Security Credentials for Nick Feamster

Summary

- 25 total publications, 10 in top-tier conferences
- 15 million in funding, $4.5 million as lead PI, including lead on an NSF Large
- Led and organized two NSF sponsored workshops on security
- Founded a USENIX Workshop on Free and Open Communications on the Internet (co-located with USENIX Security)
- Written security column for *Wall Street Journal* on anti-censorship

Security Publications (25 total; 10 in top-tier conferences + 2 book/journal)

- 6 in top-tier security conferences (5 USENIX Security, 1 CCS paper; 2 award papers)
    - Sam Burnett, Nick Feamster, and Santosh Vempala. Chipping Away at Censorship Firewalls with Collage. In Proc. 19th USENIX Security Symposium, Washington, DC, August 2010. Acceptance rate: 15%
    - Manos Antonakakis and Roberto Perdisci and David Dagon and Wenke Lee and Nick Feamster. Building a Dynamic Reputation System for DNS. In Proc. 19th USENIX Security Symposium, Washington, DC, August 2010. Acceptance rate: 15%
    - Shuang Hao, Nadeem Syed, Nick Feamster, Alexander Gray, and Sven Krasser. De- tecting Spammers with SNARE: Spatio-temporal Network-level Automatic Reputation Engine. In Proc. 18th USENIX Security Symposium, Montreal, Quebec, Canada, August 2009. Acceptance rate: 15%
    - Anirudh Ramachandran, Nick Feamster, and Santosh Vempala. Filtering Spam with Behavioral Blacklisting. In Proc. 14th ACM Conference on Computer and Communications Security (CCS), Alexandria, VA, October 2007. Acceptance rate: 24%
    - Nick Feamster, Magdalena Balazinska, Greg Harfst, Hari Balakrishnan, and David Karger. Infranet: Circumventing Web censorship and surveillance. In Proc. 11th USENIX Security Symposium, San Francisco, CA, August 2002. Acceptance rate: 17% Best student paper award.
    - Kevin Fu, Emil Sit, Kendra Smith, and Nick Feamster. Dos and don'ts of client authenti- cation on the Web. In Proc. 10th USENIX Security Symposium, Washington, DC, August 2001. Acceptance rate: 28% Best student paper award.
- 4 in top-tier networking conferences (2 SIGCOMM, 1 NSDI, 1 SIGCOMM IMC; 1 award paper)
    - Shuang Hao, Nick Feamster, and Ramakant Pandrangi. Monitoring the Initial DNS Be- havior of Spammers. In Proc. ACM SIGCOMM Internet Measurement Conference, Berlin, Germany, November 2011. Acceptance rate: 19%
    - Roberto Perdisci, Wenke Lee, and Nick Feamster. Behavioral Clustering of HTTP-Based Malware. In Proc. 7th ACM/USENIX Symposium on Networked Systems Design and Imple- mentation (NSDI), San Jose, CA, April 2010. Acceptance rate: 16%
    - David Andersen, Hari Balakrishnan, Nick Feamster, and Scott Shenker. Accountable Internet Protocol (AIP). In Proc. ACM SIGCOMM, Seattle, WA, August 2008. Acceptance rate: 12%
    - David G. Andersen, Hari Balakrishnan, Nick Feamster, and Scott Shenker. Holding the Internet Accountable. In Proc. 6th ACM Workshop on Hot Topics in Networks

(Hotnets-VI), Atlanta, GA, November 2007. Acceptance rate: 18%
    - Anirudh Ramachandran and Nick Feamster. Understanding the Network-Level Behav- ior of Spammers. In Proc. ACM SIGCOMM, Pisa, Italy, August 2006. An earlier version appeared as Georgia Tech TR GT-CSS-2006-001. Acceptance rate: 12% Best student paper award.
- 5 in other security conferences (2 anti-spam conference papers, 2 Passive/Active Measurement Conference papers, 1 AsiaCCS paper; 1 Award paper)
    - M. Konte, N. Feamster, Re-wiring Activity of Malicious Networks, Passive and Active Measurement Conference Vienna, Austria. March 2012.
    - Anirudh Ramachandran, Anirban Dasgupta, Nick Feamster, and Kilian Weinberger. Spam or Ham? Characterizing and Detecting Fraudulent ”Not Spam” Reports in Web Mail Systems. In 8th Annual Collaboration, Electronic messaging, Anti-Abuse and Spam Con- ference (CEAS 2011), Perth, Australia, September 2011.
    - Junjie Zhang, Xiapu Luo, Roberto Perdisci, Guofei Gu, Wenke Lee and Nick Feamster. "Boosting the Scalability of Botnet Detection using Adaptive Traffic Sampling", In Proceedings of 6th ACM Symposium on Information, Computer and Communications Security (ASIACCS'11), Hong Kong, China, 2011. Acceptance rate: 16%
    - Maria Konte, Nick Feamster, and Jaeyeon Jung. Dynamics of Online Scam Infrastructure. In Proc. Passive and Active Measurement Conference, Seoul, Korea, March 2009. Acceptance rate: 20% Best paper award.
    - Anirudh Ramachandran, David Dagon, and Nick Feamster. Can DNSBLs Keep Up with Bots? In 3rd Conference on Email and Anti-Spam (CEAS), Mountain View, CA, July 2006.
- 8 in workshops
    - Yogesh Mundada, Anirudh Ramachandran, and Nick Feamster. SilverLine: Data and Network Isolation for Cloud Services. In 3rd USENIX Workshop on Hot Topics in Cloud Computing (HotCloud ’11), June 2011.
    - Nick Feamster. Outsourcing Home Network Security. In ACM SIGCOMM Workshop on Home Networking (HomeNets), New Delhi, India, September 2010.
    - Ankur Nayak, Alex Reimers, Russ Clark, and Nick Feamster. Resonance: Dynamic Ac- cess Control for Enterprise Networks. In ACM SIGCOMM Workshop on Research in En- terprise Networks (WREN), Barcelona, Spain, August 2009.
    - S. Yardi, N. Feamster, and A. Bruckman. Photo-Based Authentication Using Social Net- works. In Proc. ACM SIGCOMM Workshop on Online Social Networks, Seattle, WA, August 2008.
    - Anirudh Ramachandran and Nick Feamster. Authenticated Out-of-Band Communica- tion over Social Links. In Proc. ACM SIGCOMM Workshop on Online Social Networks, Seattle, WA, August 2008.
    - Anirudh Ramachandran, Nick Feamster, and David Dagon. Revealing Botnet Member- ship with DNSBL Counter-Intelligence. In 2nd USENIX Workshop on Steps to Reducing Unwanted Traffic on the Internet (SRUTI), San Jose, CA, July 2006.
    - Nick Feamster and Roger Dingledine. Location diversity in anonymity networks. In ACM Workshop on Privacy in the Electronic Society, Washington, DC, October 2004.
    - Nick Feamster, Magdalena Balazinska, Winston Wang, Hari Balakrishnan, and David Karger. Thwarting Web censorship with untrusted messenger discovery. In 3rd Workshop on Privacy Enhancing Technologies, Dresden, Germany, March 2003.
- 2 in journals and book chapters
    - Nick Feamster, Jaeyeon Jung, and Hari Balakrishnan. An Empirical Study of “Bogon” Route Advertisements. ACM Computer Communications Review, 35(1):63–70,

November 2004.
    - Anirudh Ramachandran, Nick Feamster, and David Dagon. Botnet Detection: Countering the Largest Security Threat. Springer, 2008. Chapter: Revealing Botnet Membership with DNSBL Counterintelligence.

Security Funding (About $15 million total, $4.5 million as lead PI)

- As Lead PI (~ $4.5 million)
    - Facilitating Free and Open Access to Information on the Internet
      Sponsor: National Science Foundation Investigator(s): R. Dingledine, N. Feamster (PI), E. Felten, M. Freedman, H. Klein, W. Lee Amount: $1,500,000 for 4 years Awarded: March 2011
      [This is pending approval, and has taken awhile to fund because NSF needed to figure out how to fund the Tor Project. But, we expect approval any day now.]
    - Monitoring Free and Open Access to Information on the Internet
      Sponsor: Google Focus Grant Investigator(s): N. Feamster and W. Lee Amount: $1,500,000 for 3 years Awarded: February 2011
    - Campus Network Access and Admission Control with Openflow
      Sponsor: National Science Foundation Investigator(s): N. Feamster (PI), R. Clark Amount: $300,000 for 3 years
    - Studying DNS Traffic Patterns
      Sponsor: Verisign Investigator(s): N. Feamster Amount: $30,000 for 1 year Awarded: November 2009
    - Military Network Protocol
      Sponsor: DARPA Subcontract Investigator(s): N. Feamster Amount: $37,000 for 1 year Awarded: November 2009
    - Taint-based Information Tracking in Networked Systems
      Sponsor: National Science Foundation Trusted Computing Program Investigator(s): N. Feamster Amount: $450,000 for 3 years Awarded: August 2009
    - Virtual Center for Network and Security Data
      Sponsor: Department of Homeland Security Investigator(s): N. Feamster Amount: $48,000 for 2 years Awarded: March 2008
    - Enabling Security and Network Management Research for Future Networks
      Sponsor: National Science Foundation CRI-IAD Program Investigator(s): N. Feamster (PI), Z. Mao, W. Lee Amount: $397,426 for 3 years Awarded: February 2008
    - Spam Filtering Research
      Sponsor: IBM Faculty Award Investigator(s): N. Feamster Amount: $ 7,500 (unrestricted gift) Awarded: June 2007
- As Co-PI ($10 million+)
    - MEDITA - Multi-layer Enterprise-wide Dynamic Information-flow Tracking & Assurance
      Sponsor: National Science Foundation Investigator(s): N. Feamster, A. Orso (PI), M. Prvulovic Amount: $900,000 for 3 years Awarded: March 2010
    - Botnet Attribution and Removal: From Axioms to Theories to Practice
      Sponsor: Office of Naval Research Investigator(s): W. Lee (PI), D. Dagon, J. Giffin, N. Feamster, K. Shin, F. Jahanian, M. Bailey, J. Mitchell, G. Vigna, C. Kruegel Amount: $7,500,000 for 5 years Awarded: August 2009
    - CLEANSE: Cross-Layer Large-Scale Efficient Analysis of Network Activities to

Secure the Internet Sponsor: National Science Foundation Cybertrust Program
Investigator(s): W. Lee (PI), N. Feamster and others
Amount: $1,200,000 for 5 years Awarded: September 2008

- Countering Botnets: Anomaly-Based Detection, Comprehensive Analysis, and Efficient Mitigation Sponsor: Department of Homeland Security BAA07-09
  Investigator(s): W. Lee (PI), N. Feamster, J. Giffin
  Amount: $1,050,730 for 2 years Awarded: January 2008
- Towards an Accountable Internet Architecture
  Sponsor: National Science Foundation CyberTrust Program (Team Proposal)
  Investigator(s): D. Andersen, H. Balakrishnan, N. Feamster (PI), S. Shenker Amount: $ 300,000 for 3 years. Awarded: May 2007

Security Courses and Outreach

- Founded the *USENIX Workshop on Free and Open Communication on the Internet.* Here is the pointer to the first one: http://static.usenix.org/events/foci11/index.html (It is happening again this year.)
- Wrote column for *Wall Street Journal's* "All Things Digital" on censorship: http://allthingsd.com/20110211/the-internets-gatekeepers/ (this won some kind of journalism award in Atlanta called the "Phoenix Award")
- Have taught undergraduate computer security (50 students) and graduate network security.
- Have led and organized two NSF-sponsored workshops on security. (was PI for the NSF funding for the workshops)
  - NSF Security Driven Architectures Workshop in 2010 (PM was Karl Levitt)
  - NSF Workshop on Data Sharing for Cybersecurity in 2011 (PM was Lenore Zuck)