

# Alan E. Mislove

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Khoury College of Computer Sciences  
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## RESEARCH INTERESTS

Systems, security, and privacy issues of social network-based systems; Internet measurement; algorithmic auditing; use and management of public key infrastructures

## EDUCATION

- 05/2009 **Doctor of Philosophy** in Computer Science  
Rice University, Houston, Texas  
Thesis: *Online Social Networks: Measurement, Analysis, and Applications to Distributed Information Systems*  
Advisors: Peter Druschel and Krishna P. Gummadi
- 12/2004 **Master of Science** in Computer Science  
Rice University, Houston, Texas  
Thesis: *POST: A Decentralized Platform for Reliable Collaborative Applications*  
Advisor: Peter Druschel
- 05/2002 **Bachelor of Arts** in Computer Science and Mathematics, awarded *cum laude*  
Rice University, Houston, Texas

## PROFESSIONAL EXPERIENCE

- 08/2016 – Present **Associate Dean and Director of Undergraduate Programs**  
Khoury College of Computer Sciences, Northeastern University, Boston, Massachusetts
- 07/2015 – Present **Associate Professor**  
Khoury College of Computer Sciences, Northeastern University, Boston, Massachusetts
- 07/2015 – 06/2016 **Guest Professor**  
Department of Economics, Copenhagen University, Copenhagen, Denmark
- 09/2009 – 06/2015 **Assistant Professor**  
Khoury College of Computer Sciences, Northeastern University, Boston, Massachusetts
- 07/2011 – Present **Co-Founder and Chief Data Architect**  
Janys Analytics, Boston, Massachusetts

## ADVISING

### Postdoctoral Researchers

- 04/2017 – Present Piotr Sapiezynski
- 10/2015 – 08/2018 Taejoong Chung (now Asst. Prof. at Rochester Institute of Technology)

### Ph.D. Students

- 08/2018 – Present Muhammad Ali (co-advised with Christo Wilson)
- 08/2017 – Present Giridhari Venkatadri
- 08/2016 – Present Lucianna Kiffer (co-advised with Rajmohan Rajaraman)
- 08/2016 – Present Connon Zanin
- 08/2011 – 10/2017 Arash Molavi Kakhki (co-advised with David Choffnes, now at ThousandEyes)
- 05/2010 – 11/2016 Yabing Liu (now at Twitter)
- 05/2011 – 07/2016 Liang Zhang (now at Google)
- 05/2010 – 06/2016 Ancsa Hannák (co-advised with David Lazer, now Jr. Prof. at Vienna U. of Economics and Business)

08/2009 – 02/2016 Bimal Viswanath (co-advised with Krishna P. Gummadi, now Asst. Prof. at Virginia Tech)

#### **Ph.D. Committees**

Fall 2017 Christopher Riederer (Columbia)  
Spring 2016 Paridhi Jain (IIIT Delhi)  
Spring 2015 Aldo Cassola (Northeastern)  
Spring 2014 Qian Zhang (Northeastern)  
Spring 2014 Kapil Arya (Northeastern)  
Spring 2014 Alper Okcan (Northeastern)  
Fall 2012 Tao Jin (Northeastern)  
Spring 2012 Fangfei Zhou (Northeastern)  
Spring 2012 Shahzad Rajput (Northeastern)  
Spring 2012 Nicholas Blumm (Northeastern)

#### **M.S. Committees**

Spring 2015 Poonam Bhide (Northeastern)

#### **Bachelors**

Spring 2011 Tommy Nguyen (Suffolk, now at RPI)

#### **TEACHING**

F16, F17, F18 CS 2500, Fundamentals of Computer Science I  
S15 CS 3700, Networks and Distributed Systems  
F11 – F14 CS 3600, Systems and Networks  
F13 CS 5750/IS 4700, Social Information Systems (F13 co-taught with Christo Wilson)  
F09, S11, F13 CS 4700/CS 5700, Fundamentals of Computer Networks (F13 co-taught with Christo Wilson)  
F10 CS 5600, Computer Systems  
S10 CS 7780, Special Topics in Networks

#### **JOURNAL PUBLICATIONS**

##### **A First Look at Certification Authority Authorization (CAA)**

Q. Scheitle, T. Chung, J. Hiller, O. Gasser, J. Naab, R. van Rijswijk-Deij, O. Hohlfeld, R. Holz, D. Choffnes, A. Mislove, and G. Carle  
CCR, 48(2), Apr. 2018

##### **Meddle: Enabling Transparency and Control for Mobile Internet Traffic**

A. Rao, A. Molavi Kakhki, A. Razaghpanah, A. Li, D. Choffnes, A. Legout, A. Mislove, and P. Gill  
Journal of Technology Science, 2015103003, <http://techscience.org/a/2015103003/>, Oct. 2015

##### **Timescales of Massive Human Entrainment**

R. Fusaroli, M. Perlman, A. Mislove, A. Paxton, T. Matlock, and R. Dale  
PLoS One, 10(4), Apr. 2015

#### **REFEREED CONFERENCE PUBLICATIONS**

##### **PETS'19 Investigating sources of PII used in Facebook's targeted advertising**

G. Venkatadri, E. Lucherini, P. Sapiezynski, and A. Mislove  
PETS, Stockholm, Sweden, July 2019

##### **WWW'19 Auditing Offline Data Brokers via Facebook's Advertising Platform**

G. Venkatadri, P. Sapiezynski, E. M. Redmiles, A. Mislove, O. Goga, M. Mazurek, and K. P. Gummadi  
WWW, San Francisco, CA, USA, Apr. 2019

- NDSS'19 Measuring the Facebook Advertising Ecosystem**  
A. Andreou, M. Silva, F. Benevenuto, O. Goga, P. Loiseau, and A. Mislove  
NDSS, San Diego, CA, USA, Feb. 2019
- IMC'18 Is the Web Ready for OCSP Must Staple?**  
T. Chung, J. Lok, B. Chandrasekaran, D. Choffnes, D. Levin, B. Maggs, A. Mislove, J. Rula, N. Sullivan, and C. Wilson  
IMC, Boston, MA, USA, Oct. 2018
- IMC'18 Analyzing Ethereum's Contract Topology**  
L. Kiffer, D. Levin, and A. Mislove  
IMC, Boston, MA, USA, Oct. 2018
- IEEE S&P'18 Privacy Risks with Facebook's PII-based Targeting: Auditing a Data Broker's Advertising Interface**  
G. Venkatadri, Y. Liu, A. Andreou, O. Goga, P. Loiseau, A. Mislove, and K. P. Gummadi  
IEEE S&P, San Francisco, CA, USA, May 2018
- WWW'18 On Ridesharing Competition and Accessibility: Evidence from Uber, Lyft, and Taxi**  
S. Jiang, L. Chen, A. Mislove, and C. Wilson  
WWW, Lyon, France, Apr. 2018
- FAT\*18 On the Potential for Discrimination in Online Targeted Advertising**  
T. Speicher, M. Ali, G. Venkatadri, F. N. Ribeiro, G. Arvanitakis, F. Benevenuto, K. P. Gummadi, P. Loiseau, and A. Mislove  
FAT\*, New York, NY, USA, Feb. 2018
- NDSS'18 Investigating Ad Transparency Mechanisms in Social Media: A Case Study of Facebook's Explanations**  
A. Andreou, G. Venkatadri, O. Goga, K. P. Gummadi, P. Loiseau, and A. Mislove  
NDSS, San Diego, CA, USA, Feb. 2018
- NDSS'18 Automated Attack Discovery in TCP Congestion Control Using a Model-guided Approach**  
S. Jero, E. Hoque, D. Choffnes, A. Mislove, and C. Nita-Rotaru  
NDSS, San Diego, CA, USA, Feb. 2018
- IMC'17 Understanding the Role of Registrars in DNSSEC Deployment**  
T. Chung, R. van Rijswijk-Deij, D. Choffnes, A. Mislove, C. Wilson, D. Levin, and B. M. Maggs  
IMC, London, UK, Nov. 2017
- IMC'17 lib-erate, (n): A library for exposing (traffic-classification) rules and avoiding them efficiently**  
F. Li, A. Razaghpanah, A. M. Kakhki, A. A. Niaki, D. Choffnes, P. Gill, and A. Mislove  
IMC, London, UK, Nov. 2017
- IMC'17 Taking a Long Look at QUIC: An Approach for Rigorous Evaluation of Rapidly Evolving Transport Protocols**  
A. M. Kakhki, S. Jero, D. Choffnes, A. Mislove, and C. Nita-Rotaru  
IMC, London, UK, Nov. 2017
- EMNLP'17 Using millions of emoji occurrences to pretrain any-domain models for detecting emotion, sentiment and sarcasm**  
B. Felbo, A. Mislove, A. Søgaard, I. Rahwan, and S. Lehmann  
EMNLP, Copenhagen, Denmark, Sept. 2017
- USENIX Security'17 A Longitudinal, End-to-End View of the DNSSEC Ecosystem**  
T. Chung, R. van Rijswijk-Deij, B. Chandrasekaran, D. Choffnes, D. Levin, B. M. Maggs, A. Mislove, and C. Wilson  
USENIX Security, Vancouver, Canada, Aug. 2017

- IEEE S&P'17 CRLite: a Scalable System for Pushing all TLS Revocations to Browsers**  
J. Larisch, D. Choffnes, D. Levin, B. M. Maggs, A. Mislove, and C. Wilson  
IEEE S&P, San Jose, CA, USA, May 2017
- CSCW'17 Bias in Online Freelance Marketplaces: Evidence from TaskRabbit and Fiverr**  
A. Hannak, C. Wagner, D. Garcia, A. Mislove, M. Strohmaier, and C. Wilson  
CSCW, Portland, OR, USA, Feb. 2017
- IMC'16 Measuring and Applying Invalid SSL Certificates: The Silent Majority**  
T. Chung, Y. Liu, D. Choffnes, D. Levin, B. M. Maggs, A. Mislove, and C. Wilson  
IMC, Santa Monica, CA, USA, Nov. 2016
- IMC'16 Tunneling for Transparency: A Large-Scale Analysis of End-to-End Violations in the Internet**  
T. Chung, D. Choffnes, and A. Mislove  
IMC, Santa Monica, CA, USA, Nov. 2016
- IMC'16 Classifiers Unclassified: An Efficient Approach to Revealing IP-Traffic Classification Rules**  
F. Li, A. Molavi Kakhki, D. Choffnes, P. Gill, and A. Mislove  
IMC, Santa Monica, CA, USA, Nov. 2016
- CCS'16 Measurement and Analysis of Private Key Sharing in the HTTPS Ecosystem**  
F. Cangialosi, T. Chung, D. Choffnes, D. Levin, B. M. Maggs, A. Mislove, and C. Wilson  
CCS, Vienna, Austria, Oct. 2016
- EuroSys'16 Picocenter: Supporting long-lived, mostly-idle applications in cloud environments**  
L. Zhang, J. Litton, F. Cangialosi, T. Benson, D. Levin, and A. Mislove  
EuroSys, London, UK, Apr. 2016
- WWW'16 An Empirical Analysis of Algorithmic Pricing on Amazon Marketplace**  
L. Chen, A. Mislove, and C. Wilson  
WWW, Montréal, Canada, Apr. 2016
- COSN'15 Identifying Personal Information in Internet Traffic**  
Y. Liu, H. H. Song, I. Bermudez, A. Mislove, M. Baldi, and A. Tongaonkar  
COSN, Palo Alto, CA, USA, Nov. 2015
- COSN'15 Strength in Numbers: Robust Tamper Detection in Crowd Computations**  
B. Viswanath, M. A. Bashir, M. B. Zafar, S. Bouget, S. Guha, K. P. Gummadi, A. Kate, and A. Mislove  
COSN, Palo Alto, CA, USA, Nov. 2015
- IMC'15 Peeking Beneath the Hood of Uber**  
L. Chen, A. Mislove, and C. Wilson  
IMC, Tokyo, Japan, Oct. 2015
- IMC'15 An End-to-End Measurement of Certificate Revocation in the Web's PKI**  
Y. Liu, W. Tome, L. Zhang, D. Choffnes, D. Levin, B. M. Maggs, A. Mislove, A. Schulman, and C. Wilson  
IMC, Tokyo, Japan, Oct. 2015
- IMC'15 Opportunities and Challenges in Crowdsourced War-driving**  
P. Sapiezynski, R. Gatej, A. Mislove, and S. Lehmann  
IMC, Tokyo, Japan, Oct. 2015
- IMC'15 Identifying Traffic Differentiation in Mobile Networks**  
A. Molavi Kakhki, A. Razaghpanah, H. Koo, A. Li, R. Golani, D. Choffnes, P. Gill, and A. Mislove  
IMC, Tokyo, Japan, Oct. 2015
- IMC'15 Location, Location, Location: The Impact of Geolocation on Web Search Personalization**  
C. Kliman-Silver, A. Hannák, D. Lazer, C. Wilson, and A. Mislove  
IMC, Tokyo, Japan, Oct. 2015

- IMC'14 Measuring Price Discrimination and Steering on E-commerce Web Sites**  
A. Hannak, G. Soeller, D. Lazer, A. Mislove, and C. Wilson  
IMC, Vancouver, Canada, Nov. 2014
- IMC'14 Analysis of SSL certificate reissues and revocations in the wake of Heartbleed**  
L. Zhang, D. Choffnes, T. Dumitraş, D. Levin, A. Mislove, A. Schulman, and C. Wilson  
IMC, Vancouver, Canada, Nov. 2014
- COSN'14 Measurement and Analysis of OSN Ad Auctions**  
Y. Liu, C. Kliman-Silver, B. Krishnamurthy, R. Bell, and A. Mislove  
COSN, Dublin, Ireland, Oct. 2014
- COSN'14 Beyond CPM and CPC: Determining the Value of Users on OSNs**  
D. Saez-Trumper, Y. Liu, R. Baeza-Yates, B. Krishnamurthy, and A. Mislove  
COSN, Dublin, Ireland, Oct. 2014
- USENIX Security'14 Towards Detecting Anomalous User Behavior in Online Social Networks**  
B. Viswanath, M. A. Bashir, M. Crovella, S. Guha, K. P. Gummadi, B. Krishnamurthy, and A. Mislove  
USENIX Security, San Diego, CA, USA, Aug. 2014
- SOUPS'14 Understanding and Specifying Social Access Control Lists**  
M. Mondal, Y. Liu, B. Viswanath, K. P. Gummadi, and A. Mislove  
SOUPS, Menlo Park, CA, USA, July 2014
- ICWSM'14 The tweets they are a-changin': Evolution of Twitter users and behavior**  
Y. Liu, C. Kliman-Silver, and A. Mislove  
ICWSM, Ann Arbor, MI, USA, June 2014
- ICWSM'14 Of Pins and Tweets: Investigating how users behave across image- and text-based social networks**  
R. Ottoni, D. de Las Casas, J. P. Pesce, W. Meira, Jr, C. Wilson, A. Mislove, and V. Almeida  
ICWSM, Ann Arbor, MI, USA, June 2014
- COSN'13 Building confederated Web-based services with Priv.io**  
L. Zhang and A. Mislove  
COSN, Boston, MA, USA, Oct. 2013
- WWW'13 Measuring Personalization of Web Search**  
A. Hannak, P. Sapiezynski, A. Molavi Kakhki, B. Krishnamurthy, D. Lazer, A. Mislove, and C. Wilson  
WWW, Rio de Janeiro, Brazil, May 2013
- WWW'13 IolauS: Securing online content rating systems**  
A. Molavi Kakhki, C. Kliman-Silver, and A. Mislove  
WWW, Rio de Janeiro, Brazil, May 2013
- EuroSys'13 Maygh: Building a CDN from client web browsers**  
L. Zhang, F. Zhou, A. Mislove, and R. Sundaram  
EuroSys, Prague, Czech Republic, Apr. 2013
- CoNEXT'12 Defending against large-scale crawls in online social networks**  
M. Mondal, B. Viswanath, A. Clement, P. Druschel, K. P. Gummadi, A. Mislove, and A. Post  
CoNEXT, Nice, France, Dec. 2012
- IEEE NCA'12 WebCloud: Recruiting social network users to assist in content distribution**  
F. Zhou, L. Zhang, E. Franco, A. Mislove, R. Revis, and R. Sundaram  
IEEE NCA, Cambridge, MA, USA, Aug. 2012
- EuroSys'12 Canal: Scaling social network-based Sybil tolerance schemes**  
B. Viswanath, M. Mondal, K. P. Gummadi, A. Mislove, and A. Post  
EuroSys, Bern, Switzerland, Apr. 2012

- IMC'11 Analyzing Facebook privacy settings: User expectations vs. reality**  
Y. Liu, K. P. Gummadi, B. Krishnamurthy, and A. Mislove  
IMC, Berlin, Germany, Nov. 2011
- NSDI'11 Bazaar: Strengthening user reputations in online marketplaces**  
A. Post, V. Shah, and A. Mislove  
NSDI, Boston, MA, USA, Mar. 2011
- SIGCOMM'10 An Analysis of Social Network-based Sybil Defenses**  
B. Viswanath, A. Post, K. P. Gummadi, and A. Mislove  
SIGCOMM, Delhi, India, Aug. 2010
- WSDM'10 You Are Who You Know: Inferring User Profiles in Online Social Networks**  
A. Mislove, B. Viswanath, K. P. Gummadi, and P. Druschel  
WSDM, New York, NY, USA, Feb. 2010
- WWW'09 A Measurement-driven Analysis of Information Propagation in the Flickr Social Network**  
M. Cha, A. Mislove, and K. P. Gummadi  
WWW, Madrid, Spain, Apr. 2009
- IMC'08 Detecting BitTorrent Blocking**  
M. Dischinger, A. Mislove, A. Haeberlen, and K. P. Gummadi  
IMC, Vouliagmeni, Greece, Oct. 2008
- NSDI'08 Ostra: Leveraging trust to thwart unwanted communication**  
A. Mislove, A. Post, K. P. Gummadi, and P. Druschel  
NSDI, San Francisco, CA, USA, Apr. 2008
- IMC'07 Measurement and Analysis of Online Social Networks**  
A. Mislove, M. Marcon, K. P. Gummadi, P. Druschel, and B. Bhattacharjee  
IMC, San Diego, CA, USA, Oct. 2007
- EuroSys'06 Experiences in building and operating ePOST, a reliable peer-to-peer application**  
A. Mislove, A. Post, A. Haeberlen, and P. Druschel  
EuroSys, Leuven, Belgium, Apr. 2006
- NSDI'05 Glacier: Highly durable, decentralized storage despite massive correlated failures**  
A. Haeberlen, A. Mislove, and P. Druschel  
NSDI, Boston, MA, USA, May 2005

#### **REFEREED WORKSHOP AND OTHER SHORT PUBLICATIONS**

- HotNets'18 Treads: Transparency-Enhancing Ads**  
G. Venkatadri, A. Mislove, and K. P. Gummadi  
HotNets, Redmond, WA, USA, Nov. 2018
- HotNets'17 Stick a Fork in it: Analyzing the Ethereum network partition**  
L. Kiffer, D. Levin, and A. Mislove  
HotNets, Palo Alto, CA, USA, Nov. 2017
- Internet-QoE'16 BingeOn Under the Microscope: Understanding T-Mobile's Zero-Rating Implementation**  
A. Molavi Kakhki, F. Li, D. Choffnes, E. Katz-Bassett, and A. Mislove  
Internet-QoE, Florianópolis, Brazil, Aug. 2016
- USEC'14 Beyond Access Control: Managing Online Privacy via Exposure**  
M. Mondal, P. Druschel, K. P. Gummadi, and A. Mislove  
USEC, San Diego, CA, USA, Feb. 2014

- ICWSM'12 **Tweetin' in the Rain: Exploring societal-scale effects of weather on mood (Poster Paper)**  
A. Hannak, E. Anderson, L. F. Barrett, S. Lehmann, A. Mislove, and M. Riedewald  
ICWSM, Dublin, Ireland, June 2012
- WWW'12 **Simplifying Friendlist Management (Demo Paper)**  
Y. Liu, B. Viswanath, M. Mondal, K. P. Gummadi, and A. Mislove  
WWW, Lyon, France, Apr. 2012
- ICWSM'11 **Understanding the demographics of Twitter users (Poster Paper)**  
A. Mislove, S. Lehmann, Y.-Y. Ahn, J.-P. Onnela, and J. N. Rosenquist  
ICWSM, Barcelona, Spain, July 2011
- WOSN'09 **On the Evolution of User Interaction in Facebook**  
B. Viswanath, A. Mislove, M. Cha, and K. P. Gummadi  
WOSN, Barcelona, Spain, Aug. 2009
- WOSN'08 **Growth of the Flickr Social Network**  
A. Mislove, H. S. Koppula, K. P. Gummadi, P. Druschel, and B. Bhattacharjee  
WOSN, Seattle, WA, USA, Aug. 2008
- WOSN'08 **Characterizing Social Cascades in Flickr**  
M. Cha, A. Mislove, B. Adams, and K. P. Gummadi  
WOSN, Seattle, WA, USA, Aug. 2008
- HotNets'06 **Exploiting Social Networks for Internet Search**  
A. Mislove, K. P. Gummadi, and P. Druschel  
HotNets, Irvine, CA, USA, Nov. 2006
- IPTPS'06 **Fallacies in evaluating decentralized systems**  
A. Haeberlen, A. Mislove, A. Post, and P. Druschel  
IPTPS, Santa Barbara, CA, USA, Feb. 2006
- IPTPS'05 **Sharing micronews with peer-to-peer event notification**  
D. Sandler, A. Mislove, A. Post, and P. Druschel  
IPTPS, Ithaca, NY, USA, Feb. 2005
- SIGOPS-EW'04 **AP3: Cooperative, decentralized anonymous communication**  
A. Mislove, G. Oberoi, A. Post, P. Druschel, and D. S. Wallach  
SIGOPS-EW, Leuven, Belgium, Sept. 2004
- IPTPS'04 **Providing Administrative Control and Autonomy in Peer-to-Peer Overlays**  
A. Mislove and P. Druschel  
IPTPS, La Jolla, CA, USA, Feb. 2004
- HotOS'03 **POST: A Secure, Resilient, Cooperative Messaging System**  
A. Mislove, A. Post, C. Reis, P. Willmann, P. Druschel, D. S. Wallach, X. Bonnaire, P. Sens, J.-M. Busca,  
and L. Arantes-Bezerra  
HotOS, Lihue, HI, USA, May 2003

## **NON-REFEREED PUBLICATIONS**

### **A Practitioner's Guide to Ethical Web Data Collection**

A. Mislove and C. Wilson

The Oxford Handbook of Networked Communication, Brooke Foucault Welles and Sandra González-Bailón, eds., Oxford University Press, <http://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780190460518.001.0001/oxfordhb-9780190460518>, 2018

### **Analysis of SSL Certificate Reissues and Revocations in the Wake of Heartbleed**

L. Zhang, D. Choffnes, T. Dumitras, D. Levin, A. Mislove, A. Schulman, and C. Wilson

CACM, 61(3), <https://cacm.acm.org/magazines/2018/3/225489-analysis-of-ssl-certificate-reissues/fulltext>, Mar. 2018

### **An End-to-End View of DNSSEC Ecosystem Management**

T. Chung, R. van Rijswijk-Deij, B. Chandrasekaran, D. Choffnes, D. Levin, B. M. Maggs, A. Mislove, and C. Wilson

login: 42(4), <https://www.usenix.org/publications/login/winter2017/chung>, Dec. 2017

### **An Empirical Evaluation of Deployed DPI Middleboxes and Their Implications for Policymakers**

D. Choffnes, P. Gill, and A. Mislove

TPRC, Arlington, VA, USA, [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2941535](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2941535), Sept. 2017

### **Investigating End-To-End Integrity Violations in Internet Traffic**

A. Mislove, D. Choffnes, and T. Chung

TPRC, Arlington, VA, USA, [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2943668](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2943668), Sept. 2017

### **Measuring Personalization of Web Search**

A. Hannak, P. Sapiezynski, A. Molavi Kakhki, D. Lazer, A. Mislove, and C. Wilson

CoRR, <https://arxiv.org/abs/1706.05011>, June 2017

### **Using the Middle to Meddle with Mobile**

A. Rao, A. M. Kakhki, A. Razaghpanah, A. Tang, S. Wang, J. Sherry, P. Gill, A. Krishnamurthy, A. Legout, A. Mislove, and D. Choffnes

Northeastern University, Technical Report NEU-CCS-2013-12-10, Dec. 2013

### **An empirical validation of growth models for complex networks**

A. Mislove, H. S. Koppula, K. P. Gummadi, P. Druschel, and B. Bhattacharjee

Dynamics On and Of Complex Networks, Volume 2, Niloy Ganguly, Animesh Mukherjee, Bivas Mitra, Fernando Peruani, and Monojit Choudhury, eds., Springer-Verlag Publishers, Heidelberg, Germany, <http://www.springer.com/us/book/9781461467281>, Jan. 2012

### **Exploring the design space of social network-based Sybil defense**

B. Viswanath, M. Mondal, A. Clement, P. Druschel, K. P. Gummadi, A. Mislove, and A. Post  
COMSNETS, Bangalore, India, Jan. 2012

### **Defending against large-scale crawls in online social networks**

M. Mondal, B. Viswanath, A. Clement, P. Druschel, K. P. Gummadi, A. Mislove, and A. Post  
MPI-SWS, Technical Report 2011-006, Nov. 2011



### **Addressing the Privacy Management Crisis in Online Social Networks**

K. P. Gummadi, B. Krishnamurthy, and A. Mislove  
IAB Workshop on Internet Privacy, Boston, MA, USA, Dec. 2010

### **Is Twitter a national mood ring?** A. Mislove

CNN.com, Aug. 2010  
<http://www.cnn.com/2010/OPINION/08/03/mislove.twitter.research>.

### **Online Social Networks: Measurement, Analysis, and Applications to Distributed Information Systems**

A. Mislove  
Ph.D. Thesis, Rice University, Department of Computer Science, May 2009

### **ePOST**

A. Mislove, A. Haeberlen, A. Post, and P. Druschel  
Peer-to-Peer Systems and Applications, LNCS 3485, chapter 12, Ralf Steinmetz and Klaus Wehrle, eds., Springer-Verlag Publishers, Heidelberg, Germany, <http://link.springer.com/book/10.1007/11530657>, Aug. 2005

### **Consistent Key Mapping in Structured Overlays**

A. Haeberlen, J. Hoye, A. Mislove, and P. Druschel  
Rice University, Department of Computer Science, Technical Report TR05-456, Aug. 2005

### **POST: A Decentralized Platform for Reliable Collaborative Applications**

A. Mislove  
Master's Thesis, Rice University, Department of Computer Science, Dec. 2004

### **INVITED TALKS**

*Investigating sources of PII used in Facebook's targeted advertising*

11/16/2018 Brave Faculty Summit

*Auditing Data Brokers' Advertising Interfaces: Privacy Risks with Facebook's PII-based Targeting*

07/24/2018 Conference on Privacy Enhancing Technologies (PETS'18) *Keynote talk*

06/18/2018 EPFL Summer Research Institute on Security & Privacy

02/28/2018 FTC PrivacyCon 2018, Washington, DC

*Increasing the transparency of online algorithms*

12/01/2017 MIT Media Lab

01/30/2017 Interpol Workshop on Privacy Enhancing Technologies, Lyon, France

09/26/2016 Harvard University

04/22/2016 Queen Mary University

02/23/2016 Volkswagen Foundation CSS Networking Workshop, Cologne, Germany *Keynote talk*

*Mitigating Sybil Attacks in Online Services*

09/04/2016 International Summer School on Social Networks Security, Privacy, and Trust; Padua, Italy

*Measuring personalization of online services*

01/13/2016 University of Hawai'i at Mānoa

10/13/2015 University of St Andrews

10/12/2015 University of Edinburgh

10/09/2015 Danish Technical University

*Understanding SSL Certificate Revocation: The Race to the Bottom in Securing the Web's PKI*

06/19/2015 Cisco Talk Series, Webex

*Measuring Personalization of Web Services*

06/04/2015 International School and Conference on Network Science (NetSci'15), Zaragoza, Spain

05/12/2015 Raytheon BBN Technologies, Cambridge, MA

11/20/2014 Data Transparency Lab Kickoff, Telefonica, Barcelona, Spain  
*Privacy in Online Social Networks*

10/18/2013 Harvard University  
*Social Media and Networks: A Computer Science Perspective*

06/12/2013 Network Factory 2013 Summer School, Höllviken, Sweden  
*Leveraging social networks in systems design*

11/16/2012 Worcester Polytechnic Institute

04/20/2011 University of Maryland, College Park

12/06/2010 University of Massachusetts Boston

12/01/2010 nuACM Lecture, Northeastern University

11/19/2010 McGill University

11/15/2010 Boston University  
*Writing a successful CISE CAREER proposal*

05/18/2012 NSF CAREER Writing Workshop, Phoenix, Arizona  
*Privacy in online social media*

12/15/2011 Copenhagen Center for Computational Social Science, Copenhagen, Denmark  
*Systems challenges in online social media*

12/06/2011 Top-IX Annual Conference, Turin, Italy  
*Twittermood: Measuring the mood of the U.S. throughout the day*

06/22/2011 R Twitter Group Meeting, Microsoft Research New England  
*Leveraging online social networks for health research*

05/23/2011 Online Social Networks Conference, Columbia University  
*Leveraging online social networks for social science*

09/17/2010 IBM Social Network Analysis Community

09/15/2010 High Throughput Humanities Workshop, European Conference on Complex Systems    *Keynote talk*  
*Social media and networks*

05/11/2010 International School and Conference on Network Science (NetSci'10)  
*Leveraging social networks in information systems*

04/08/2010 Technische Universität Berlin

03/24/2010 University of Massachusetts Lowell

04/07/2009 University of Colorado at Boulder

03/31/2009 University of Pennsylvania

03/23/2009 AT&T Labs – Research

03/19/2009 Northeastern University

03/16/2009 University of Oregon

03/12/2009 University of Rochester  
*Towards Sybil-Tolerant Systems*

07/20/2009 Army Research Office Trustworthy Social Computing Workshop  
*Automatically detecting communities in online social networks*

12/11/2008 Facebook, Inc.

12/05/2008 New York University

12/03/2008 University of Maryland, College Park  
*Leveraging communities in online social networks*

11/20/2008 International Max Planck Research School Ringvorlesung  
*Structure and growth of online social networks*

11/28/2007 Microsoft Research Cambridge Social Networks Workshop

### INVITED WORKSHOPS AND PANELS

- 10/13/2018 *Kicking the Black Box: The Perils and Promise of Algorithm Auditing* Panel at AoIR'18
- 06/14/2018 *A Technical Research Agenda in Data Ethics and Responsible Data Management* Panel at SIGMOD'18
- 03/14/2017 *Innovations in Informatics Education at Universities - International Best Practice Workshop*, TU Wien
- 2017 *Proposal Review Panel*, NSF
- 2016 *Proposal Review Panel*, NSF
- 2015 *Data Transparency Lab Grant Committee*, Telefónica
- 2015 *Proposal Review Panel*, NSF
- 05/22/2014 *SaTC Frontier External Review Panel*, NSF
- 2014 *Proposal Review Panel*, NSF
- 2013 *Proposal Review Panel*, NSF
- 2013 *Proposal Review Panel*, NSF
- 2013 *Proposal Review Panel*, NSF
- 2012 *Proposal Review Panel*, NSF
- 2012 *Proposal Review Panel*, NSF
- 2012 *Proposal Review Panel*, NSF
- 11/13/2012 *NSF US–Japan Networking Research Collaboration Workshop*, Tokyo, Japan
- 10/15/2012 *Synergic Investigations in Network Science*, Bertinoro, Italy
- 02/23/2012 *Workshop on Social Networks and Mobility in the Cloud*, NSF
- 11/09/2011 *Workshop on Analysis of Dynamic Social and Technological Networks (#11452)*, Dagstuhl
- 06/28/2011 *New England Summit on Cyber Security*, Boston University
- 05/23/2011 *Online Social Networks and Health Research*, Columbia University
- 04/03/2011 *Social Networking Roundtable*, Qatar Computing Research Institute
- 2010 *Proposal Review Panel*, NSF
- 12/08/2010 *Internet Privacy Workshop*, IAB
- 07/20/2010 *Cybervetting Focus Group*, IACP
- 06/22/2010 *Apps in 2020*, IEEE SECON'10
- 04/16/2010 *Idea Summit: Mapping Edges in a World of Global Connectivity*, DARPA
- 03/23/2006 *Workshop on Peer-to-Peer Systems and Applications (#06131)*, Dagstuhl

### POSTERS

- 08/21/2017 *The Root Canary: Monitoring and Measuring the DNSSEC Root Key Rollover*, SIGCOMM'17
- 08/28/2015 *Picocenter: Supporting long-lived, mostly-idle applications in cloud environments*, SOCC'15
- 10/02/2014 *Modeling content sharing preferences in Online Social Networks*, COSN'14
- 08/20/2014 *Identifying Traffic Differentiation on Cellular Data Networks*, SIGCOMM'14 (2nd place, research competition)
- 03/26/2014 *Identifying traffic differentiation by mobile providers*, AIMS'14
- 04/15/2013 *Magyh: Building a CDN from client web browsers*, EuroSys'13
- 10/24/2011 *Mitigating Sybil attacks on content rating systems*, SOSP'11
- 08/17/2011 *Limiting large-scale crawls of social networking sites*, SIGCOMM'11 (research competition finalist)
- 07/20/2011 *Understanding the demographics of Twitter users*, ICWSM'11
- 03/30/2011 *WebCloud: Enabling more direct content exchange between Web clients*, NSDI'11
- 04/16/2008 *Anonymity in the Personalized Web*, NSDI'08

### PATENTS

- 06/02/2015 A. Mislove and A. Molavi Kakhki, "Systems and Methods for Securing Online Content Ratings," U.S. patent 9,047,628, issued Jun. 2015.
- 01/14/2014 A. Mislove and R. Sundaram, "Content Distribution Network using a Web Browser and Locally Stored Content to Directly Exchange Content between Users," U.S. patent 8,631,091, issued Jan. 2014.

## HONORS AND AWARDS

- 2019 IRTF Applied Networking Research Prize for IMC'17 paper *Understanding the Role of Registrars in DNSSEC Deployment*
- 2018 IRTF Applied Networking Research Prize for NDSS'18 paper *Taking a Long Look at QUIC: An Approach for Rigorous Evaluation of Rapidly Evolving Transport Protocols*
- 2018 Cisco Network Security Distinguished Paper Award, NDSS'18
- 2017 IEEE Cybersecurity Award for Innovation for Oakland'17 paper *CRLite: a Scalable System for Pushing all TLS Revocations to Browsers*
- 2017 ACM SIGCOMM Test of Time Award, for IMC'07 paper *Measurement and Analysis of Online Social Networks*
- 2017 Distinguished Paper Award, USENIX Security'17
- 2017 Outstanding Reviewer Award, WWW'17
- 2015 Best Paper Award, COSN'15
- 2014 Community Contribution Award, COSN'14
- 2014 Distinguished Paper Award, USEC'14
- 2013 TwitterMood visualization selected for *Places & Spaces: Mapping Science* exhibit
- 2011 Google Faculty Research Award
- 2011 NSF CAREER Award
- 2010 Institutional Nominee, Microsoft Research Faculty Fellowship, Northeastern University
- 2004 Distinguished Graduate Student Award, Department of Computer Science, Rice University
- 2003 Honorable Mention, NSF Graduate Research Fellowship

## SERVICE

### General Chair

- '16 Workshop on Data and Algorithmic Transparency (DAT)
- '18 Internet Measurement Conference (IMC)

### Local Arrangements Chair

- '13 ACM Conference on Online Social Networks (COSN)

### Organizing Committee Member

- '14 New England Networking and Systems Day (NENS)
- '13 International School and Conference on Network Science (NetSci)

### Poster Committee Chair

- '15 ACM Conference on Online Social Networks (COSN)
- '10 Passive and Active Measurement Conference (PAM)

### Program Committee Chair

- '16 Workshop on Data and Algorithmic Transparency (DAT)
- '08 Workshop on Social Network Systems (SNS)

### Program Committee Member

- '14, '15 ACM Conference on Online Social Networks (COSN)
- '14, '15, '16, '17 Conference on Emerging Networking Experiments and Technologies (CoNEXT)
- '12, '13 International Workshop on Complex Networks (CompleNet)
- '14 European Conference on Computer Systems (EuroSys)
- '18, '19 Conference on Fairness, Accountability, and Transparency (FAT\*)
- '15 International Conference on Computational Social Science (IC2S2)
- '13 IEEE International Conference on Distributed Computing Systems (ICDCS)
- '12 International Conference on Network Protocols (ICNP)
- '13, '14 International Conference on Weblogs and Social Media (ICWSM)
- '12, '14, '15, '17, '18 Internet Measurement Conference (IMC)
- '15 USENIX Symposium on Networked Systems Design and Implementation (NSDI)
- '11 Workshop on the Economics of Networks, Systems, and Computation (NetEcon)
- '10, '11, '14, '16, '17 Passive and Active Measurement Conference (PAM)
- '19 Privacy Enhancing Technologies Symposium (PETS)

- '17 International Conference on Measurement and Modeling of Computer Systems (SIGMETRICS)
- '11 Workshop on Simplifying Complex Networks for Practitioners (SIMPLEX)
- '08, '09 Workshop on Social Network Systems (SNS)
- '11, '12 Systems and Storage Conference (SYSTOR)
- '16 Workshop on Understanding and Enhancing Online Privacy (UEOP)
- '12 Workshop on Online Social Networks (WOSN)
- '13, '14 International Conference on Web Search and Data Mining (WSDM)
- '12, '13, '14, '16, '17, '18 International World Wide Web Conference, Social Networks Track (WWW)
- '12 ACM Web Science Conference (WebSci)

#### **Publications Chair**

- '19 Conference on Fairness, Accountability, and Transparency (FAT\*)

#### **Publicity Chair**

- '11 Haifa Experimental Systems Conference (SYSTOR)

#### **Senior Program Committee Member**

- '16, '17, '18 International Conference on Weblogs and Social Media (ICWSM)

#### **Steering Committee Member**

- '18 Conference on Fairness, Accountability, and Transparency (FAT\*)

#### **Track Chair**

- '15 International World Wide Web Conference, Social Networks Track (WWW)

### **FUNDING**

#### **Amazon Web Services**

- 08/2017 – 08/2018 Research in Education Grant, *Enabling process migration to resources*. PI. \$5k.
- 12/2015 – 12/2016 Research in Education Grant, *Picocenter: Supporting long-lived, mostly idle applications in cloud environments*. PI. \$5k.
- 12/2013 – 12/2015 Research in Education Grant, *Deploying confederated web services*. PI. \$5k.
- 12/2011 – 12/2013 Research in Education Grant, *Measuring and Predicting Sentiment in Online Social Networks*. PI. \$7k.
- 12/2010 – 12/2011 Research in Education Grant, *Measuring Information Flow in Real-Time*. PI. \$7k.
- 12/2009 – 12/2010 Research in Education Grant, *Tracing the Spread of Information in Social Networks*. PI. \$4k.

#### **Army Research Office**

- 10/2012 – 10/2016 W911NF-12-1-0556, *Will the revolution be tweeted? Weak ties, social media, and flash movements*. Co-PI, joint with David Lazer. \$400k.

#### **Data Transparency Lab**

- 07/2017 – 07/2018 Research Award, *Increasing transparency of data aggregation by Facebook and partners*. PI, joint with Krishna P. Gummadi. €50k.
- 07/2015 – 07/2016 Research Award, *Revealing and Controlling Mobile Privacy Leaks*. Co-PI, joint with David Choffnes and Christo Wilson. €50k.

#### **Facebook**

- 07/2018 Facebook Secure the Internet Grant, *Towards privacy-protecting aggregate statistics in PII-based targeted advertising*. PI, joint with Krishna Gummadi. \$60k.

#### **Google**

- 12/2011 Google Faculty Research Award, *Mitigating Sybil attacks on content rating systems*. PI. \$49k.

#### **Knight Foundation**

08/2015 – 02/2016 Knight Prototype Fund, *Public Access to Pricing Personalization*. Co-PI, joint with David Lazer and Christo Wilson. \$30k.

#### **Narus**

03/2014 Unrestricted Gift, *Identification of User Data Gathered and Shared by Companies*. PI. \$40k.

#### **National Science Foundation**

10/2016 – 09/2019 CNS-1617728, *NeTS: Small: A Principled Approach to Enabling Policy Transparency for Mobile Networks*. Co-PI, joint with David Choffnes. \$299k.

10/2016 – 09/2019 CNS-1616234, *NeTS: Small: Collaborative Research: Leveraging Personalized Internet Services to Combat Online Trolling*. PI, joint with Aleksandar Kuzmanovic (Northwestern). \$499k (total), \$249k (NEU).

06/2016 – 05/2020 CNS-1563320, *TWC: Medium: Collaborative: Measuring and Improving the Management of Today's PKI*. PI, joint with Christo Wilson, David Choffnes, Dave Levin (UMD), and Tudor Dumitras (UMD). \$1.1m (total), \$598k (NEU).

10/2014 – 09/2017 CNS-1421444, *TWC: Small: Towards Robust Crowd Computations*. PI. \$450k.

08/2014 – 07/2018 CNS-1409191, *CSR: Medium: Collaborative Research: Towards Finer-grained Cloud Computing*. PI, joint with Dave Levin (UMD) and Theophilus Benson (Duke). \$1.2m (total), \$400k (NEU).

08/2014 – 07/2018 CHS-1408345, *NeTS: Medium: Towards Transparency of Personalization on the Web*. Co-PI, joint with Christo Wilson and David Lazer. \$727k.

09/2013 – 08/2016 CNS-1319019, *CSR: Small: Towards Confederated Web-Based Services*. PI, joint with Christo Wilson. \$498k.

09/2011 – 08/2016 CNS-1054233, *CAREER: Systems for the emerging patterns of content exchange*. PI. \$450k.

09/2010 – 09/2013 IIS-0964465, *NeTS: Medium: Collaborative Research: Privacy Preserving Social Systems*. PI, joint with Bobby Bhattacharjee (UMD), Neil Spring (UMD), and Jonathan Katz (UMD). \$1.2m (total), \$319k (NEU).

#### **Raytheon**

10/2014 – 05/2015 *Large-Scale Attacks in Multi-Level Interdependent Networks: Emerging Threats, Mitigation, and Recovery*. Co-PI, joint with Guevara Noubir, David Choffnes, Ravi Sundaram, and Edmund Yeh. \$100k.

#### **Verizon**

12/2017 – 05/2018 *Sponsored Video Performance*. Co-PI, joint with David Choffnes. \$55k.

#### **SELECTED PRESS COVERAGE**

2018/11/05 *Midterm elections: How politicians know exactly how you're going to vote*, CNET.

2018/09/28 *Facebook said to use people's phone numbers for ad targeting*, CBS News.

2018/09/28 *Facebook slated over phone ad push*, BBC.

2018/09/27 *Yes Facebook is using your 2FA phone number to target you with ads*, TechCrunch.

2018/09/27 *Facebook under fire for 'shadow' advertising, which let brands target content based on users' private information*, The Daily Mail.

2018/09/27 *Facebook lets advertisers target you using 'shadow' phone numbers*, The Telegraph.

2018/09/26 *Facebook Is Giving Advertisers Access to Your Shadow Contact Information*, Gizmodo.

2018/04/12 *Everything you need to know about the hidden ways Facebook ads target you*, VICE News.

2018/04/06 *"Why am I seeing this ad" explanations on Facebook are incomplete and misleading, a study says*, Quartz.

2018/03/26 *Does Facebook's Ad Tool Mislead Voters?*, Bloomberg Businessweek.

2018/03/23 *Facebook will no longer show audience reach estimates for Custom Audiences after vulnerability detected*, Marketing Land.

2018/03/22 *To understand digital advertising, study its algorithms*, The Economist.

2018/03/22 *It's Too Late*, Vice Motherboard.

2018/03/19 *Cambridge Analytica's Ad Targeting Is the Reason Facebook Exists*, Vice Motherboard.

2018/03/19 *'It might work too well': the dark art of political advertising online*, The Guardian.

2018/03/18 *Is Facebook being honest with you about how it targets ads?*, Australian Broadcasting Corporation.

2018/03/15 *We still have no idea what really happens on Facebook*, The Verge.

2018/03/06 *Researchers Discovered Data Leak In Facebook's Ad Software*, Fast Company.

2018/01/09 *Facebook bug let advertisers find users' phone numbers*, The Telegraph.

2018/01/09 *Facebook bug could have exposed your phone number to marketers*, Naked Security.

2018/01/07 *Facebook Bug Could Let Advertisers Get Your Phone Number*, WIRED.

2017/08/03 *An Algorithm Trained on Emoji Knows When You're Being Sarcastic on Twitter*, MIT Technology Review.

2017/06/20 *How Many Rides Do Lyft and Uber Give Per Day? New Data Help Cities Plan for the Future*, Union of Concerned Scientists Blog.

2017/06/13 *Study: Uber, Lyft account for 15 percent of all vehicle trips in SF*, San Francisco Examiner.

2017/03/28 *We're suing the federal government to be free to do our research*, The Conversation.

2016/11/23 *Data shows race and sex bias is costly for gig economy workers at startups like TaskRabbit*, Mic.

2016/11/22 *Studies Show Racial and Gender Discrimination Throughout the Gig Economy*, Bloomberg Businessweek.

2016/11/17 *Is the Gig Economy Rigged?*, MIT Technology Review.

2016/11/09 *You May Be Paying More Than Others When Shopping Online*, CBS News 11, Dallas.

2016/09/15 *Northeastern and Northwestern professors fight online trolling in joint project*, Huntington News.

2016/09/02 *Feds spend \$500,000 to 'combat online trolling'*, Fox News.

2016/07/12 *Researchers Confirm EFF's Binge On Findings-And Learn How to Get Binge On to Zero-Rate Everything*, EFF DeepLinks Blog.

2016/07/01 *When Should Hacking Be Legal?*, The Atlantic.

2016/06/29 *Does this cybercrime law actually keep us from fighting discrimination?*, The Washington Post.

2016/06/29 *Researchers Sue the Government Over Computer Hacking Law*, WIRED.

2016/06/29 *ACLU files lawsuit over U.S. anti-hacking law*, Reuters.

2016/06/10 *Looking for the lowest prices on Amazon? You may have to dig a little*, The Washington Post.

2016/04/12 *The Truth Behind Pricing Algorithms on Amazon's Marketplace*, BostInno.

2015/10/30 *Why Uber's surge pricing doesn't work quite as expected*, Christian Science Monitor.

2015/10/30 *Scientists Claim to Have Cracked How to Beat Uber's Surge Pricing Algorithm*, ABC News.

2015/10/29 *This map shows the Boston boundaries of Uber's surge pricing*, Boston Globe.

2015/10/29 *How to hack Uber surge-charge fares by 10-20%*, USA Today.

2015/10/29 *Uber's Surge Pricing May Not Lead to a Surge in Drivers*, ProPublica.

2015/04/21 *Bot Bubble: How click farms have inflated social media currency*, The New Republic.

2015/02/04 *No one in control: The algorithms that run our lives*, New Scientist.

2014/11/10 *Sysadmins disposed of Heartbleed certs, but forgot to flush*, The Register.

2014/11/03 *Holiday Travel Saving Secrets: Beware of Price Steering*, Good Morning America.

2014/11/03 *If you use a Mac or an Android, e-commerce sites may be charging you more*, The Washington Post.

2014/10/28 *Online Personalization Means Prices Are Tailored To You, Too*, Scientific American.

2014/10/26 *Do companies charge online shoppers different prices?*, CBS Evening News.

2014/10/23 *Why You Can't Trust You're Getting the Best Deal Online*, The Wall Street Journal.

2014/06/07 *Google's searches narrowing our experience*, The Saturday Paper.

2014/03/30 *How Twitter Has Changed Over the Years in 12 Charts*, The Atlantic.

2011/10/01 *Decoding Our Chatter*, The Wall Street Journal.

2011/08/29 *The Leaky Nature of Online Privacy*, Slate.

2011/08/25 *Tweets move faster than earthquakes*, The Washington Post (Business Blog).

2011/03/28 *Privacy: Facebook's Achilles heel*, cnet News.

2010/10/07 *There's Wisdom in Those Tweets: Social Science Data Emerges from the Twitterverse*, Scientific American.

2010/07/22 *Tweets Map the Country's Mood*, CBS Evening News.

2010/07/22 *Tracking the National Mood Through Twitter*, New York Times (bits Blog).

2010/07/21 *Twitter mood maps reveal emotional states of America*, New Scientist.

2008/05/15 *Study Shows Comcast and Cox Slow P2P Traffic*, New York Times.

2007/01/23 *Suchen im Netz der Nutzer*, MIT Technology Review (Germany).

2006/12/06 *Web hits from my PeerSpective*, New Scientist.