

# Zane Ma

Assistant Professor  
Oregon State University  
Computer Science  
Last updated: 2024/10/10

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## POSITIONS

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- 2023–PRESENT **Assistant Professor** at *Oregon State University*  
- Lead the [Applied Security and Trust Research @ OSU \(ASTRO\) Lab](#).  
- Lead multi-institution research team for DARPA project on 5G defensive cyber operations.
- 2023–PRESENT **Research Affiliate** at *Georgia Institute of Technology*  
2021–2023 **Research Scientist II** at *Georgia Institute of Technology*  
Advisor: Manos Antonakakis  
- Co-advised several Ph.D. students on DNS, malware, IoT, and PKI research projects.

## EDUCATION

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- 2015 – 2021 **Doctor of Philosophy** in Computer Science, *University of Illinois at Urbana-Champaign*  
Advisor: Michael D. Bailey  
Committee: Adam Bates Yuile, Gang Wang, Nikita Borisov, Zakir Durumeric
- 2008 – 2012 **Bachelor of Arts** with Honors in Chemistry, *Princeton University*  
Advisor: Erik J. Sorensen

## AWARDS AND FELLOWSHIPS

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- 2021 [Illinois CS Graduate Student Outstanding Service Award](#)  
2020 [Mavis Future Faculty Fellowship](#)  
2020 [Yunni & Maxine Pao Memorial Fellowship](#)  
2019 [Best Paper Award, The Web Conference \(WWW\)](#)

## RESEARCH PUBLICATIONS

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- [S&P '24] Tillson Galloway, Kleanthis Karakolios, [Zane Ma](#), Roberto Perdisci, Manos Antonakakis, Angelos Keromytis “[Practical Attacks against DNS Reputation Systems.](#)” *IEEE Symposium on Security and Privacy (S&P)*. May 2024. (Acceptance rate: 14.4% = 170 of 1183 submissions)
- [IMC '23] [Zane Ma](#), Aaron Faulkenberry, Thomas Papastergiou, Zakir Durumeric, Michael Bailey, Angelos Keromytis, Fabian Monrose, and Manos Antonakakis. “[Stale TLS Certificates: Investigating Precarious Third-Party Access to Valid TLS Keys.](#)” *ACM Internet Measurement Conference (IMC)*. October 2023. (Acceptance rate: 25.9% = 52 of 201 submissions)
- [ACSAC '22] Aaron Faulkenberry, Athanasios Avgetidis, [Zane Ma](#), Omar Alrawi, Charles Lever, Panagiotis Kintis, Fabian Monrose, Angelos Keromytis, Manos Antonakakis. “[View from Above: Exploring the Malware Ecosystem from the Upper DNS Hierarchy.](#)” *Annual Computer Security Applications Conference (ACSAC)*. December 2022. (Acceptance rate: 24.1% = 73 of 303 submissions)
- [IMC '21] [Zane Ma](#), James Austgen, Joshua Mason, Zakir Durumeric, Michael Bailey. “[Tracing Your Roots: Exploring the TLS Trust Anchor Ecosystem.](#)” *ACM Internet Measurement Conference (IMC)*. November 2021. (Acceptance rate: 28.1% = 55 / 196 submissions)
- [USENIX '21] [Zane Ma](#), Joshua Mason, Manos Antonakakis, Zakir Durumeric, Michael Bailey. “[What’s in a Name? Exploring CA Certificate Control.](#)” *USENIX Security Symposium (Sec)*. August 2021. (Acceptance rate: 18.8% = 248 / 1319 submissions)
- [WWW '21] Paul Murley, [Zane Ma](#), Joshua Mason, Michael Bailey, Amin Kharraz. “[WebSocket Adoption and the Landscape of the Real-Time Web.](#)” *The Web Conference (WWW)*. April 2021. (Acceptance rate: 20.6% = 357 / 1736 submissions)

8. [CHI '20] Joshua Reynolds, Deepak Kumar, [Zane Ma](#), Rohan Subramanian, Meishan Wu, Martin Shelton, Joshua Mason, Emily Stark, Michael Bailey. “**Measuring Identity Confusion with Uniform Resource Locators.**” *ACM Conference on Human Factors in Computing Systems (CHI)*. April 2020. (Acceptance rate: 24.3% = 760 / 3126 submissions)
7. [CSET '19] [Zane Ma](#), Joshua Reynolds, Joseph Dickinson, Kaishen Wang, Taylor Judd, Joseph D. Barnes, Joshua Mason, Michael Bailey. “**The Impact of Secure Transport Protocols on Phishing Efficacy.**” *Workshop on Cyber Security Experimentation and Test (CSET)*. August 2019. (Acceptance rate: 31.1% = 19 / 61 submissions)
6. [WWW '19] Amin Kharraz, [Zane Ma](#), Paul Murley, Charles Lever, Joshua Mason, Andrew Miller, Nikita Borisov, Manos Antonakakis, Michael Bailey. “**OUTGUARD: Detecting In-Browser Covert Cryptocurrency Mining in the Wild.**” *The Web Conference (WWW)*. May 2019. (Acceptance rate: 18.0% = 225 / 1247 submissions)  
**Best Paper Award**
5. [IMC '18] Seoung Kim, [Zane Ma](#), Siddarth Murali, Josh Mason, Andrew Miller, Michael Bailey. “**Measuring Ethereum’s Peer-to-Peer Network.**” *ACM Internet Measurement Conference (IMC)*. November 2018. (Acceptance rate: 24.7% = 43 / 174 submissions)
4. [USENIX '17] [Zane Ma](#), 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, Joshua Mason, Damian Menscher, Chad Seaman, Nick Sullivan, Kurt Thomas, Yi Zhou. “**Understanding the Mirai Botnet.**” *USENIX Security Symposium (Sec)*. August 2017.  
(Acceptance rate: 16.3% = 85 / 522 submissions)
3. [NDSS '17] Zakir Durumeric, [Zane Ma](#), Drew Springall, Richard Barnes, Nick Sullivan, Elie Bursztein, Michael Bailey, J. Alex Halderman, Vern Paxson. “**The Security Impact of HTTPS Interception.**” *Network and Distributed Systems Symposium (NDSS)*. February 2017. (Acceptance rate: 16.1% = 68 / 423 submissions)
2. [WWW '17] Deepak Kumar, [Zane Ma](#), Zakir Durumeric, Ariana Mirian, Joshua Mason, Michael Bailey, J. Alex Halderman. “**Security Challenges in an Increasingly Tangled Web.**” *World Wide Web Conference (WWW)*. April 2017. (Acceptance rate: 17.0% = 164 / 966 submissions)
1. [PST '16] Ariana Mirian, [Zane Ma](#), David Adrian, Matthew Tischer, Thasphon Chuenchujit, Tim Yardley, Robin Berthier, Josh Mason, Zakir Durumeric, J. Alex Halderman, Michael Bailey. “**An Internet-Wide View of ICS Devices.**” *IEEE Conference on Privacy, Security, and Trust (PST)*. December 2016. (Accepted.)

## FUNDING

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2. CyberCorps Scholarship for Service: A Clinical Rotation Approach to Professional Cybersecurity Workforce Development
  - **My role: Co-PI**
  - Funding agency: NSF
  - Personal share: TBD
  - Total: \$4,799,707.00
  - 1/1/2023 to 12/31/2027
1. Programmable Infrastructure for CounterIng Pugnacious Adversaries on a Large Scale (PRINCIPALS)
  - **My role: PI (Subcontract)**
  - Funding agency: DARPA
  - Personal share: \$196,947 (100%)
  - Total: \$196,947
  - 9/1/2023 to 9/30/2024

## TALKS

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### Conferences & Forums

- Oct. 2024 **Stale TLS Certificates: Investigating Precarious Third-Party Access to Valid TLS Keys**  
*CA/Browser Forum*
- Oct. 2023 **Stale TLS Certificates: Investigating Precarious Third-Party Access to Valid TLS Keys**  
*ACM Internet Measurement Conference (IMC '23)*
- Apr. 2022 **Tracing Your Roots: Exploring the TLS Trust Anchor Ecosystem**  
*Hot Topics in the Science of Security (HotSoS '22)*
- Nov. 2021 **Tracing Your Roots: Exploring the TLS Trust Anchor Ecosystem**  
*ACM Internet Measurement Conference (IMC '21)*
- Oct. 2021 **Exploring CA Certificate Control**  
*CA/Browser Forum*
- Aug. 2021 **What's in a Name? Exploring CA Certificate Control**  
*USENIX Security Symposium (Sec '21)*
- Aug. 2019 **The Impact of Secure Transport Protocols on Phishing Efficacy**  
*Workshop on Cyber Security Experimentation and Test (CSET '19)*
- Feb. 2018 **Mirai and the Future of IoT botnets**  
*M3AAWG: 42nd General Meeting*
- Aug. 2017 **Understanding the Mirai botnet**  
*USENIX Security Symposium (Sec '17)*

### Seminars & Guest Lectures

- May 2024 **Peeking into the WebPKI: Uncovering the Trust That Sustains Web Server Authentication**  
*NOISE Lab Seminar*
- Jul. 2022 **Reflections on Trusting Identifiers: The Foundations of Social Engineering**  
*Stanford Security Seminar*
- Nov. 2021 **WebPKI and Trust**  
*Stanford CS249i Guest Lecture*
- Sept. 2021 **Understanding the Trust Relationships of the Web PKI**  
*Georgia Tech Cybersecurity Lecture Series*
- Apr. 2020 **Fundamentals of Phishing: A Usability Perspective**  
*UC San Diego Security Seminar*
- Nov. 2017 **Understanding the Mirai botnet**  
*University of Chicago Security Seminar*

## TEACHING

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Fall 2023	<b>CS499/579: Empirical Computer Security<sup>†</sup></b>	<i>Instructor</i>	(5.6/6.0 course, 5.9/6.0 instructor)
Spring 2021	CS 461: Intro to Comp. Security	<i>TA</i>	
Fall 2020	CS 461: Intro to Comp. Security	<i>TA*</i>	
Spring 2020	CS 461: Intro to Comp. Security	<i>TA</i>	
Fall 2019	CS 461: Intro to Comp. Security	<i>TA</i>	
Spring 2019	CS 461: Intro to Comp. Security	<i>TA</i>	
Spring 2018	CS 461: Intro to Comp. Security	<i>TA</i>	
Fall 2015	CS 241: System Programming	<i>TA*</i>	

\*Outstanding instructor rating (top 10%)

<sup>†</sup>Newly created or re-designed course

## MENTORSHIP

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### Ph.D. students

2024 – PRES. Michelle Lewis

### Masters students

2023 – PRES. Lucas Stephens User authentication breaches.

2024 – PRES. Alexis Deviney

2024 – PRES. Andrew Le

2024 – PRES. Elliot Foley

### Undergraduate

2023 – PRES. Abigail Whittle Domain registration economics.

2023 – PRES. Jacquelyn Sansone

2023 – PRES. Owen Debelak

2024 – PRES. Derek Greene

2024 – PRES. Ksenia Bannova

### Thesis committees

2025 PhD Akshith Gunasekaran

2025 MS David Richardson

2025 MS Gokul Kesavamurthy

2025 MS Ashish Ramrakhiani

## SERVICE

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### Professional

2025 ACM Internet Measurement Conference (IMC) *Program Committee*

2025 USENIX Security Symposium (Sec) *Program Committee*

2025 IEEE Symposium on Security and Privacy (S&P) *Program Committee*

2024 ACM CoNEXT Workshop on Decentralization of the Internet (DIN) *Program Committee*

2024 IEEE Symposium on Security and Privacy (S&P) *Program Committee*

2023 Workshop on IoT Security and Cyber Threat Intelligence (IoT SCTI) *Program Committee*

2023 Workshop on Cryptography Applied to Transparency Systems (CATS) *Program Committee*

2023 NSF Secure and Trustworthy Computing (SaTC) *Panel Reviewer*

2023 IEEE Symposium on Security and Privacy (S&P) *Program Committee*

2022 ACM Conference on Computer and Communications Security (CCS) *Program Committee*

### Institutional

2024 – PRES. OSU Information Security Advisory Committee *Member*

2023 – PRES. OSU EECS Graduate Admissions Committee *Member*

2023 – PRES. OSU Security Club *Faculty Advisor*

## REFERENCES

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Michael Bailey

Professor and Founding Chair of School of Cybersecurity and Privacy (SCP)

Georgia Institute of Technology

mbailey@gatech.edu

Manos Antonakakis

Associate Professor and Dean's Professorship in Electrical and Computer Engineering

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Zakir Durumeric

Assistant Professor of Computer Science

Stanford University  
zakir@cs.stanford.edu

Angelos Keromytis  
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