010.
- Our 2010 Standardizing Privacy Notices paper was selected for inclusion in the Privacy Papers for Policy Makers, Future of Privacy Forum publication.
- "Designing A Privacy Label." 1st Place, ACM SIGCHI Student Research Comp. 2009.
- "Designing A Privacy Label." Honorable Mention, NYU-poly Computer Security Awareness Week - Research Competition. 2009.
- "Mitsubishi Electronic Research Lab Sensor Exploration." With Danny Rashid. Honorary Award, IEEE InfoVis Contest. 2008.

FUNDING

NSF National Robotics Initiative

Planning, Collaborative Guidance and Navigation in Uncertain Dynamic Environments

PI Lydia Tapia (co-PIs Meeko Oishi, Patrick Gage Kelley)

\$999,998

UNM Teaching Fellow

Awarded for development of interactive case-studies for teaching undergraduate technology ethics. August 2015

PI: Patrick Gage Kelley

\$2,000

Google Research Award

Understanding Privacy in Medical Mobile Apps

PI: Patrick Gage Kelley

Google, Inc., unrestricted gift, October 2014

\$38,746

NSF EAGERs Enabling New Collaborations

Privacy's Sociocultural Divide across American Youth

PI: Patrick Gage Kelley (Co-PI: Myra Washington)

National Science Foundation, 10/01/2014 – 09/30/2016

\$242,832

SELECTED TECHNICAL REPORTS

Kelley, P.G., Komanduri, S., Mazurek, M.L., Shay, R., Vidas, T., Bauer, L., Christin, N., Cranor, L.F. "Guess again (and again and again): Measuring password strength by simulating password-cracking algorithms." CMU-CyLab-11-008, October 2011.

Kelley, P.G., Benisch, M., Sadeh, N., and Cranor, L.F. "When are Users Comfortable Sharing Locations with Advertisers?" CMU Tech Report: CMU-CyLab-10-017, October 2010.

Benisch, M., Kelley, P.G., Sadeh, N., and Cranor, L.F. "Capturing Location-Privacy Preferences: Quantifying Accuracy and User-Burden Tradeoffs" CMU Tech Report: CMU-ISR-10-105, March 2010.

Kelley, P.G., Cesca, L., Bresee, J., Cranor, L.F. "Standardizing Privacy Notices: An Online Study of the Nutrition Label Approach." CyLab Tech Report: CMU- CyLab-09-014, November 2009.

Benisch, M., Kelley, P.G., Sadeh, N., Sandholm, T., Cranor, L., Hanks, Drielsma, P., and Tsai, J. "The Impact of Expressiveness on the Effectiveness of Privacy Mechanisms for Location Sharing." CMU Tech Report: CMU-ISR-08-141, December 2008.

ACTIVITIES, ORGANIZATIONS & LEADERSHIP

2013-present	ACM SIGCHI	<i>Adjunct Chair for Social Media + Brand Conference Mangement Committee</i>
2006–2012	The Tartan	<i>Publisher, Chief Executive Officer, Editorial Board, Senior Staffwriter, Ombudsman, Executive Committee</i> I was appointed to the Editorial Board in 2007. In 2011 I was elected as Publisher of the organization, continuing my work to reform the constitution, create an executive committee, launch an advisory board, update our advertising/business procedures.
2009–2011	National Association of Graduate and Professional Students	<i>Director of Communications</i> Led efforts in re-branding, social media, and design. NAGPS works to advocate and support graduate students nationally and locally– through best practices, lobbying, and regional and national conferences.
2008–2009	Graduate Student Assembly	<i>President</i> Elected for two terms as GSA President, representing and leading the legislative arm of student government supporting CMU's five thousand graduate students. Focused on improving communication, through orientation events, increased representation, and better committee reporting.
2009–2011	IMPAQT	<i>Ambassador to Qatar, Director of Marketing</i> Selected to travel to Carnegie Mellon's Doha, Qatar campus as a member of a ten-student group to develop programs and projects to more tightly bind CMU.
2007–2009	Dossier	<i>Editor-in-Chief</i> Dossier, CMU's Art & Literary Magazine, ceased publication in 2002. With Kristen Lukiewski, re-launched in 2007, as a full-color magazine of student art.
2004–2007	Society of Women Engineers	<i>Collegiate Leadership Publicity Manager and Leadership Coach</i> Became the first male student to sit on a National SWE Committee. Presented at two national conferences in support of the Student Leadership Committee.
2002–2005	RIT Honors Program	<i>Secretary & Constitutional/Steering Committee Chair</i> I chaired the Constitutional Committee, that designed the foundation of the Honors Program Student Government. Chaired three other committees and also served as an officer on the Honors Executive Council.
2002–2005	RIT Leadership Institute	<i>Mentor and Advisory Board</i> I served as an active member of the RLI Advisory Board, helping to further refine its certification program and served as a mentor at the quarterly retreats.
2004–2006	Reporter Magazine	<i>Online Editor & Staffwriter</i>
2004	Signatures Magazine	<i>Literary Editor</i>