Nguyen Phong Hoang

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Research Interests

- My research interests encompasses security and privacy with an emphasis on online privacy, anonymity, and Internet censorship circumvention. In particular, I am interested in conducting network measurements to gain insight into anonymous networks (e.g., Tor, I2P) and pro-privacy technologies (e.g., proxy, VPN, DNS over HTTPS/TLS, ESNI).

Education

2016 – present
- ***Ph.D. in Computer Science, Stony Brook University, New York, USA***
  Research topic 1: *Censorship resistance of the I2P anonymity network*
  Research topic 2: *VPN-based censorship measurement*
  Research topic 3: *Accessing privacy benefits of domain name encryption*
  Supervisor: Dr. Michalis Polychronakis

2014 – 2016
- ***Master of Informatics, Kyoto University, Japan***
  Research topic 1: *Location privacy in LGBT-focused dating applications*
  Research topic 2: *AS-level correlation attacks in Tor*
  Supervisors: Dr. Asano Yasuhito and Dr. Yoshikawa Masatoshi

2010 – 2014
- ***Bachelor of Business Administration (majoring in ICT), Ritsumeikan Asia Pacific University, Japan***
  Research topic 1: *Anonymous Communication and its Importance in Social Networking*
  Research topic 2: *A Tor-based approach to secure smart home appliances*
  Supervisor: Dr. Davar Pishva

Professional Experiences

Oct 2019 – present
- ***Visiting researcher***
  Calipr Group, College of Information and Computer Sciences,
  University of Massachusetts - Amherst, USA.
  Project: *ICLab censorship measurement platform*
  Supervisor: Dr. Phillipa Gill

Sep 2018 – Sep 2019
- ***Open Technology Fund - Information Controls Fellow***
  Calipr Group, College of Information and Computer Sciences,
  University of Massachusetts - Amherst, USA.
  Project: *An empirical study of I2P and its censorship resistance*
  Supervisor: Dr. Phillipa Gill

Professional Experiences (continued)

Jun 2017 – present ◇ ***Research assistant***
Hexlab, Department of Computer Science,
Stony Brook University, USA.
Project 1: *An empirical study of the I2P anonymity network*
Project 2: *Measuring I2P censorship at a global scale*
Project 3: *Accessing privacy benefits of domain name encryption*
Supervisor: Dr. Michalis Polychronakis

Aug 2016 – May 2017 ◇ ***Graduate teaching assistant***
Department of Computer Science, Stony Brook University, USA.
Course 1: *CSE114: Computer Science I (Fall 2016)*
Course 2: *CSE331: Computer Security Fundamentals (Spring 2017)*

Jun 2014 – Aug 2014 ◇ ***Visiting research student***
Miyaji Laboratory, School of Information Science,
Japan Advanced Institute of Science and Technology, Japan.
Project: *A Tor-based approach to secure smart home appliances*
Supervisor: Dr. Atsuko Miyaji

Research Publications

Journal Articles

[1] ***Nguyen Phong Hoang***, Yasuhito Asano and Masatoshi Yoshikawa. 'Your Neighbors Are My Spies: Location and other Privacy Concerns in GLBT-focused Location-based Dating Applications.' In: *Transactions on Advanced Communications Technology (TACT)* 5.3 (May 2016), pp. 851–860. DOI: 10.23919/ICACT.2017.7890236.

[2] ***Nguyen Phong Hoang*** and Davar Pishva. 'A Tor-Based Anonymous Communication Approach to Secure Smart Home Appliances.' In: *Transactions on Advanced Communications Technology (TACT)* 3.5 (Sept. 2014), pp. 517–525. DOI: 10.1109/ICACT.2015.7224918.

Conference Proceedings

[3] ***Nguyen Phong Hoang***, Arian Akhavan Niaki, Nikita Borisov, Phillipa Gill and Michalis Polychronakis. 'Assessing the Privacy Benefits of Domain Name Encryption'. In: *Proceedings of the 15th ACM ASIA Conference on Computer and Communications Security*. ASIACCS '20. Taipei, Taiwan: ACM, June 2020, (To appear).

[4] Arian Akhavan Niaki, Shinyoung Cho, Zachary Weinberg, ***Nguyen Phong Hoang***, Abbas Razaghpanah, Nicolas Christin and Phillipa Gill. 'Your Neighbors are My Spies: Location and other Privacy Concerns in Dating Apps'. In: *Proceedings of the 41st IEEE Symposium on Security and Privacy*. Oakland 2020. IEEE. May 2020, (To appear).

[5] ***Nguyen Phong Hoang***, Panagiotis Kintis, Manos Antonakakis and Michalis Polychronakis. 'An Empirical Study of the I2P Anonymity Network and Its Censorship Resistance'. In: *Proceedings of the 18th Internet Measurement Conference*. IMC '18. Boston, MA, USA: ACM, Oct. 2018, pp. 379–392. ISBN: 978-1-4503-5619-0. DOI: 10.1145/3278532.3278565.

[6] ***Nguyen Phong Hoang***, Yasuhito Asano and Masatoshi Yoshikawa. 'Your Neighbors Are My Spies: Location and other Privacy Concerns in Dating Apps.' In: *Proceedings of the 18th International Conference on Advanced Communication Technology*. ICACT 2016. IEEE. Feb. 2016, pp. 715–721. DOI: 10.1109/ICACT.2016.7423532.

[7] ***Nguyen Phong Hoang***, Yasuhito Asano and Masatoshi Yoshikawa. 'Anti-RAPTOR: Anti Routing Attack on Privacy for a Securer and Scalable Tor.' In: *Proceedings of the 17th International Conference on Advanced Communication Technology*. ICACT 2015. IEEE. July 2015, pp. 147–154. DOI: 10.1109/ICACT.2015.7224775.

[8] ***Nguyen Phong Hoang*** and Davar Pishva. 'Anonymous Communication and Its Importance in Social Networking.' In: *Proceedings of the 16th International Conference on Advanced Communication Technology*. ICACT 2014. IEEE. Feb. 2014, pp. 34–39. DOI: 10.1109/ICACT.2014.6778917.

Workshop Proceedings

[9] ***Nguyen Phong Hoang***, Ivan Lin, Seyedhamed Ghavamnia and Michalis Polychronakis. 'K-resolver: Towards Decentralizing Encrypted DNS Resolution'. In: *Proceedings of NDSS Workshop on Measurements, Attacks, and Defenses for the Web*. MADWeb '20. Internet Society, Feb. 2020.

[10] ***Nguyen Phong Hoang***, Sadie Doreen and Michalis Polychronakis. 'Measuring I2P Censorship at a Global Scale'. In: *Proceedings of the 9th USENIX Workshop on Free and Open Communications on the Internet*. FOCI '19. USENIX, Aug. 2019.

Languages

Vietnamese	◇ Native language
English	◇ Academic English
Japanese	◇ Advanced Japanese
Mandarin Chinese	◇ Basic daily conversation

Awards and Funding

2018-2019 ◇ ***Fellowship*** from the Open Technology Fund's Information Controls Fellowship Program
Project: *An Empirical Study of the I2P Anonymity Network and Its Censorship Resistance.*

2016 ◇ ***Fellowship*** from the Chairman of the Department of Computer Science, Stony Brook University

◇ ***Outstanding Paper Award***
At 18th IEEE International Conference on Advanced Communication Technology
Title: *Your Neighbors Are My Spies: Location and Other Privacy Concerns in Dating Apps.*

2014 – 2016 ◇ ***Scholarship*** from MEXT - Japanese Government

2014 ◇ ***Outstanding Paper Award***
At 16th IEEE International Conference on Advanced Communication Technology
Title: *Anonymous Communication and its Importance in Social Networking.*

2012 – 2014 ◇ ***Scholarship*** from TOYOTA Tsusho for International Students

2011 – 2012 ◇ ***Scholarship*** from Japan Student Services Organization (JASSO)

2010 – 2014 ◇ ***Tuition Scholarship*** from Ritsumeikan Asia Pacific University

Media Coverage

Oct 2019 ◇ ***How Gay Dating Apps Are Being Abused and Used For Entrapment Around The World?***
Rogue Rocket News Network
Coverage of *colluding-trilateration attack on location privacy*, reported by Alex Myers

May 2016 ◇ ***Gay Dating Apps Promise Privacy, but Leak Your Exact Location***, WIRED Magazine.
Coverage of *colluding-trilateration attack on location privacy*, reported by Andy Greenberg

Media Coverage (continued)

◇ ***Is Your Location Really Private on Grindr? Not Quite…***, PC Magazine.
Coverage of *colluding-trilateration attack on location privacy*, reported by David Murphy

Community Service

2017 ◇ ***Annual Computer Security Applications Conference - ACSAC***
Artifact Committee