Sauvik Das

Ph.D. Student, HCII @ CMU
http://sauvik.me
sauvik@cmu.edu || @scyrusk

Education

Carnegie Mellon University, 2011-Present
Ph.D. in Human-Computer Interaction
Advisers: Dr. Jason I. Hong and Dr. Laura A. Dabbish
Committee: Dr. Jeffrey P. Bigham and Dr. J.D. Tygar

University of Tokyo, 2016
Visiting Student Researcher (as part of NSF EAPSI Grant)
Adviser: Dr. Koji Yatani

Georgia Institute of Technology, 2006-2011
B.S. Computer Science—Media and Intelligence Threads
GPA: 4.0/4.0 (Top 1%)
Adviser: Dr. Mark O. Riedl

Nanyang Technological University, 2008-2009
Exchange Student

Research Summary

I computationally model security and privacy behaviors and use these models to design, implement and evaluate novel usable security and privacy systems. I am particularly interested in creating more socially compatible security systems.

Research areas: HCI, usable privacy & security, social & ubiquitous computing, data science, computational social science

Selected Honors, Awards and Fellowships 🏆

2016 **CHI Best Paper Honorable Mention [P12]**
NSF EAPSI Fellowship
Nominated for John Karat Usable Privacy and Security Student Research Award
2015 **NSA Best Scientific Cybersecurity Paper Award – Honorable Mention [P8]**
Facebook Fellowship Finalist
2014 **Qualcomm Innovation Fellowship**
2013 **UbiComp Best Paper [P5]**
2012 **National Defense Science and Engineering Graduate Fellowship (2012-15)**
National Science Foundation Graduate Research Fellowship, Honorable Mention (x2)
2011 Stu Card Graduate Fellowship (2011-2012)
CMU CyLab CUPS Doctoral Training Program Fellowship (2011-13)
National Science Foundation Graduate Research Fellowship, Honorable Mention
Outstanding Undergraduate Researcher, College of Computing, Georgia Tech
Most Innovative Video Nomination, AAAI Video Competition [V1]

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Awards not relevant to my research career listed in the "Extended Honors & Awards" section below.

Grants

2016 Assisted with *NSF SaTC Grant* entitled "Social Cybersecurity: Applying Social Influence to Cybersecurity" (w/ Jason Hong & Laura Dabbish)

2013 Assisted with *NSF EAGER Grant* entitled "Social Cybersecurity: Applying Social Psychology to Improve Cybersecurity" (w/ Jason Hong & Laura Dabbish) [worth $200,000]

Academic Publications

Google Scholar: http://scholar.google.com/citations?user=laPvCf4AAAAJ&hl=en&oi=ao

Conference and Journal Papers

[P17] Jason Wiese, **Sauvik Das**, John Zimmerman and Jason Hong. Evolving the Ecosystem of Personal Behavioral Data. *Submitted to HCI Journal Special Issue on The Examined Life: Personal Uses for Personal Data, 2017.*

[P16] **Sauvik Das**, Gierad Laput, Chris Harrison and Jason I. Hong. Thumprint: Socially-Inclusive Local Group Authentication Through Shared Secret Knocks. *Submitted to CHI 2017.*

[P15] **Sauvik Das**. Social Cybersecurity: Understanding and Leveraging Social Influence to Increase Security Sensitivity. *German Journal of it – Information Technology Special Issue on Usable Security and Privacy, 2016.* INVITED PAPER

[P14] **Sauvik Das**, Jason Wiese and Jason I. Hong. Epistenet: Facilitating Programmatic Access & Processing of Semantically Related Personal Mobile Data. *In Proceedings of the 18th International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI), 2016.* (Acceptance Rate: 23%). To appear.

[P13] Alexander de Luca, **Sauvik Das**, Iulia Ion, Martin Ortlieb and Ben Laurie. Expert and Non-Expert Attitudes towards (Secure) Instant Messaging. *In Proceedings of the 10th International Symposium on Usable Privacy and Security (SOUPS), 2016.* To appear.

[P12] Haiyi Zhu, **Sauvik Das**, Yiqun Cao, Shuang Yu, Aniket Kittur and Robert Kraut. A Market in Your Social Network: The Effects of Extrinsic Rewards on Friendsourcing and Relationships. *In Proceedings of the 34th SIGCHI Conference on Human Factors in Computing Systems (CHI), 2016*. (Acceptance Rate: 23%) BEST PAPER HONORABLE MENTION (TOP 4% OF SUBMISSIONS)

[P11] **Sauvik Das**, Jason I. Hong and Stuart Schechter. Testing Computer-Aided Mnemonics and Feedback for Fast Memorization of High-Value Secrets. *In Proceedings of the NDSS Workshop on Usable Security (USEC)*, 2016.

[P10] **Sauvik Das**, Alexander Zook, and Mark Riedl. Examining Game World Topology Personalization. *In Proceedings of the 33rd SIGCHI Conference on Human Factors in Computing Systems (CHI), 2015.* (Acceptance Rate: 23%)

[P9] **Sauvik Das**, Adam Kramer, Laura Dabbish and Jason I. Hong. The Role of Social Influence in Security Feature Adoption. *In Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work (CSCW), 2015.* (Acceptance Rate: 28.3%)

[P8] **Sauvik Das**, Adam Kramer, Laura Dabbish and Jason I. Hong. Increasing Security Sensitivity with Social Proof: A Large Scale Experimental Confirmation. *In Proceedings of the 21st Conference on Computer and Communications Security (CCS), 2014.* (Acceptance Rate: 19.5%). **Honorable mention for NSA best scientific cybersecurity paper in 2014** (Top 3 out of 50 anonymous nominations)

[P7] **Sauvik Das**, Tiffany Hyun-Jin Kim, Laura Dabbish and Jason I. Hong. The Effect of Social Influence on Security Sensitivity. *In Proceedings of the 8th International Symposium on Usable Privacy and Security (SOUPS), 2014.* (Acceptance Rate: 26.5%)

[P6] Eiji Hayashi, **Sauvik Das**, Shahriyar Amini, Jason Hong and Ian Oakley. CASA: Context-Aware Scalable Authentication. *In Proceedings of the 7th International Symposium on Usable Privacy and Security (SOUPS), 2013.* (Acceptance rate: 27%)

[P5] **Sauvik Das**, Eiji Hayashi, and Jason Hong. Exploring Capturable Everyday Memory for Autobiographical Authentication. *In Proceedings of the 2013 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp), 2013*. (Acceptance rate: 23%). **Best Paper Award** (top 1% of all submissions)

[P4] **Sauvik Das** and Adam Kramer. Self-Censorship on Facebook. *In Proceedings of the 7th International AAAI Conference on Weblogs and Social Media (ICWSM), 2013*. (Acceptance rate: 20%)

[P3] Manya Sleeper, Rebecca Balebako, **Sauvik Das**, Amber McConohy, Jason Wiese, and Lorrie Cranor. The Post That Wasn't: Examining Self-Censorship on Facebook. *In Proceedings of the 16th annual ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW), 2013. (Acceptance Rate: 35.6%)*

[P2] Emmanuel Owusu, Jun Han, **Sauvik Das** and Adrian Perrig. ACCessory: Keystroke Inference using Accelerometers on Smartphones. *In Proceedings of the 12th annual ACM/SIG International Workshop on Mobile Computing Systems and Applications (HotMobile), 2012*. (Acceptance rate: 20.6%)

[P1] Ken Hartsook, Alexander Zook, **Sauvik Das**, and Mark Riedl. Toward supporting storytellers with procedurally generated game worlds. *In Proceedings of the 2011 IEEE Conference on Computational Intelligence in Games (CIG), 2011.*

Patents

[PT1] **Sauvik Das** and Adam Kramer. Systems and Methods for Increasing Security Sensitivity Based on Social Influence. *US Patent 2016/0140341*. 2016

Visioning Workshop Papers

[V2] **Sauvik Das**, Laura Dabbish and Jason Hong. Improving End-User Security Sensitivity by Making Security More Social. *CCC Sociotechnical Cybersecurity Workshop*. 2017

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[V1] Jason Hong, **Sauvik Das**, Tiffany Hyun-Jin Kim, Laura A. Dabbish. Social Cybersecurity: Applying Social Psychology to Cybersecurity. *Human Computer Interaction Consortium (HCIC).* 2015.

Work-in-Progress Workshop Papers

[W3] David Lu, Taehoon Lee, **Sauvik Das** and Jason Hong. Examining Visual-Spatial Paths for Mobile Authentication. *Who Are You?! SOUPS Workshop on Authentication in Usable Security (WAY)*. 2016

[W2] **Sauvik Das**, Thomas Zimmermann, Nachiappan Nagappan, Bruce Phillips, and Chuck Harrison. Revival Actions in a Shooter Game. *CHI Workshop on Designing and Evaluating Sociability in Online Video Games (DESVIG).* 2013.

[W1] Eiji Hayashi, **Sauvik Das**, Shahriyar Amini, Emmanuel Owusu, Jun Han, Jason Hong, Ian Oakley, Adrian Perrig and Joy Zhang. CASA: context-aware scalable authentication. *SOUPS Workshop on Usable Privacy & Security for Mobile Devices.* 2012.

Technical Reports

[TR1] **Sauvik Das**, LaToya Green, Beatrice Perez, Michael Murphy, and Adrian Perrig. Detecting User Activities Using the Accelerometer on Android Smartphones. 2010.

Demos & Videos

[V1] Mark O. Riedl, Ken Hartsook, **Sauvik Das**, Alexander Zook, and Boyang Li. Game Forge: An intellingent system that generates computer role playing games. *In Association for the Advancement of Artificial Intelligence, Video Competition, 2011.* **Nominated for Most Innovative Video.**

Invited Talks

[T11] Thumprint: Socially-Inclusive Local Group Authentication through Shared Secret Knocks. *CMU CHIMPS Lab, September 2016*

[T10] Social Cybersecurity: Understanding and Leveraging Social Influence to Increase Security Sensitivity. *TU Darmstadt, May 2016*

[T9] Increasing Security Sensitivity with Social Proof: A Large-Scale Experimental Confirmation. *NSA Best Scientific Cybersecurity Paper Award Ceremony, November 2015*

[T8] Social Cybersecurity: Understanding and Leveraging Social Influence to Increase Security Sensitivity. *Georgia Tech Entertainment Intelligence Lab, October 2015*

[T7] Thumprint: Socially-Inclusive Local Group Authentication through Shared Secret Knocks. *Qualcomm Innovation Fellowship, Winners Day, September 2015*

[T6] The Role of Social Influence in Security Feature Adoption. *Google UX-Privacy Lunch, June 2015*

[T5] The Role of Social Influence in Security Feature Adoption. *CUPS Lunchtime Seminar,*

March 2015

[T4] Increasing Security Sensitivity with Social Proof: A Large-Scale Experimental Confirmation. *CUPS Lunchtime Seminar, October 2014*

[T3] Everyday Objects for Physical Space Authentication. *Qualcomm Innovation Fellowship, Winners Day, September 2014*

[T2] Self-Censorship on Facebook. *Facebook Faculty Summit, July 2013*

[T1] Pro-Social Behavior in a Shooter Game. *Microsoft Research, December 2011*

Selected Industry Research Experience

2015 **Google**
Zurich, Switzerland
Privacy Research Intern
Mentor: Dr. Sebastian Schnorf

Worked on improving the value of privacy notifications using social and contextual cues.

2014 **Microsoft Research**
Seattle, WA, USA
Research Intern
Mentor: Dr. Stuart Schechter

Created a tool that lets lay people learn strong, randomly-assigned passwords with computer-assisted mnemonics.

2013 **Facebook**
Menlo Park, CA, USA
Data Science Intern
Mentor: Dr. Adam D.I. Kramer

Analyzed how security tools diffuse through social networks and ran an experiment using social cues to improve security tool adoption.

2012 **Facebook**
Menlo Park, CA, USA
Data Science Intern
Mentor: Dr. Adam D.I. Kramer

Defined, implemented and conducted a large-scale analysis of "self-censorship" on Facebook.

2011 **Microsoft Research**
Seattle, WA, USA
Research Intern
Mentor: Dr. Thomas Zimmermann

Ran a large-scale analysis associating pro-social behavior in a popular shooter game with retention and other metrics.

Work experience prior to graduate school listed in the "Extended Professional Experience" section below.

Selected Press & Coverage

Self-Censorship — The Atlantic. *71% of Users Engage in Self-Censorship*, http://www.theatlantic.com/technology/archive/2013/04/71-of-facebook-users-engage-in-self-censorship/274982/

	Mashable. *71% of Users Engage in Self-Censorship*, http://mashable.com/2013/04/15/71-of-facebook-users-engage-in-self-censorship/
	Huffington Post. *Self-Censorship on Facebook Is Common, Study Finds*, http://www.huffingtonpost.com/craig-kanalley/self-censorship-facebook_b_3095101.html
	Digital Trends. How The Internet Has a Chilling Effect on Jokes. http://www.digitaltrends.com/opinion/context-internets-chilling-effect-jokes/#!HjbRo
	US News. Consumers seek online privacy.
	Pittsburgh City Paper. *Saving Face(book).* http://www.pghcitypaper.com/pittsburgh/saving-facebook/Content?oid=1718331
	… much more (https://www.google.com/#q=self-censorship+on+facebook)
GameForge	Gamasutra. *A World Just For You.* http://www.gamasutra.com/blogs/MichaelCook/20130722/196678/The_Saturday_Paper__A_World_Just_For_You.php
Social Cybersecurity	Serene RISC Quartlery Knowledge Digest, http://www.serene-risc.ca/files/prod/page_files/7/SERENE-RISC-Quarterly-Knowledge-Digest-Sample.pdf
	Financial Times. *Geeks like me put others of safe surfing.* http://www.ft.com/cms/s/0/b1b5e5d6-0dc9-11e5-aa7b-00144feabdc0.html#axzz3iy7j8sEy
	Vice. *People Can't Tell What Apps Use Encryption, And Don't Really Care, Study Finds*. http://motherboard.vice.com/read/people-cant-tell-what-apps-use-encryption-and-dont-really-care-study-finds

Academic Service

Invited Program Committees

2017	WWW (Security & Privacy Track), ICWSM, SOUPS (Poster Jury)
2016	ICWSM

External Reviewer

2015+	MobileHCI, ToCHI, ISWC
2014+	ACM CSCW, Social Science Review, ACM IUI
2013+	ACM UbiComp, ACM MobiSys, IEEE Pervasive Computing
2012+	ACM SIGCHI (*Excellent Review Designation, 2015 & 2016*), ACM DIS

Teaching Experience

05-3/820: Social Web: Content, Communities and Context

Invited lecture, Fall semester 2015

I was invited to give a guest lecture on the social aspects of security and privacy.

05-4/633: Software Structures for User Interfaces – Mobile Lab, Carnegie Mellon University

Fall Semester 2012, Fall Semester 2013

I was the Instructor for this lab course, which focused on teaching students how to implement user interface software engineering techniques on Android. My responsibilities included:

- Making and teaching weekly lectures,
- Holding weekly office hours,
- Creating and grading five project-based assignments

CS2340: Objects and Design, Georgia Institute of Technology

Spring Semester 2008

I was a Teaching Assistant for this course. I taught students about object-oriented programming. My responsibilities included:

- Personally mentoring 4 groups of students for a semester long software engineering project
- Creating and grading assignments

CS1332: Data Structures & Algorithms, Georgia Institute of Technology

Fall Semester 2007

I was a Teaching Assistant for this course. I taught students about basic data structures and algorithms, including arrays, linked lists, hashes, trees, heaps, Big O, sorts, searches, dynamic programming. My responsibilities included:

- Teaching weekly recitations,
- Creating and grading several assignments,
- Creating a final exam review

Individual Research Mentorship: Students Supervised

Tuan Ahn Le	Fall 2016 – Present. CMU EE
Joanne Lo	Fall 2015 – Present. CMU SDS
Haley Bryant	Spring 2015. CMU SDS
Taehoon Lee	Fall 2014 – Present. CMU CS.
	Publications: W3
David Lu	Fall 2014 – Present. CMU CS
	Publications: W3
Yiqun Cao	Spring 2014 – Fall 2015. CMU BA
	Publications: P12
Shuang Yu	Spring 2014 – Fall 2015. CMU IS
	Publications: P12
Solon Mao	Fall 2014. CMU IS.
Ethan Chan	Spring 2014. CMU IS.
Barath	Spring 2014. CMU HCI

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Extended Professional Experience

OpenStudy, August 2010-May 2011
Atlanta, GA, U.S.A.
Software Development Engineer

Carnegie Mellon University, June 2010-August 2010
Atlanta, GA, U.S.A.
TRUST-REU Research Intern
Mentor: Dr. Adrian Perrig

Fukui Byora, May 2009-May 2010
Daishoji, Ishikawa, Japan
3D Modeling and Animation Intern

Extended Honors & Awards

2011	Invited Student Panelist: Models for Preparing the Global Workforce
2010	WACE International WIL student achievement award
2008	International Plan Stipend, Georgia Tech
2006	Intel Opportunity Scholarship (2006-08)
	HOPE Scholarship (2006-11)
	India America Cultural Association Scholarship
	Golden Key, The Scholastic Arts and Writing Awards, Senior Portfolio for Region-at-Large

References

Dr. Jason Hong, Carnegie Mellon University (adviser), jasonh@cs.cmu.edu

Dr. Laura Dabbish, Carnegie Mellon University (adviser), dabbish@cmu.edu

Dr. Adam Kramer, Facebook, akramer@fb.com

Dr. Stuart Schechter, Samsung (formerly Microsoft Research), stuart@post.harvard.edu

Dr. J.D. Tygar, University of California, Berkeley, tygar@cs.berkeley.edu

Dr. Jeffrey Bigham, Carnegie Mellon University, jbigham@cs.cmu.edu

Dr. Koji Yatani, University of Tokyo, koji@iis-lab.org

Other references available upon request.

Last Updated: 11/8/16