Sauvik Das

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Education

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

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

2017 **CHI Best Paper Honorable Mention [P15]**

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

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Most Innovative Video Nomination, AAAI Video Competition [V1]

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

Grants Awarded

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

Rigorously Peer-Reviewed Papers

[P16] Jason Wiese, **Sauvik Das**, John Zimmerman and Jason Hong. Evolving the Ecosystem of Personal Behavioral Data. *HCI Journal Special Issue on The Examined Life: Personal Uses for Personal Data (2017)*. To appear.

[P15] **Sauvik Das**, Gierad Laput, Chris Harrison and Jason I. Hong. Thumprint: Socially-Inclusive Local Group Authentication Through Shared Secret Knocks. *In Proceedings of the 35th SIGCHI Conference on Human Factors in Computing Systems (CHI), 2017*. To appear. **BEST PAPER HONORABLE MENTION** (TOP 4% OF SUBMISSIONS)

[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

Invited Papers

[I1] **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

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Peer-reviewed Workshop Papers

[W4] 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

[W3] Jason Hong, **Sauvik Das**, Tiffany Hyun-Jin Kim, Laura A. Dabbish. Social Cybersecurity: Applying Social Psychology to Cybersecurity. *Human Computer Interaction Consortium (HCIC).* 2015.

[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.

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.

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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

… many 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

Academic Service

Program Committee

2017 WWW (Security & Privacy Track), ICWSM

2016 ICWSM

External Reviewer

2012+ ACM SIGCHI (*Excellent Review Designation, 2015 & 2016*), ACM DIS

2013+ ACM UbiComp, ACM MobiSys, IEEE Pervasive Computing

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2014+	ACM CSCW, Social Science Review, ACM IUI
2015+	MobileHCI, ToCHI, ISWC

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

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

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: W4
David Lu	Fall 2014 – Present. CMU CS
	Publications: W4
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 Chandrashekhar	Spring 2014. CMU HCI

References

Dr. Jason Hong, Carnegie Mellon University (adviser)

Dr. Laura Dabbish, Carnegie Mellon University (adviser)

Other references available upon request.

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