

**Paul Pearce**  
Assistant Professor, Georgia Tech

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CONTACT  
INFORMATION

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CODA  
Georgia Tech  
Atlanta, GA 30332

RESEARCH  
INTERESTS

My research brings empirical grounding and understanding to the study of global, hidden Internet security problems. My work has focused on both politically and economically motivated attacks, spanning censorship, cybercrime, and “advanced persistent threats.” In pursuit of these goals I have built Internet-scale measurement platforms and designed new empirical methods aimed at discovering complex and unseen adversarial behavior.

CONFERENCE  
PUBLICATIONS

- [1] V. Guo Li, M. Dunn, D. McCoy, G. M. Voelker, S. Savage, **P. Pearce**, K. Levchenko, “Reading the Tea leaves: A Comparative Analysis of Threat Intelligence”, *28th USENIX Security Symposium (USENIX)*, Aug 2019
- [2] M. Rezaeirad, B. Farinholt, H. Dharmdasani, **P. Pearce**, K. Levchenko, D. McCoy, “Schrodinger’s RAT: Profiling the Stakeholders in the Remote Access Trojan Ecosystem”, *27th USENIX Security Symposium (USENIX)*, Aug 2018
- [3] **P. Pearce**, “Methods and Systems for Understanding Large-Scale Internet Threats”, *PhD Dissertation, University of California, Berkeley*, Aug 2018
- [4] **P. Pearce**, B. Jones, F. Li, R. Ensafi, N. Weaver, N. Feamster, V. Paxson, “Global Measurement of DNS Manipulation”, *26th USENIX Security Symposium (USENIX)*, Aug 2017
- [5] R. Singh, R. Nithyanand, S. Afroz, **P. Pearce**, M. C. Tschantz, P. Gill, V. Paxson, “Characterizing the Nature and Dynamics of Tor Exit Blocking”, *26th USENIX Security Symposium (USENIX)*, Aug 2017
- [6] **P. Pearce**, R. Ensafi, F. Li, N. Feamster, V. Paxson, “Augur: Internet-Wide Detection of Connectivity Disruptions”, *38th IEEE Symposium on Security and Privacy (Oakland)*, May 2017
- [7] B. Farinholt, M. Rezaeirad, **P. Pearce**, H. Dharmdasani, H. Yiny, S. Le Blond, D. McCoy, K. Levchenko, “To Catch a Ratter: Monitoring the Behavior of Amateur DarkComet RAT Operators in the Wild”, *38th IEEE Symposium on Security and Privacy (Oakland)*, May 2017
- [8] K. Thomas, E. Bursztein, C. Grier, G. Ho, N. Jagpal, A. Kapravelos, D. McCoy, A. Nappa, V. Paxson, **P. Pearce**, N. Provos, M. A. Rajab, “Ad Injection at Scale: Assessing Deceptive Advertisement Modifications”, *36th IEEE Symposium on Security and Privacy (Oakland)*, May 2015. **Distinguished Practical Paper**
- [9] **P. Pearce**, V. Dave, C. Grier, K. Levchenko, S. Guha, D. McCoy, V. Paxson, S. Savage, G. M. Voelker, “Characterizing Large-Scale Click Fraud in ZeroAccess”, *21st ACM Conference on Computer and Communications Security (CCS)*, Nov 2014
- [10] **P. Pearce**, C. Grier, V. Paxson, V. Dave, D. McCoy, G. M. Voelker, and S. Savage. “The ZeroAccess Auto-Clicking and Search-Hijacking Click Fraud Modules”, *Technical report, EECS Department, University of California, Berkeley*, Dec 2013
- [11] **P. Pearce**, G. Nunez, A. P. Felt, and D. Wagner, “AdDroid: Privilege Separation for Applications and Advertisers in Android”, *7th ACM Symposium on Information, Computer and Communications Security (ASIACCS)*, May 2012

- [12] B. Miller, **P. Pearce** and C. Grier, C. Kreibich, V. Paxson, “What’s Clicking What? Techniques and Innovations of Today’s Clickbots”, *8th Conference on Detection of Intrusions and Malware & Vulnerability Assessment (DIMVA)*, Jul 2011
- [13] J. A. Colmenares, S. Bird, H. Cook, **P. Pearce**, D. Zhu, J. Shalf, K. Asanovic, and J. Kubiatowicz. “Resource Management in the Tessellation Manycore OS”, *USENIX Workshop on Hot Topics in Parallelism (HotPar)*, Jun 2010
- [14] K. Klues, B. Rhoden, D. Zhu, **P. Pearce**, E. Brewer, J. Kubiatowicz. “Abstractions for Scalable Operating Systems on Manycore Architectures”. Work-In-Progress Poster, *22nd ACM Symposium on Operating Systems Principles (SOSP)*, Oct 2009

INVITED JOURNAL  
AND MAGAZINE  
ARTICLES

- [15] **P. Pearce**, R. Ensafi, F. Li, N. Feamster, V. Paxson, “Towards Continual Measurement of Global Network-Level Censorship”, *IEEE Security & Privacy Magazine, Special Issue*, 2018
- [16] **P. Pearce**, B. Jones, F. Li, R. Ensafi, N. Weaver, N. Feamster, V. Paxson, “Global Measurement of DNS Manipulation”, *USENIX ;login.*, Winter 2017

SERVICE &  
LEADERSHIP

<b>CCS Program Committee:</b> 27th Conf. on Computer and Comm. Security	2020
<b>IEEE S&amp;P Program Committee:</b> 41st IEEE Symposium on Security and Privacy	2020
<b>USENIX Security Program Committee:</b> 25th USENIX Security Symposium	2020
<b>CCS Program Committee:</b> 26th Conf. on Computer and Comm. Security	2019
<b>RAID Program Committee:</b> 22nd Sym. on Research in Attacks, Intrusions and Defenses	2019
<b>WOOT Program Committee:</b> 13th USENIX Workshop on Offensive Technologies	2019
<b>PETS Program Committee:</b> 20th Privacy Enhancing Technologies Symposium	2019-2020
<b>PETS Program Committee:</b> 19th Privacy Enhancing Technologies Symposium	2018-2019
<b>PETS Program Committee:</b> 18th Privacy Enhancing Technologies Symposium	2017-2018
<b>USENIX Security PC Scribe:</b> 25th USENIX Security Symposium	2016
<b>Student Leader:</b> Computer Science GSI Conference Workshop Leader, UC Berkeley	Aug 2015
<b>Graduate Admissions:</b> UC Berkeley <i>Reviewed applications for the security research area</i>	2014-2015
<b>Graduate Admissions:</b> UC Berkeley <i>Reviewed applications for diversity</i>	2013-2014
<b>Student Leader:</b> CS Graduate Student Association President, UC Berkeley	2013-2014
<b>Student Leader:</b> CS Graduate Student Association Officer, UC Berkeley	2010-2015
<b>Student Leader:</b> EECS Department Undergraduate Study Committee, UC Berkeley	2009-2011
<b>Student Leader:</b> Eta Kappa Nu Member and Officer, UC Berkeley	2008-2010
<b>Mentoring:</b> EECS Peers, UC Berkeley <i>Available as a drop-in mentor for graduate students in electrical engineering and computer science.</i>	Fall 2013 - Fall 2015

RESEARCH AND WORK EXPERIENCE	<b>Georgia Institute of Technology</b>	Atlanta, GA
	<i>Assistant Professor, School of Computer Science, College of Computing</i>	Aug 2019 - Present
	<b>Facebook, Inc</b>	Menlo Park, CA
	<i>Visiting Researcher, Site Integrity</i>	Sep 2018 - Jul 2019
	<b>University of California Berkeley</b>	Berkeley, CA
	<i>Graduate Student Researcher with Vern Paxson</i>	Aug 2010 - Aug 2018
	<b>Microsoft Research Silicon Valley</b>	Mountain View, CA
	<i>Research Intern with Yinglian Xie</i>	May 2012 - Aug 2012
	<b>University of California Berkeley</b>	Berkeley, CA
	<i>Researcher with the Parallel Computing Lab</i>	Jan 2009 - Jun 2010
<b>University of California Berkeley</b>	Berkeley, CA	
<i>Undergraduate Researcher with Laurent El Ghaoui</i>	Jun 2008 - Dec 2008	
<b>Chaffey Community College Institutional Services</b>	Rancho Cucamonga, CA	
<i>Supplemental Instruction Leader</i>	Aug 2006 - Jun 2007	
<b>Chaffey Community College Math Success Center</b>	Rancho Cucamonga, CA	
<i>Instructional Assistant</i>	Dec 2005 - Jun 2007	
EDUCATION	<b>University of California, Berkeley</b>	May 2013 - Aug 2018
	PhD Candidate, Computer Science <i>Advised by Vern Paxson</i>	
	<b>University of California, Berkeley</b>	Aug 2010 - May 2013
	Master of Science (MS), Computer Science <i>Advised by Vern Paxson and David Wagner</i>	
	<b>University of California, Berkeley</b>	Aug 2007 - Dec 2009
Bachelor of Science, Electrical Engineering and Computer Science Graduated with Highest Honors		
<b>Chaffey and Mt San Antonio Community Colleges</b>	Jan 2004 - Jun 2007	
HONORS AND DISTINCTIONS	<b>SIGSAC Doctoral Dissertation Award Runner Up</b>	Oct 2019
	<b>Distinguished Practical Paper, IEEE Symposium on Security and Privacy</b>	May 2015
	<b>CS Graduate Student Association President</b>	May 2013 - May 2014
	<b>EECS Distinguished GSI Award</b>	Apr 2014
	<b>CS Graduate Student Association Faculty Liaison</b>	May 2012 - May 2013
	<b>NSF Honorable Mention (Operating Systems &amp; Middleware)</b>	Apr 2011
	<b>GAANN Fellowship</b>	Aug 2010 - May 2011
	<b>Eugene L. Lawler Prize</b>	Jun 2010
	<b>Fong Family Scholarship</b>	May 2009
	<b>Eta Kappa Nu Member and Officer</b>	May 2008 - May 2010
<b>AMATYC Student Mathematics League Award</b>	May 2007	
<b>Jack White Engineering Physics Award</b>	May 2006	

<b>Arthur E. &amp; Gladys P. Flum Award</b>	May 2006
<b>1st Place, ProgFest Team Programming Competition</b>	Feb 2006
<b>1st Place, ACM Regional Programming Comp., Community College Div.</b>	May 2005

ACADEMIC TALKS  
AND LECTURES

<b>Dissertation: Methods and Systems for Understanding Large-Scale Internet Threats</b>	
University of California, Berkeley	May 2018
<b>Methods and Systems for Understanding Large-Scale Internet Threats</b>	
University of Virginia (UVA)	Apr 2018
University of Massachusetts, Amherst	Apr 2018
Northeastern University (NEU)	Mar 2018
University of North Carolina, Chapel Hill (UNC)	Mar 2018
University of Maryland (UMD)	Mar 2018
University of California, Santa Barbara (UCSB)	Mar 2018
University of Chicago (UChicago)	Mar 2018
New York University, Tandon School of Engineering (NYU)	Mar 2018
Georgia Institute of Technology (Georgia Tech)	Feb 2018
University of Wisconsin, Madison (UWM)	Feb 2018
Carnegie Mellon University (CMU)	Feb 2018
<b>Global Measurement of DNS Manipulation</b>	
University of Illinois at Urbana-Champaign ITI Seminar	Oct 2017
Cloudflare Seminar	Sep 2017
26th USENIX Security Symposium (USENIX)	Aug 2017
University of Michigan Security Seminar	Jul 2017
<b>Understanding Threat Intelligence</b>	
Berkeley EECS Annual Research Symposium (BEARS)	Feb 2016
<b>Characterizing Large-Scale Click Fraud in ZeroAccess</b>	
Messaging, Malware and Mobile Anti-Abuse Working Group (M3AAWG)	Oct 2015
21st ACM Conference on Computer and Communications Security (CCS)	Nov 2014
<b>Monetizing ZeroAccess: Inside the ZA-hosted Click-fraud Malware</b>	
Google Abuse Summit	May 2014
Microsoft Digital Crime Conference (DCC)	Mar 2014
<b>Malware</b>	
Guest Lecture, CS161 Computer Security, UC Berkeley	Jan 2014
<b>Internet Freedom</b>	
Guest Lecture, CS161 Computer Security, UC Berkeley	Apr 2013
<b>AdDroid: Privilege Separation for Applications and Advertisers in Android</b>	
7th Symposium on Information, Computer and Communications Security (ASIACCS)	May 2012
<b>What's Clicking What? Techniques and Innovations of Today's Clickbots</b>	
8th Conf. on Detection of Intrusions and Malware & Vuln. Assessment (DIMVA)	Jul 2012
<b>Machine Structure (CS61C), 25 Lectures as Instructor</b>	
Undergraduate Course, UC Berkeley	Jun-Aug 2010

TEACHING  
EXPERIENCE

**Measurement and Security, Instructor**

*Georgia Institute of Technology*

Designed and taught course.

*Student Evaluation Overall Teaching Effectiveness: 5.0/5.0*

Aug 2019 - Dec 2019

Atlanta, GA

**Computer Security (CS161) Teaching Assistant**

*University of California Berkeley*

Managed two discussion sections per week. Generated new content for homework's, projects, lectures, and exams.

*Student Evaluation Overall Teaching Effectiveness: 4.9/5.0*

**Outstanding EECS GSI Award**

Jan 2013 - May 2013

Berkeley, CA

**Computer Security (CS61C) Instructor**

*University of California Berkeley*

Responsibilities included all lectures, course content, and administrative matters for 100 students.

*Student Evaluation Overall Teaching Effectiveness: 6.3/7.0*

Jun 2010 - Aug 2010

Berkeley, CA

**Machine Structures (CS61C) Teaching Assistant**

*University of California Berkeley*

Managed four labs and one discussion section each week. Was responsible for a CPU design project, several homeworks, and two lectures.

*Student Evaluation Overall Teaching Effectiveness: 4.8/5.0*

May 2009 - Aug 2009

Berkeley, CA

DISSERTATION  
COMMITTEES

[1] Shan Chen. "Towards Secure Communication and Authentication: Provable Security Analysis and New Constructions", Georgia Institute of Technology, 2019.

OPEN-SOURCE  
SOFTWARE

**ZMap:** Fast Internet-Wide Scanner

Co-Author and Co-Maintainer

<https://github.com/zmap/zmap>

**ZDNS:** Fast CLI Utility for Large-Scale DNS Lookups

Co-Author and Co-Maintainer

<https://github.com/zmap/zdns>