

rishab nithyanand

contact

201L MacLean Hall
University of Iowa
Iowa City, IA 52242
USA

✉ rnithyanand@uiowa.edu

🌐 sparta.cs.uiowa.edu

education

2017	Ph.D. Computer Science Advisors: Rob Johnson & Phillipa Gill	Stony Brook University, USA
2010	M.Sc Computer Science Advisor: Gene Tsudik	University of California at Irvine, USA
2008	B.Tech Computer Science and Engineering	SRM University, India

employment

09/18-now	The University of Iowa Assistant Professor, Department of Computer Science	Iowa City, IA
09/17-07/18	Data & Society Research Institute Ford-Mozilla Open Web Fellow	New York, NY
07/17-09/17	University of Massachusetts at Amherst Postdoctoral Researcher	Amherst, MA
02/16-11/16	International Computer Science Institute Visiting Researcher	Berkeley, CA
05/14-08/14	Qualcomm Office of the Chief Scientist Research Intern	San Diego, CA
01/12-09/12	Computer Associates Software Engineer	Stony Brook, NY
05/11-08/11	Sandia National Labs Research Intern	Livermore, CA
02/10-09/10	University of California at Irvine Staff Research Associate	Irvine, CA

awards & fellowships

2017	Ford-Mozilla Open Web Fellowship Awarded while at Data & Society Research Institute	\$60K
2015	Open Technology Foundation Senior Fellowship Awarded while at the International Computer Science Institute	\$55K
2014	Qualcomm Research Franklin Antonio Intern Fellowship Awarded for work done as intern at Qualcomm Office of the Chief Scientist	\$17K
2010	Stony Brook University Computer Science Fellowship Awarded while at Stony Brook University	\$4K

publications

peer reviewed publications

Inferring Tracker-Advertiser Relationships in the Online Advertising Ecosystem using Header Bidding

John Cook, Rishab Nithyanand, and Zubair Shafiq

Proceedings on Privacy Enhancing Technologies 2020.1 (2020). Sciendo, 2020

Apps, Trackers, Privacy, and Regulators: A Global Study of the Mobile Tracking Ecosystem

Abbas Razaghpanah, Rishab Nithyanand, Narseo Vallina-Rodriguez, Srikanth Sundaresan, Mark Allman, Christian Kreibich, and Phillipa Gill

25th Annual Network and Distributed System Security Symposium, NDSS 2018, San Diego, California, USA, February 18-21, 2018, 2018

Characterizing the Nature and Dynamics of Tor Exit Blocking

Rachee Singh, Rishab Nithyanand, Sadia Afroz, Paul Pearce, Michael Carl Tschantz, Phillipa Gill, and Vern Paxson

Proceedings of the Applied Networking Research Workshop, ANRW 2018, Montreal, QC, Canada, July 16-16, 2018, 2018

A Churn for the Better: Localizing Censorship using Network-level Path Churn and Network Tomography

Shinyoung Cho, Rishab Nithyanand, Abbas Razaghpanah, and Phillipa Gill

Proceedings of the 13th International Conference on emerging Networking EXperiments and Technologies, CoNEXT 2017, Incheon, Republic of Korea, December 12 - 15, 2017, 2017

Measuring Offensive Speech in Online Political Discourse

Rishab Nithyanand, Brian Schaffner, and Phillipa Gill

7th USENIX Workshop on Free and Open Communications on the Internet, FOCI 2017, Vancouver, BC, Canada, August 14, 2017. 2017

Characterizing the Nature and Dynamics of Tor Exit Blocking

Rachee Singh, Rishab Nithyanand, Sadia Afroz, Paul Pearce, Michael Carl Tschantz, Phillipa Gill, and Vern Paxson

26th USENIX Security Symposium, USENIX Security 2017, Vancouver, BC, Canada, August 16-18, 2017. 2017

The Adblocking Tug-of-War

Hamed Haddadi, Rishab Nithyanand, Sheharbano Khattak, Mobin Javed, Narseo Vallina-Rodriguez, Marjan Falahrastegar, Julia E. Powles, Emiliano De Cristofaro, and Steven J. Murdoch

;login: 41.4 (Dec. 2016). 2016

Games without Frontiers: Investigating Video Games as a Covert Channel

Bridger Hahn, Rishab Nithyanand, Phillipa Gill, and Rob Johnson

IEEE European Symposium on Security and Privacy, EuroS&P 2016, Saarbrücken, Germany, March 21-24, 2016, 2016

Adblocking and Counter Blocking: A Slice of the Arms Race

Rishab Nithyanand, Sheharbano Khattak, Mobin Javed, Narseo Vallina-Rodriguez, Marjan Falahrastegar, Julia E. Powles, Emiliano De Cristofaro, Hamed Haddadi, and Steven J. Murdoch

6th USENIX Workshop on Free and Open Communications on the Internet, FOCI '16, Austin, TX, USA, August 8, 2016. 2016

Measuring and Mitigating AS-level Adversaries Against Tor

Rishab Nithyanand, Oleksii Starov, Phillipa Gill, Adva Zair, and Michael Schapira

23rd Annual Network and Distributed System Security Symposium, NDSS 2016, San Diego, California, USA, February 21-24, 2016, 2016

CS-BuFLO: A Congestion Sensitive Website Fingerprinting Defense

Xiang Cai, Rishab Nithyanand, and Rob Johnson

Proceedings of the 13th Workshop on Privacy in the Electronic Society, WPES 2014, Scottsdale, AZ, USA, November 3, 2014, 2014

A Systematic Approach to Developing and Evaluating Website Fingerprinting Defenses

Xiang Cai, Rishab Nithyanand, Tao Wang, Rob Johnson, and Ian Goldberg

Proceedings of the 2014 ACM SIGSAC Conference on Computer and Communications Security, Scottsdale, AZ, USA, November 3-7, 2014, 2014

Glove: A Bespoke Website Fingerprinting Defense

Rishab Nithyanand, Xiang Cai, and Rob Johnson

Proceedings of the 13th Workshop on Privacy in the Electronic Society, WPES 2014, Scottsdale, AZ, USA, November 3, 2014, 2014

Effective Attacks and Provable Defenses for Website Fingerprinting

Tao Wang, Xiang Cai, Rishab Nithyanand, Rob Johnson, and Ian Goldberg

Proceedings of the 23rd USENIX Security Symposium, San Diego, CA, USA, August 20-22, 2014. 2014

Can Jannie verify? Usability of display-equipped RFID tags for security purposes

Alfred Kobsa, Rishab Nithyanand, Gene Tsudik, and Ersin Uzun

Journal of Computer Security 21.3 (Oct. 2013) pp. 347–370. 2013

The password allocation problem: strategies for reusing passwords effectively

Rishab Nithyanand and Rob Johnson

Proceedings of the 12th annual ACM Workshop on Privacy in the Electronic Society, WPES 2013, Berlin, Germany, November 4, 2013, 2013

A Theoretical Analysis: Physical Unclonable Functions and the Software Protection Problem

Rishab Nithyanand and John Solis

2012 IEEE Symposium on Security and Privacy Workshops, San Francisco, CA, USA, May 24-25, 2012, 2012

Usability of Display-Equipped RFID Tags for Security Purposes

Alfred Kobsa, Rishab Nithyanand, Gene Tsudik, and Ersin Uzun

Computer Security - ESORICS 2011 - 16th European Symposium on Research in Computer Security, Leuven, Belgium, September 12-14, 2011. Proceedings, 2011

User-aided reader revocation in PKI-based RFID systems

Rishab Nithyanand, Gene Tsudik, and Ersin Uzun

Journal of Computer Security 19.6 (Dec. 2011) pp. 1147–1172. 2011

Groupthink: usability of secure group association for wireless devices

Rishab Nithyanand, Nitesh Saxena, Gene Tsudik, and Ersin Uzun

UbiComp 2010: Ubiquitous Computing, 12th International Conference, UbiComp 2010, Copenhagen, Denmark, September 26-29, 2010, Proceedings, 2010

Readers Behaving Badly - Reader Revocation in PKI-Based RFID Systems

Rishab Nithyanand, Gene Tsudik, and Ersin Uzun

Computer Security - ESORICS 2010, 15th European Symposium on Research in Computer Security, Athens, Greece, September 20-22, 2010. Proceedings, 2010

non-peer reviewed publications

To Act or React: Investigating Proactive Strategies For Online Community Moderation

Hussam Habib, Maaz Bin Musa, Fareed Zaffar, and Rishab Nithyanand

CoRR abs/1906.11932 (2019). 2019

Online Political Discourse in the Trump Era

Rishab Nithyanand, Brian Schaffner, and Phillipa Gill

CoRR abs/1711.05303 (Nov. 2017). 2017

Holding all the ASes: Identifying and Circumventing the Pitfalls of AS-aware Tor Client Design

Rishab Nithyanand, Rachee Singh, Shinyoung Cho, and Phillipa Gill

CoRR abs/1605.03596 (May 2016). 2016

Exploring the Design Space of Longitudinal Censorship Measurement Platforms

Abbas Razaghpanah, Anke Li, Arturo Filastò, Rishab Nithyanand, Vasilis Ververis, Will Scott, and Phillipa Gill

CoRR abs/1606.01979 (June 2016). 2016

How Best to Handle a Dicey Situation

Rishab Nithyanand, Jonathan Toohill, and Rob Johnson

CoRR abs/1401.7304 (Jan. 2014). 2014

funding

2018

Google Faculty Research Award (PI)

Uncovering entity relationships in online data markets.

\$41K

students

current

Ph.D.	Daniyal Dar	2019-
Ph.D.	Hussam Habib	2019-
Ph.D.	Maaz Bin Musa	2019-
Ph.D.	Hammas Bin Tanveer	2019-
M.Sc.	Xiaoyu Xing	2018-
M.Sc.	Yiqing Zhu	2019-
B.Sc.	Yao Wang	2019-
B.Sc.	Ralph Nahra	2019-
B.Sc.	John Thiede	2019-

graduated

B.Sc.	Xiao Song (Now at University of Southern California) Topic: "Progress as circumvention: Investigating IPv6 Web Censorship in China and India".	2018-19
-------	--	---------

teaching

Spring 2019	Computer Security (CS 4640) The instructor was an effective teacher: 5.9/6.0 I developed a greater appreciation for the subject: 5.9/6.0	32 students
Fall 2018	Introduction to Networks and Their Applications (CS 3640) The instructor was an effective teacher: 5.6/6.0 I developed a greater appreciation for the subject: 5.4/6.0	50 students

invited talks

- 2019 **AI and Data in the Advertising Ecosystem.**
Ulowa School of Law.
- 2018 **Tussling with Anonymity and Privacy on the Internet.**
Columbia University School of International and Public Affairs, Carnegie Mellon University, North Carolina State University, University of Iowa, Cornell Tech, Ford Foundation, Data & Society Research Institute Databite 110, and Carleton College.
- 2017 **The Evolution of Online Political Discourse.**
University of Massachusetts at Amherst.
- 2016 **Defending Tor from Network-level Adversaries.**
Columbia University, Telefonica Research.
- 2015 **Games without Frontiers: Video Games as a Covert Channel.**
Northeastern University, Boston University.
- 2014 **A Structured Approach for Defeating Website Fingerprinters.**
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.

media coverage

- 2018-19 For work on **"Apps, Trackers, Privacy, and Regulators"** and **"Ad-blocking and counter blocking"**.
ABC News, The Conversation, Newsweek, Forbes, Expresso Futuro (television), Information week, Heise.de, IAB, and others.
- 2017-19 For work on **"Evolution of online political discourse"**.
CBS News, Vox, CNET, New Scientist, Inside Science, BBC News, Mother Jones, El Pais, and others.
- 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.

academic service

PCs	PETS 2020, USENIX RAID 2019, USENIX FOCI 2019, ACM WPES 2019, NLP4IF 2018.
Panels	"Privacy and Ethics" @ Ulowa Teaching with the Library (2019), "Data Privacy" @ Barnard College of Columbia University (2018).
Reviewing	NSF SaTC 2018, IEEE S&P 2018, PETS 2018, PETS 2017, PETS 2016, ACM IMC 2016, WWW 2016, ACM IMC 2015, USENIX Security 2015, USENIX ATC 2015, ACM CCS 2013, CANS 2012, WWW 2011, IEEE TMC, IEEE ToN.