

# rishab nithyanand

✉ rishab@datasociety.net | 🌐 [www.rishabn.com](http://www.rishabn.com) | ☎ +1 (949) 500-9368

## education

2017	<b>Ph.D. Computer Science</b> Advisors: Prof. Rob Johnson and Prof. Phillipa Gill	Stony Brook University
2010	<b>M.Sc. Computer Science</b> Advisor: Prof. Gene Tsudik	University of California - Irvine
2008	<b>B.Tech Computer Science and Engineering</b> Graduated First Class with Distinction	SRM University

## work experience

09/2017-current	Data and Society Research Institute Ford-Mozilla Open Web Fellow	New York, NY
07-09/2017	University of Massachusetts - Amherst Post-doctoral Researcher	Amherst, MA
02-11/2016	International Computer Science Institute (ICSI) Visiting Researcher	Berkeley, CA
05-08/2014	Qualcomm Office of the Chief Scientist Engineering Intern	San Diego, CA
01-09/2012	Computer Associates Part-time Software Engineer	Stony Brook, NY
05-08/2011	Sandia National Labs Member of Technical Staff	Livermore, CA
02-09/2010	University of California - Irvine Staff Research Associate	Irvine, CA

## awards, fellowships, and grants

2017-18	Ford-Mozilla Open Web Fellowship (\$60K).
2015-16	OTF Senior Fellow in the Emerging Technology Fellowship Program (\$55K).
2014-15	Qualcomm Research Franklin Antonio Intern Fellowship (\$17K).
2010-11	Stony Brook University Computer Science Fellowship (\$4K).
2010-15	Travel Grants: DTL 2017, IEEE S&P 2015, ACM CCS 2014, ACM CCS 2012, IEEE S&P 2010.

# publications

## conference and workshop proceedings

NDSS	Apps, Trackers, Privacy and Regulators: A Study of the Mobile Tracking Ecosystem. Abbas Razaghpanah, Rishab Nithyanand, Narseo Vallina-Rodriguez, Srikanth Sundaresan, Mark Allman, Christian Kreibich, Phillipa Gill.	2018
USENIX Security	Characterizing the Nature and Dynamics of Tor Exit Blocking. Rachee Singh, Rishab Nithyanand, Sadia Afroz, Michael Tschantz, Paul Pearce, Phillipa Gill, Vern Paxson.	2017
ACM CoNEXT	A Churn for the Better: Localizing Anomalies using Network-level Path Churn. Shinyoung Cho, Rishab Nithyanand, Abbas Razaghpanah, Phillipa Gill.	2017
USENIX FOCI	Measuring Offensiveness in Online Political Discourse. Rishab Nithyanand, Brian Schaffner, Phillipa Gill.	2017
NDSS	Measuring and Mitigating AS-level Adversaries against Tor. Rishab Nithyanand, Oleksii Starov, Adva Zair, Phillipa Gill, Michael Schapira.	2016
IEEE Euro S&P	Games without Frontiers: Investigating Video Games as a Covert Channel. Bridger Hahn, Rishab Nithyanand, Phillipa Gill, Rob Johnson.	2016
USENIX FOCI	Ad-Blocking and Counter Blocking: A Slice of the Arms Race. Rishab Nithyanand, Sherharbano Khattak, Mobin Javed, Narseo Vallina, Marjan Falahastegar, Julia Powles, Emiliano DeCristofaro, Hamed Haddadi, Steven Murdoch.	2016
ACM CCS	A Systematic Approach to Developing and Evaluating Website Fingerprinting Defenses. Xiang Cai, Rishab Nithyanand, Tao Wang, Rob Johnson, Ian Goldberg.	2014
USENIX Security	Effective Attacks and Provable Defenses for Website Fingerprinting. Tao Wang, Xiang Cai, Rishab Nithyanand, Rob Johnson, Ian Goldberg.	2014
ACM WPES	CS-BuFLO: A Congestion Sensitive Website Fingerprinting Defense. Xiang Cai, Rishab Nithyanand, Rob Johnson.	2014
ACM WPES	Glove: A Bespoke Website Fingerprinting Defense. Rishab Nithyanand, Xiang Cai, Rob Johnson.	2014
ACM WPES	The Password Allocation Problem: Strategies for Reusing Passwords Effectively. Rishab Nithyanand, Rob Johnson.	2013
TrustED	A Theoretical Analysis: PUFs and the Software Protection Problem. Rishab Nithyanand, John Solis.	2012
ESORICS	Usability of Display - Equipped RFID Tags for Security Purposes. Alfred Kobsa, Rishab Nithyanand, Gene Tsudik, Ersin Uzun.	2011
ACM UbiComp	Group Think: On the Usability of Secure Group Association of Wireless Devices. Rishab Nithyanand, Nitesh Saxena, Gene Tsudik, Ersin Uzun.	2010
ESORICS	Readers Behaving Badly: Reader Revocation in PKI Based RFID Systems. Rishab Nithyanand, Gene Tsudik, Ersin Uzun.	2010

## invited journal and magazine articles

USENIX ;login	The Adblocking Tug-of-war. Hamed Haddadi, Rishab Nithyanand, Sherharbano Khattak, Mobin Javed, Narseo Vallina, Marjan Falahrastegar, Julia Powles, Emiliano DeCristofaro, Steven Murdoch.	2016
J. Computer Security	Can Jannie Verify? Usability of Display Equipped RFID Tags for Security Purposes. Alfred Kobsa, Rishab Nithyanand, Gene Tsudik, Ersin Uzun.	2013
J. Computer Security	User Aided Reader Revocation in PKI Based RFID Systems. Rishab Nithyanand, Gene Tsudik, Ersin Uzun.	2012

## articles in review

In submission	The Evolution of Online American Political Discourse. Rishab Nithyanand, Brian Schaffner, Phillipa Gill.	2018
In submission	Holding all the ASes: Identifying and Circumventing the Pitfalls of AS-aware Tor Client Design. Rishab Nithyanand, Rachee Singh, Shinyoung Cho, Phillipa Gill.	2018

## misc: theses, patents, reports, posters, etc.

PhD Dissertation	DOCTOR: Defending and Opening Communication over Tor. Rishab Nithyanand.	2017
Arxiv 1606.01979	Exploring the Design Space of Longitudinal Censorship Measurement Platforms. Abbas Razghpanah, Anke Li, Arturo Filasto, Rishab Nithyanand, Vasilis Ververis, Will Scott, Phillipa Gill.	2016
Patent	Multi-granular Authentication. Olivier Benoit, Rishab Nithyanand, Rosario Cammarota, Anand Palanigounder.	2016
IEEE S&P Poster	Games without Frontiers: Investigating Video Games as a Covert Channel. Bridger Hahn, Rishab Nithyanand, Phillipa Gill, Rob Johnson.	2015
ArXiv 1401.6022	How Best to Handle a Dicey Situation. Rishab Nithyanand, Jonathan Toohill, Rob Johnson.	2014
ArXiv 1401.7304	New Approaches to Website Fingerprinting Defenses. Xiang Cai, Rishab Nithyanand, Rob Johnson.	2014
Candidacy Report	On the Complexity of Allocation Problems with Probabilistic Players. Rishab Nithyanand.	2012
ACM CCS Poster	Making the Case for Intrinsic Personal Physical Unclonable Functions. Rishab Nithyanand, Radu Sion, John Solis.	2011
Sandia National Labs	Solving the Software Protection Problem with Intrinsic Personal PUFs. Rishab Nithyanand, Radu Sion, John Solis.	2011
IEEE S&P Poster	Check The Date: Reader Revocation in PKI Based RFID Systems. Rishab Nithyanand, Gene Tsudik, Ersin Uzun.	2010
M.Sc Thesis	Securing Personal RFID Tags and Infrastructures. Rishab Nithyanand.	2010
IACR 2009/387	Securing Plastic Money Using an RFID Based Protocol Stack. Rishab Nithyanand.	2009
IACR 2009/200	On the Evolution of Cryptographic Protocols in Electronic Passports. Rishab Nithyanand.	2009

## invited talks

2017	The Evolution of Online Political Discourse. University of Massachusetts at Amherst.
2016	Defending Tor from Network-level Adversaries. Telefonica Research.
2015	Measuring and Mitigating AS-level Adversaries against Tor. Columbia University.
2015	Games without Frontiers: Investigating Video Games as a Covert Channel. Boston University, Northeastern University.
2014	Battling Ingsoc: A Structured Approach for Defeating Website Fingerprints. Columbia University, Qualcomm Research, San Diego LUG.
2014	It's Im-PUF-ible! Solving the Software Protection Problem with PUFs. Qualcomm Research.
2011	Intrinsic Personal Physical Unclonable Functions. Sandia National Labs.

## academic service

Reviewer	IEEE S&P 2018, PETS 2018, PETS 2017, ACM CCS 2017, PETS 2016, IEEE ToN 2016, ACM IMC 2016, WWW 2016, ACM IMC 2015, Usenix Security 2015, Usenix ATC 2015, ACM CCS 2014, ACM CCS 2013, CANS 2012, WWW 2011, IEEE TMC.
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## selected media coverage

2017	For work on “Measuring offensiveness in political discourse” and “Evolution of Online American Political Discourse”. Vox.com, New Scientist, BBC News (to appear), CNET/CBS (to appear).
2017	For work on “Apps, Trackers, Privacy and Regulators: A Study of the Mobile Tracking Ecosystem”. Newsweek, ABC News.
2016	For work on “Ad-Blocking and Counter Blocking”. Heise.de, Information Week, LightBlueTouchPaper, IAB-Aus, and others.
2016	For work in distinguishing between censorship and server-side blocking in the context of understanding the impact of economic sanctions on Iran. Smallmedia.org.uk.
2015	For work on “Measuring and Mitigating AS-level Adversaries against Tor”. The Register, Daily Dot, Slash Gear, Hacker News, and others.
2015	For work on “Games without Frontiers: Investigating Video Games as a Covert Channel”. WIRED US, WIRED DE, South China Morning Post, Stony Brook Statesman.

# teaching experience

Spring '13, Spring '11, Fall '10	Graduate Network and Systems Security Teaching Assistant	Stony Brook University
Fall '12	Undergraduate Computer Networks Teaching Assistant	Stony Brook University

## references

Prof. Rob Johnson	Stony Brook University	✉ rob@cs.stonybrook.edu
Prof. Phillipa Gill	University of Massachusetts - Amherst	✉ phillipa@cs.umass.edu
Prof. Vern Paxson	University of California - Berkeley	✉ vern@icir.org
Prof. Gene Tsudik	University of California - Irvine	✉ gts@ics.uci.edu
Prof. Nikita Borisov	University of Illinois - Urbana Champaign	✉ nikita@illinois.edu