Zakir Durumeric

Assistant Professor
Department of Computer Science
Stanford University

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Research Overview

My research brings a large-scale, empirical approach to the study of Internet security, trust, and safety. I build systems to measure complex networked ecosystems, and I use the resulting perspective to understand real-world behavior, uncover weaknesses and attacks, architect and deploy more resilient approaches, and guide public policy.

Positions

– Assistant Professor, Computer Science, Stanford University, September 2018–present

– Founder, Director, and Chief Scientist, Censys, Inc., August 2017–present

– Independent Director and Technical Advisor, zeroRISC, Inc., May 2023–present

Education

– Ph.D. in Computer Science and Engineering, University of Michigan, August 2017
  Dissertation: Fast Internet-Wide Scanning: A New Security Perspective
  Advisor: J. Alex Halderman
  Committee: Vern Paxson, Michael Bailey, Peter Honeyman, and Florian Schaub

– M.S. in Computer Science and Engineering, University of Michigan, May 2013

– B.S. in Computer Science and Mathematics, University of Iowa, May 2011

Honors and Awards

– Best Paper Award, ACM Computer-Supported Cooperative Work And Social Computing (2023)

– Tau Beta Pi Award for Excellence in Undergraduate Teaching (2023)

– Noteworthy Reviewer Award, USENIX Security (2023)

– Alfred P. Sloan Research Fellowship (2023)

– Google Research Scholar (2023)

– Community Contribution Award, ACM Internet Measurement Conference (2022)

– Test of Time Award, USENIX Security Symposium (2022)

– Okawa Foundation Research Award (2020)

- Google Faculty Research Award, Networking (2020)
- Google Security and Privacy Research Award (2019)
- IRTF Applied Networking Research Prize (2016, 2018)
- Best Paper Award, ACM Computer and Communication Security (2015)
- Pwnie Award for Most Innovative Research (2015)
- MIT Technology Review's "35 Innovators Under 35" (2015)
- Best Paper Award, ACM Internet Measurement Conference (2014)
- Google Ph.D. Fellowship in Computer Security (2014)
- Best Paper Award, USENIX Security (2012)

Conference Proceedings

[1] **PressProtect: Helping Journalists Navigate Social Media in the Face of Online Harassment**
Catherine Han, Anne Li, Deepak Kumar, and Zakir Durumeric
ACM Computer-Supported Cooperative Work And Social Computing (CSCW), Nov. 2024

[2] **Ten Years of ZMap**
Zakir Durumeric, David Adrian, Phillip Stephens, Eric Wustrow, and J. Alex Halderman
ACM Internet Measurement Conference (IMC), Nov. 2024

[3] **Democratizing LEO Satellite Network Measurement**
Liz Izhikevich, Manda Tran, Katherine Izhikevich, Gautam Akiwate, and Zakir Durumeric
ACM SIGMETRICS/IFIP Performance, June 2024

[4] **Watch Your Language: Investigating Content Moderation with Large Language Models**
Deepak Kumar, Yousef AbuHashem, and Zakir Durumeric
International AAAI Conference on Web and Social Media (ICWSM), June 2024

[5] **Machine-Made Media: Monitoring the Mobilization of Machine-Generated Articles on Misinformation and Mainstream News Websites**
Hans Hanley and Zakir Durumeric
International AAAI Conference on Web and Social Media (ICWSM), June 2024

[6] **Partial Mobilization: Tracking Multilingual Information Flows Amongst Russian Media Outlets and Telegram**
Hans Hanley and Zakir Durumeric
International AAAI Conference on Web and Social Media (ICWSM), June 2024

[7] **Specious Sites: Tracking the Spread and Sway of Spurious News Stories at Scale**
Hans Hanley, Deepak Kumar, and Zakir Durumeric
IEEE Symposium on Security & Privacy ("Oakland"), May 2024

[8] TATA: Stance Detection via Topic-Agnostic and Topic-Aware Embeddings
Hans Hanley and Zakir Durumeric
Conference on Empirical Methods in Natural Language Processing (EMNLP), Dec. 2023

[9] Cloud Watching: Understanding Attacks Against Cloud-Hosted Services
Liz Izhikevich, Manda Tran, Michalis Kallitsis, Aurore Fass, and Zakir Durumeric
ACM Internet Measurement Conference (IMC), Oct. 2023

[10] Stale TLS Certificates: Investigating Precarious Third-Party Access to Valid TLS Keys
Zane Ma, Aaron Faulkenberry, Thomas Papastergiou, Zakir Durumeric, Michael Bailey, Angelos
Keromytis, Fabian Monrose, and Manos Antonakakis
ACM Internet Measurement Conference (IMC), Oct. 2023

[11] Hate Raids on Twitch: Echoes of the Past, New Modalities, and Implications for Platform
Governance
Catherine Han, Joseph Seering, Deepak Kumar, Jeff Hancock, and Zakir Durumeric
ACM Computer-Supported Cooperative Work And Social Computing (CSCW), Oct. 2023
Best Paper Award

[12] A Golden Age: Conspiracy Theories' Relationship with Misinformation Outlets, News
Media, and the Wider Internet
Hans Hanley, Deepak Kumar, and Zakir Durumeric
ACM Computer-Supported Cooperative Work And Social Computing (CSCW), Oct. 2023

[13] Happenstance: Utilizing Semantic Search to Track Russian State Media Narratives about
the Russo-Ukrainian War On Reddit
Hans Hanley, Deepak Kumar, and Zakir Durumeric
International AAAI Conference on Web and Social Media (ICWSM), June 2023
**Invited Paper at *American Political Science Association* (APSA) Full Paper Panel, "Mecha-
nisms of Domination?: State Sponsored Information and Media Ecosystems," Sept.** 2023

[14] "A Special Operation": A Quantitative Approach to Dissecting and Comparing Different
Media Ecosystems' Coverage of the Russo-Ukrainian War
Hans Hanley, Deepak Kumar, and Zakir Durumeric
International AAAI Conference on Web and Social Media (ICWSM), June 2023

[15] Understanding the Behaviors of Toxic Accounts on Reddit
Deepak Kumar, Jeff Hancock, Kurt Thomas, and Zakir Durumeric
International World Wide Web Conference (WWW), May 2023

[16] A World Wide View of Browsing the World Wide Web
Kimberly Ruth, Aurore Fass, Jonathan Azose, Mark Pearson, Emma Thomas,
Caitlin Sadowski, and Zakir Durumeric
ACM Internet Measurement Conference (IMC), Oct. 2022

[17] **Toppling Top Lists: Evaluating the Accuracy of Popular Website Lists**
Kimberly Ruth, Deepak Kumar, Brandon Wang, Luke Valenta, and Zakir Durumeric
ACM Internet Measurement Conference (IMC), Oct. 2022

[18] **Retroactive Identification of Targeted DNS Infrastructure Hijacking**
Gautam Akiwate, Raffaele Sommese, Mattijs Jonker, Zakir Durumeric, kc Claffy,
Geoffrey Voelker, and Stefan Savage
ACM Internet Measurement Conference (IMC), Oct. 2022

[19] **ZDNS: A Fast DNS Toolkit for Internet Measurement**
Liz Izhikevich, Gautam Akiwate, Briana Berger, Spencer Drakontaidis, Anna Ascheman,
Paul Pearce, David Adrian, and Zakir Durumeric
ACM Internet Measurement Conference (IMC), Oct. 2022
Community Contribution Award

[20] **Retina: Analyzing** 100 **GbE Traffic on Commodity Hardware**
Gerry Wan, Fengchen Gong, Tom Barbette, and Zakir Durumeric
ACM SIGCOMM Conference, Aug. 2022

[21] **Predicting IPv4 Services Across All Ports**
Liz Izhikevich, Renata Teixeira, and Zakir Durumeric
ACM SIGCOMM Conference, Aug. 2022

[22] **On the Infrastructure Providers that Support Misinformation Websites**
Catherine Han, Deepak Kumar, and Zakir Durumeric
International AAAI Conference on Web and Social Media (ICWSM), June 2022

[23] **No Calm in The Storm: Investigating QAnon Website Relationships**
Hans Hanley, Deepak Kumar, and Zakir Durumeric
International AAAI Conference on Web and Social Media (ICWSM), June 2022

[24] **ASdb: A System for Classifying Owners of Autonomous Systems**
Maya Ziv, Liz Izhikevich, Kimberly Ruth, Katherine Izhikevich, and Zakir Durumeric
ACM Internet Measurement Conference (IMC), Nov. 2021

[25] **Tracing Your Roots: Exploring the TLS Trust Anchor Ecosystem**
Zane Ma, James Austgen, Joshua Mason, Zakir Durumeric, and Michael Bailey
ACM Internet Measurement Conference (IMC), Nov. 2021

[26] **Stratosphere: Finding Vulnerable Cloud Storage Buckets**
Jack Cable, Drew Gregory, Liz Izhikevich, and Zakir Durumeric
Symposium on Research in Attacks, Intrusions and Defenses (RAID), Oct. 2021

[27] **Designing Toxic Content Classification for a Diversity of Perspectives**
Deepak Kumar, Patrick Kelley, Sunny Consolvo, Joshua Mason, Elie Bursztein,

Zakir Durumeric, Kurt Thomas, and Michael Bailey
USENIX Symposium on Usable Privacy and Security (SOUPS), Aug. 2021

[28] **LZR: Identifying Unexpected Internet Services**
Liz Izhikevich, Renata Teixeira, and Zakir Durumeric
USENIX Security Symposium (USENIX Security), Aug. 2021

[29] **What's in a Name? Exploring CA Certificate Control**
Zane Ma, Joshua Mason, Manos Antonakakis, Zakir Durumeric, and Michael Bailey
USENIX Security Symposium (USENIX Security), Aug. 2021

[30] **SoK: Hate, Harassment, and the Changing Landscape of Online Abuse**
Kurt Thomas, Devdatta Akhawe, Michael Bailey, Elie Bursztein, Dan Boneh,
Sunny Consolvo, Nicki Dell, Zakir Durumeric, Patrick Gage Kelley, Deepak Kumar,
Damon McCoy, Sarah Meiklejohn, Thomas Ristenpart, and Gianluca Stringhini
IEEE Symposium on Security & Privacy ("Oakland"), May 2021

[31] **On the Origin of Scanning: The Impact of Location on Internet-Wide Scans**
Gerry Wan, Liz Izhikevich, David Adrian, Katsunari Yoshioka, Ralph Holz,
Christian Rossow, and Zakir Durumeric
ACM Internet Measurement Conference (IMC), Oct. 2020

[32] **Let's Encrypt: An Automated Certificate Authority to Encrypt the Entire Web**
Josh Aas, Richard Barnes, Benton Case, Zakir Durumeric, Peter Eckersley,
Alan Flores-Lopez, J. Alex Halderman, Jacob Hoffman-Andrews, James Kasten,
Eric Rescorla, Seth Schoen, and Brad Warren
ACM Conference on Computer and Communications Security (CCS), Nov. 2019

[33] **All Things Considered: An Analysis of IoT Devices on Home Networks**
Deepak Kumar, Kelly Shen, Benton Case, Deepali Garg, Galina Alperovich,
Dmitry Kuznetsov, Rajarshi Gupta, and Zakir Durumeric
USENIX Security Symposium (USENIX Security), Aug. 2019

[34] **Tracking Certificate Misissuance in the Wild**
Deepak Kumar, Zhengping Wang, Matthew Hyder, Joseph Dickinson, Gabrielle Beck,
David Adrian, Joshua Mason, Zakir Durumeric, J. Alex Halderman, and Michael Bailey
IEEE Symposium on Security & Privacy ("Oakland"), May 2018

[35] **Target Generation for IPv6 Scanning**
Austin Murdock, Frank Li, Paul Bramsen, Zakir Durumeric, and Vern Paxson
ACM Internet Measurement Conference (IMC), Nov. 2017

[36] **Understanding the Mirai Botnet**
Manos Antonakakis, Tim April, Michael Bailey, Matt Bernhard, Elie Bursztein,
Jaime Cochran, Zakir Durumeric, J. Alex Halderman, Luca Invernizzi, Michalis Kallitsis,

Deepak Kumar, Chaz Lever, Zane Ma, Joshua Mason, Damian Menscher, Chad Seaman, Nick Sullivan, Kurt Thomas, and Yi Zhou
USENIX Security Symposium (USENIX Security), Aug. 2017

[37] Security Challenges in an Increasingly Tangled Web
Deepak Kumar, Zane Ma, Zakir Durumeric, Ariana Mirian, Joshua Mason, Michael Bailey, and J. Alex Halderman
World Wide Web Conference (WWW), Apr. 2017

[38] The Security Impact of HTTPS Interception
Zakir Durumeric, Zane Ma, Drew Springall, Richard Barnes, Nick Sullivan, Elie Bursztein, Michael Bailey, J. Alex Halderman, and Vern Paxson
Network and Distributed System Security Symposium (NDSS), Feb. 2017

[39] An Internet-Wide View of ICS Devices
Ariana Mirian, Zane Ma, David Adrian, Matthew Tischer, Thasphon Chuenchujit, Tim Yardley, Robin Berthier, Josh Mason, Zakir Durumeric, J. Alex Halderman and Michael Bailey
IEEE Conference on Privacy, Security, and Trust (PST), Dec. 2016

[40] Measuring the Security Harm of TLS Crypto Shortcuts
Drew Springall, Zakir Durumeric, and J. Alex Halderman
ACM Internet Measurement Conference (IMC), Nov. 2016

[41] Towards a Complete View of the Certificate Ecosystem
Benjamin VanderSloot, Johanna Amann, Matthew Bernhard, Zakir Durumeric, Michael Bailey, and J. Alex Halderman
ACM Internet Measurement Conference (IMC), Nov. 2016

[42] You've Got Vulnerability: Exploring Effective Vulnerability Notifications
Frank Li, Zakir Durumeric, Jakub Czyz, Mohammad Karami, Michael Bailey, Damon McCoy, Stefan Savage, and Vern Paxson
USENIX Security Symposium (USENIX Security), Aug. 2016

[43] FTP: The Forgotten Cloud
Drew Springall, Zakir Durumeric, and J. Alex Halderman
IEEE/IFIP Conference on Dependable Systems and Networks (DSN), June 2016

[44] Users Really Do Plug in USB Drives They Find
Matthew Tischer, Zakir Durumeric, Sam Foster, Sunny Duan, Alec Mori, Elie Bursztein, and Michael Bailey
IEEE Symposium on Security & Privacy ("Oakland"), May 2016

[45] Neither Snow Nor Rain Nor MITM... An Empirical Analysis of Email Delivery Security
Zakir Durumeric, David Adrian, Ariana Mirian, James Kasten, Elie Bursztein, Nicholas Lidzborski, Kurt Thomas, Vijay Eranti, Michael Bailey, and J. Alex Halderman

ACM Internet Measurement Conference (IMC), Oct. 2015
IETF/IRTF Applied Networking Research Prize

[46] A Search Engine Backed by Internet-Wide Scanning

[46] Imperfect Forward Secrecy: How Diffie-Hellman Fails in Practice
David Adrian, Karthikeyan Bhargavan, Zakir Durumeric, Pierrick Gaudry, Matthew Green,
J. Alex Halderman, Nadia Heninger, Drew Springall, Emmanuel Thomé, Luke Valenta,
Benjamin VanderSloot, Eric Wustrow, Santiago Zanella-Béguelin, and Paul Zimmermann
ACM Conference on Computer and Communications Security (CCS), Oct. 2015
Best Paper Award
Pwnie Award for Most Innovative Research

[47] A Search Engine Backed by Internet-Wide Scanning
Zakir Durumeric, David Adrian, Ariana Mirian, Michael Bailey, and J. Alex Halderman
ACM Conference on Computer and Communications Security (CCS), Oct. 2015

[48] The Matter of Heartbleed
Zakir Durumeric, Frank Li, James Kasten, Johanna Amann, Jethro Beekman, Mathias Payer,
Nicolas Weaver, David Adrian, Vern Paxson, Michael Bailey, and J. Alex Halderman
ACM Internet Measurement Conference (IMC), Nov. 2014
Best Paper Award

[49] Security Analysis of the Estonian Internet Voting System
Drew Springall, Travis Finkenauer, Zakir Durumeric, Jason Kitcat, Harri Hursti,
Margaret MacAlpine, and J. Alex Halderman
ACM Conference on Computer and Communications Security (CCS), Nov. 2014

[50] An Internet-Wide View of Internet-Wide Scanning
Zakir Durumeric, Michael Bailey, and J. Alex Halderman
USENIX Security Symposium (USENIX Security), Aug. 2014

[51] Outsmarting Proctors with Smartwatches: A Case Study on Wearable Computing Security
Alex Migicovsky, Zakir Durumeric, Jeff Ringenberg, and J. Alex Halderman
Conference on Financial Cryptography and Data Security (Financial Crypto), Mar. 2014

[52] On the Mismanagement and Maliciousness of Networks
Jing Zhang, Zakir Durumeric, Michael Bailey, Manish Karir, and Mingyan Liu
Network and Distributed System Security Symposium (NDSS), Feb. 2014

[53] Analysis of the HTTPS Certificate Ecosystem
Zakir Durumeric, James Kasten, Michael Bailey, and J. Alex Halderman
ACM Internet Measurement Conference (IMC), Oct. 2013

[54] ZMap: Fast Internet-Wide Scanning and its Security Applications
Zakir Durumeric, Eric Wustrow, and J. Alex Halderman
USENIX Security Symposium (USENIX Security), Aug. 2013

[55] **Mining Your Ps and Qs: Detection of Widespread Weak Keys in Network Devices**
Nadia Heninger, <u>Zakir Durumeric</u>, Eric Wustrow, and J. Alex Halderman
USENIX Security Symposium (USENIX Security), Aug. 2012
Best Paper Award
Test of Time Award, USENIX Security 2022
Computing Reviews' **Notable Computing Books and Articles of** 2012

Journal Articles

[56] **Quantifying the Systematic Bias in the Accessibility and Inaccessibility of Web Scraping Content from URL-Logged Web-Browsing Digital Trace Data**
Ross Dahlke, Deepak Kumar, <u>Zakir Durumeric</u>, and Jeffrey Hancock
Social Science Computer Review, Nov. 2023

[57] **Imperfect Forward Secrecy: How Diffie-Hellman Fails in Practice**
David Adrian, Karthikeyan Bhargavan, Zakir Durumeric, Pierrick Gaudry, Matthew Green,
J. Alex Halderman, Nadia Heninger, Drew Springall, Emmanuel Thomé, Luke Valenta,
Benjamin VanderSloot, Eric Wustrow, Santiago Zanella-Béguelin, and Paul Zimmermann
Communications of the ACM, Jan. 2019

[58] **Scanning the Internet for Liveness**
Shehar Bano, Philipp Richter, Mobin Javed, Srikanth Sundaresan, <u>Zakir Durumeric</u>,
Steven Murdoch, Richard Mortier, and Vern Paxson
SIGCOMM Computer Communication Review, 2018
IETF/IRTF Applied Networking Research Prize

[59] **The Danger of USB Drives**
Matthew Tischer, <u>Zakir Durumeric</u>, Elie Bursztein, and Michael Bailey
IEEE Security & Privacy (S&P Magazine), Apr. 2017

Workshop Publications

[60] **Detecting VPN Traffic through Encapsulated TCP Behavior**
Michelina Hanlon, Gerry Wan, Anna Ascheman, and <u>Zakir Durumeric</u>
Free and Open Communications on the Internet (FOCI), July 2024

[61] **Zippier ZMap: Internet-Wide Scanning at 10Gbps**
David Adrian, <u>Zakir Durumeric</u>, Gulshan Singh, and J. Alex Halderman
USENIX Workshop on Offensive Technologies (WOOT), Aug. 2014

Technical Reports

[62] **The Code the World Depends On: A First Look at Technology Makers' Open Source Software Dependencies**
Cadence Patrick, Kimberly Ruth, and <u>Zakir Durumeric</u>

[63] **An Empirical Analysis of HTTPS Configuration Security**
Camelia Simoiu, Wilson Nguyen, and Zakir Durumeric

[64] **An Empirical Analysis of California Data Breaches**
Richard Chen and Zakir Durumeric

Patents

– **Network Maliciousness Susceptibility Analysis and Rating**
Mingyan Liu, Michael Bailey, Manish Karir, Jing Zhang, and Zakir Durumeric
United States Patent No. 9729558B2

Professional Service

Program Committees

– USENIX Security Symposium, 2018–24
Research Ethics Committee, 2022–24
– IEEE Symposium on Security and Privacy ("Oakland"), 2022–24
Associate Chair, 2022
– ACM SIGCOMM Conference, 2024
– USENIX Enigma, 2022–23
– ACM Internet Measurement Conference (IMC), 2018–21
Ethics Committee, 2021
– USENIX Symposium on Networked Systems Design and Implementation (NSDI), 2021
– ACM Conference on the Web (WWW), 2016–2018, 2020
– ACM SIGCOMM Workshop on Secure & Programmable Network Infrastructure (SPIN), 2020
– ACM Conference on Computer and Communications Security (CCS), 2018
– Symposium on Research in Attacks, Intrusions, and Defenses (RAID), 2018
– Detection of Intrusions and Malware & Vulnerability Assessment (DIMVA), 2016–17
– USENIX Workshop on Offensive Technologies (WOOT), 2015

Editorial Service

– Editorial Board, Journal of Online Trust and Safety, 2021–25

Other External Service

– Founding Co-Chair, IEEE S&P Workshop on Security for Harassment Online, Protections, and Empowerment (SecHope), 2023
– Board Member, NetDiligence Ransomware Advisory Board, 2024–

Department and University Service

– Ph.D. Admissions Committee, Computer Science, Stanford University, 2018–24.
 Systems Area Lead, 2019–21

– Diversity Committee, Computer Science, Stanford University, 2021–24

– Technical Advisory Committee, Stanford TrustDER Project, 2022–

Teaching

– **Computer and Network Security** (CS 155), Stanford, S'2019–25.
 Co-taught introduction security and privacy course.

– **The Modern Internet** (CS 249i), Stanford, F'21, W'23–25.
 Created new advanced networking course that covers how the Internet has evolved and operates today.
 Topics include modern Internet topology and routing practices, recently introduced network protocols,
 popular content delivery strategies, and pressing privacy, security, and abuse challenges. The course
 consists of a mixture of lecture, guest talks, and investigative projects where students will analyze how
 Internet operates in practice.

– **Topics in Computer and Network Security** (CS 356). Stanford. F'2018–20, W'21, F'22–24.
 Created new graduate course, which covers foundational research literature and current topics in
 computer and network security. Students read and discuss papers as well as complete an independent
 research project.

Advising and Mentoring

Ph.D. Students

– Liz Izhikevich (CS, NSF Fellow, 2018–24, → Faculty, UCLA)

– Gerry Wan (CS, 2019–24, → Google)

– Hans Hanley (CS, NSF Fellow, Meta Fellow in Computational Social Science, 2020–25)

– Catherine Han (CS, NSF Fellow, 2020–25)

– Agur Adams (EE, Co-Advised w/ Phil Levis, Stanford Graduate Fellow, 2022–26)

– Kimberly Ruth (CS, NSF Fellow, 2020–)

– Rumaisa Habib (CS, Stanford Graduate Fellow, 2023–)

Postdoctoral Scholars

– Deepak Kumar (CRA Postdoctoral Fellowship, 2020–23, → Faculty, UCSD)

– Gautam Akiwate (2022–24, → Apple)

– Veronica Rivera (2023–25)

– Zimo Chai (2024–25)

Doctoral Committees

- Deepak Kumar (Ph.D., Computer Science, University of Illinois, July 2020)

- Camelia Simoiu (Ph.D., Management Science and Engineering, Stanford University, July 2020)

- William DeRocco (Ph.D., Physics, Stanford University, March 2021)

- Saba Eskandarian (Ph.D., Computer Science, Stanford University, May 2021)

- Zane Ma (Ph.D., Computer Science, University of Illinois, June 2021)

- Fraser Brown (Ph.D., Computer Science, Stanford University, March 2022)

- Bahruz Jabiyev (Ph.D., Computer Science, Northeastern University, March 2023)

- Hudson Ayers (Ph.D., Electrical Engineering, Stanford University, March 2023)

- Brian Kondracki (Ph.D., Computer Science, Stony Brook University, April 2023)

- Tushar Swamy (Ph.D., Electrical Engineering, Stanford University, May 2023)

- Ellen Chapin (Ph.D., Political Science, Stanford University, November 2023)

- Gerry Wan (Ph.D., Computer Science, Stanford University, March 2024)

- Robin Brown (Ph.D., Computational and Mathematical Engineering, Stanford University, 2024)

- Liz Izhikevich (Ph.D., Computer Science, Stanford University, May 2024)

- Shinan Liu (Ph.D., Computer Science, University of Chicago, 2025)

- Hans Hanley (Ph.D., Computer Science, Stanford University, 2025)

- Catherine Han (Ph.D., Computer Science, Stanford University, 2025)

- Neil Perry (Ph.D., Computer Science, Stanford University, 2025)

- Jarrod Shingleton (Ph.D., Management Science and Engineering, Stanford University, 2025)

- Agur Adams (Ph.D., Electrical Engineering, Stanford University, 2026)

Undergraduate and Masters Independent Studies

- 2024: Chetan Nair, Anna Little, Gavin Li, Tobias Moser, Hannah Kim, Patrick Gerard, Makenzy Caldwell, Tracy Li, Ifeoluwa Shode[‡] (Fisk University)

- 2023: Michelina Hanlon[†] [→ UCSD Ph.D.], Thea Rossman [→ Stanford Ph.D.], Anne Li,[†] Yousef AbuHashem,[†] Aditya Saligrama, Cynthia Chen, Kai Kato, Jessica Yu, Mo Akintan, Sasha Ronaghi, Rishi Sreekanth, Sean Mori, Allison Casasola, Ihyun Nam, Seonghee Lee, Jay Park, Yasmine Mitchell, Emily Okabe, Jordan Byrd, Bridget Patrick, Cadence Patrick[‡] (Spelman College)

- 2022: Anna Ascheman[†] [→ CISA], Katherine Izhikevich[†] [→ UCSD Ph.D.], George Hosono [→ Georgia Tech Ph.D.], America Sophia George, Vrushank Gunjur, Mark Tran, Jaylene Martinez, Basheerah Abdus-Shakur[‡] (University of the District of Columbia), Britney Tran, Daniel Rebelsky, Jerry Chen, Sheryl Hsu

- 2021: Fengchen Gong[†] [→ Princeton Ph.D.], Manda Tran[†] [→ UCLA Ph.D.], Briana Berger,[†] Spencer Drakontaidis,[†] Laura Bauman, Lauren Saue-Fletcher, Nathan Bhak, Oumnia Chellah, Sanjaye Narayan, Vishal Mohanty, Jinyoung Kim, Ayelet Drazen, Gordon Martienz-Piedra, Anna Zeng, Luca Pistor, Naylynn Tañón,

- 2020: Armin Namavari [→ Cornell Ph.D.], Amanda Hsu [→ Georgia Tech Ph.D.], Maya Ziv,[†] Jack Cable[†] [→ CISA], Drew Gregory,[†] Roshni Padhi, Belge Dogru, Muskan Shafat Ryan Eberhardt, Andrew Guan, Will Brand, Samsara Durvasula, Lexi Kuppersmith

- 2019: Wilson Nguyen [→ Stanford Ph.D.], Alan Ernesto Flores-Lopez,[†] Cindy Kuang, Conrad Edwards

- 2018: Richard Chen, Benton Case[†]

- 2017: Gabrielle Beck[†] [→ JHU Ph.D.], Alex Holland

- 2016: Alishah Chator [→ JHU Ph.D.], Noah Duncan

- 2015: Ariana Mirian[†] [→ UCSD Ph.D.], Rose Howell, Vikas Kumar

- 2014: Gulshan Singh,[†] Saam Aghevli, Andrew Modell, Kollin Purcell, Jack Miner

- 2013: David Adrian[†] [→ Michigan Ph.D.], Jennifer O'Neil

[†] Published peer-reviewed article as part of independent study
[‡] Stanford LINXS Summer Research Program

Speaking

- **On the Centralization and Resiliency of the Web**
  U.S. Federal Trade Commission (invited), Sept. 2024

- **On Cybersecurity Threats to Natural Gas Infrastructure**
  American Gas Association Annual Legal Forum (invited), July 2024

- **Anticipating Future Cyber Threats to Water and Wastewater Systems**
  Workshop on Threats to the Water Sector, U.S. Cybersecurity and Infrastructure Security Agency (invited panelist), May 2024

- **Launching the Cybersecurity Insurance & Data Analysis Working Group (CIDAWG)**
  NetDiligence CyberRisk Summit (invited panelist), May 2024

- **Assessing the Risks of Miscalculation in Ambiguous Cyber Activities**
  Australian American Leadership Dialogue (invited panelist), Jan. 2024

- **Tracking the Spread of Misinformation at Scale**
  International Workshop on Cyber Social Threats (invited keynote), Apr. 2023; University of Iowa (invited), Dec. 2023

- **Transparency as a Security Primitive**
  NSF Workshop: Towards Re-architecting Today's Internet for Survivability, Nov. 2023

- **Prioritizing Today's Security Exposure**
  Parliamentary Intelligence-Security Forum (invited), London, Aug. 2023

- **Machine Learning in Networking**
  Arista (invited panelist), Feb. 2023

- **Ethics in ICT Research and Development**
  NSF SaTC PI Meeting (invited panelist), June 2022

- **Moderation in the Infrastructure Layer**
  UCLA Symposium on Governing the Digital Space (invited panelist), Apr. 2022

- **Censys Retrospective**
  CISPA Helmholtz Center for Information Security (invited), Jan. 2022; Inria Paris (invited), June 2019; Workshop on Active Internet Measurements (invited), Apr. 2019;

- **The Security Impact of HTTPS Interception**
  Brave (invited), Dec. 2020; Network and Distributed System Security Symposium, Feb. 2017

- **Mirai and the Current State of IoT Security**
  CyberSec & AI Prague (invited), Oct. 2019; Laboratory of Information, Networking and Communication Sciences (invited), June 2019; VMWare (invited), May 2019

- **An Epidemiological Approach to Security**
  Stanford Data Science Initiative Retreat, Nov. 2018

- **Neither Snow Nor Rain Nor MITM... An Empirical Analysis of Email Delivery Security**
  University of Iowa, Annual Kurtz Lecture, Oct. 2018 (invited): Cloudflare Crypto Meetup, Apr. 2016 (invited); Internet Research Task Force (IRTF), Apr. 2016 (invited); Chaos Communication Congress (32c3), Dec. 2015 (invited)

- **Understanding the Mirai Botnet**
  Merit Member Conference (invited keynote), May 2018; University of Iowa Computing Conference (invited), Feb. 2018; Stanford University (invited), Aug. 2017

- **Five Years Later: A Retrospective on ZMap and Internet-Wide Scanning**
  Facebook, May 2018 (invited); M^{3}AAWG 42nd General Meeting, Feb. 2018 (invited)

- **Internet-Wide Scanning: A New Security Perspective**
  Qatar Computing Research Institute, Nov. 2017 (invited); MIT Technology Review, EmTech, Nov. 2015 (invited); Google, May 2015 (invited)

- **Uncovering Cryptographic Failures with Internet-Wide Measurement**
  CMU CyLab, April 2016 (invited); Northeastern University, March 2016 (invited); Boston University, Mar. 2016 (invited); Stanford Security Seminar, Mar. 2016 (invited); MIT CSAIL Security Seminar, Nov. 2015 (invited)

- **The Matter of Heartbleed**
  Chaos Communication Congress (31c3), Dec. 2014; Internet Measurement Conference (IMC '14), Nov. 2014; University of Illinois, Systems and Networking Seminar Series, Oct. 2014

- **An Internet-Wide View of Internet-Wide Scanning**
  USENIX Security, Aug. 2014

- **ZMap: Fast Internet-Wide Scanning and its Security Applications**
  IT University of Copenhagen, June 2014; Vrije Universiteit Amsterdam, June 2014; RIPE 68, May 2014; University of Michigan, Nov. 2013; Eurecom, Oct. 2013; USENIX Security, Aug. 2013

- **Analysis of the HTTPS Certificate Ecosystem**
  Internet Measurement Conference, Oct. 2013

- **Mining Your Ps and Qs: Detection of Widespread Weak Keys in Network Devices**
  USENIX Security, Aug. 2012; University of Iowa, June 2012 (invited)

References

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