

Bimal Viswanath

Assistant Professor

Virginia Tech
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Research interests

Data-driven security and privacy; Machine learning and security; Measurement and analysis of networked systems

Education

- 2008–2016 **Ph.D. in Computer Science** (*Summa cum laude*)
Saarland University and Max Planck Institute for Software Systems (MPI-SWS), Saarbruecken, Germany
Advisors: Prof. Krishna P. Gummadi, Prof. Alan Mislove
- 2005–2008 **Master of Science in Computer Science and Engineering**
Indian Institute of Technology Madras, Chennai, India
Advisor: Prof. C. Siva Ram Murthy
- 2001–2005 **Bachelor of Technology in Computer Science and Engineering**
Cochin University of Science and Technology, Cochin, India

Employment History

- 2018–Present **Assistant Professor (tenure-track)**
Department of Computer Science, Virginia Tech, Blacksburg, VA, USA
- 2017–2018 **External Postdoctoral Researcher**
Department of Computer Science, University of Chicago, Chicago, IL, USA
Research topic: Systems and Network Security
- 2016–2018 **Postdoctoral Scholar**
Department of Computer Science, University of California, Santa Barbara, CA, USA
Research topic: Systems and Network Security
- 2015–2016 **Researcher**
Nokia Bell Labs, Stuttgart, Germany
Research topic: Cloud Computing, Data Analytics
- 2008–2015 **Ph.D. Candidate**
Max Planck Institute for Software Systems, Kaiserslautern/Saarbruecken, Germany
Research topic: Security and Privacy in Social Computing Systems
- 2012 **Research Intern**
Microsoft Research India, Bangalore, India
Mentor: Dr. Saikat Guha
Research topic: Understanding Social Ad Traffic Quality
- 2010 **Research Intern**
Microsoft Research, Redmond, WA, USA
Mentor: Dr. Emre Kiciman, Dr. Stefan Saroiu
Research topic: User Privacy in Third-Party Social applications

2005-2008 **Graduate Student**

Department of Computer Science and Engineering, Indian Institute of Technology Madras, Chennai, India

Research topic: Optical Burst Switching Networks

Honors and Awards

2015 Best Paper Award, ACM Conference on Online Social Networks (COSN)

2014 Distinguished Paper Award, Symposium on Usable Privacy and Security (SOUPS)

Publications

Total Citations: 3317, H-Index: 14 (Source: [Google Scholar](#) as of June 2019)

- AsiaCCS'19 **What Happens After You Leak Your Password: Understanding Credential Sharing on Phishing Sites**
Peng Peng, Chao Xu, Luke Quinn, Hang Hu, Bimal Viswanath, and Gang Wang
AsiaCCS, Auckland, New Zealand, July 2019 (*To Appear*)
- IEEE S&P'19 **Neural Cleanse: Identifying and Mitigating Backdoor Attacks in Neural Networks**
Bolun Wang, Yuanshun Yao, Shawn Shan, Huiying Li, Bimal Viswanath, Haitao Zheng, and Ben Y. Zhao
IEEE S&P, San Francisco, CA, USA, May 2019
- USENIX Security'18 **With Great Training Comes Great Vulnerability: Practical Attacks against Transfer Learning**
Bolun Wang, Yuanshun Yao, Bimal Viswanath, Haitao Zheng, and Ben Y. Zhao
USENIX Security, Baltimore, MD, USA, August 2018
- EuroS&P'18 **I Spy with My Little Eye: Analysis and Detection of Spying Browser Extensions**
Anupama Aggarwal, Bimal Viswanath, Liang Zhang, Saravana Kumar, Ayush Shah, and Ponnurangam Kumaraguru
EuroS&P, London, United Kingdom, April 2018
- CoNEXT'17 **Towards Reliable Application Deployment in the Cloud**
Ruichuan Chen, Istemi Ekin Akkus, Bimal Viswanath, Ivica Rimal, and Volker Hilt
CoNEXT, Seoul, South Korea, December 2017
- Middleware'17 **Sieve: Actionable Insights from Monitored Metrics in Distributed Systems**
Jörg Thalheim, Antonio Rodrigues, Istemi Ekin Akkus, Pramod Bhatotia, Ruichuan Chen, Bimal Viswanath, Lei Jiao, and Christof Fetzer
Middleware, Las Vegas, NV, USA, December 2017
- IMC'17 **Complexity vs. Performance: Empirical Analysis of Machine Learning as a Service**
Yuanshun Yao, Zhujun Xiao, Bolun Wang, Bimal Viswanath, Haitao Zheng, and Ben Y. Zhao
IMC, London, UK, November 2017
- CCS'17 **Automated Crowdturfing Attacks and Defenses in Online Review Systems**
Yuanshun Yao, Bimal Viswanath, Jenna Cryan, Haitao Zheng, and Ben Y. Zhao
CCS, Dallas, TX, USA, October 2017
- WWW'16 **Strengthening Weak Identities Through Inter-Domain Trust Transfer**
Giridhari Venkatadri, Oana Goga, Changtao Zhong, Bimal Viswanath, Krishna P. Gummadi, and Nishanth Sastry
WWW, Montreal, Canada, April 2016

- COSN'15 **Strength in Numbers: Robust Tamper Detection in Crowd Computations**
Bimal Viswanath, M. Ahmad Bashir, M. Bilal Zafar, Simon Bouget, Saikat Guha, Krishna P. Gummadi, Aniket Kate, and Alan Mislove
COSN, Stanford University, CA, USA, November 2015
- USENIX Security'14 **Towards Detecting Anomalous User Behavior in Online Social Networks**
Bimal Viswanath, Muhammad Ahmad Bashir, Mark Crovella, Saikat Guha, Krishna P. Gummadi, Balachander Krishnamurthy, and Alan Mislove
USENIX Security, San Diego, CA, USA, August 2014
- SOUPS'14 **Understanding and Specifying Social Access Control Lists**
Mainack Mondal, Yabing Liu, Bimal Viswanath, Krishna P. Gummadi, and Alan Mislove
SOUPS, Menlo Park, CA, USA, July 2014
- CoNEXT'12 **Defending Against Large-scale Crawls in Online Social Networks**
Mainack Mondal, Bimal Viswanath, Allen Clement, Peter Druschel, Krishna P. Gummadi, Alan Mislove, and Ansley Post
CoNEXT, Nice, France, December 2012
- WOSN'12 **Keeping Information Safe from Social Networking Apps**
Bimal Viswanath, Emre Kiciman, and Stefan Saroiu
WOSN, Helsinki, Finland, August 2012
- EuroSys'12 **Canal: Scaling Social Network-based Sybil Tolerance Schemes**
Bimal Viswanath, Mainack Mondal, Krishna P. Gummadi, Alan Mislove, and Ansley Post
EuroSys, Bern, Switzerland, April 2012
- WWW'12 **Understanding and Combating Link Farming in the Twitter Social Network**
Saptarshi Ghosh (*co-primary author*), Bimal Viswanath (*co-primary author*), Farshad Kooti, Naveen Kumar Sharma, Korlam Gautam, Fabricio Benevenuto, Niloy Ganguly, and Krishna P. Gummadi
WWW, Lyon, France, April 2012
- COMSNETS'12 **Exploring the Design Space of Social Network-based Sybil Defenses (*Invited Paper*)**
Bimal Viswanath, Mainack Mondal, Allen Clement, Peter Druschel, Krishna P. Gummadi, Alan Mislove, and Ansley Post
COMSNETS, Bangalore, India, January 2012
- 2011 **A Stochastic Model for the Behavior of Multiple TCP NewReno Sources over Optical Burst Switching Network**
Bimal Viswanath, T. Venkatesh, and C. Siva Ram Murthy
Photonic Network Communications, October 2011
- NOSSDAV'11 **Sharing Social Content from Home: A Measurement-driven Feasibility Study**
Massimiliano Marcon, Bimal Viswanath, Meeyoung Cha, and Krishna P. Gummadi
NOSSDAV, Vancouver, Canada, June 2011
- SIGCOMM'10 **An Analysis of Social Network-based Sybil Defenses**
Bimal Viswanath, Ansley Post, Krishna P. Gummadi, and Alan Mislove
SIGCOMM, New Delhi, India, August 2010
- WSDM'10 **You Are Who You Know: Inferring User Profiles in Online Social Networks**
Alan Mislove, Bimal Viswanath, Krishna P. Gummadi, and Peter Druschel
WSDM, New York, NY, February 2010
- WOSN'09 **On the Evolution of User Interaction in Facebook**
Bimal Viswanath, Alan Mislove, Meeyoung Cha, and Krishna P. Gummadi
WOSN, Barcelona, Spain, August 2009

GLOBECOM'07 **A Markov Chain Model for TCP NewReno over Optical Burst Switching Networks**
Bimal Viswanath, T. Venkatesh, and C. Siva Ram Murthy
GLOBECOM, Washington D.C., November 2007

Professional Activities

Technical Program Committees

- NDSS Network and Distributed System Security Symposium. 2020
- USENIX Security USENIX Security Symposium. 2020
- ACSAC Annual Computer Security Applications Conference. 2019
- IMC ACM Internet Measurement Conference. 2019
- ICWSM AAAI International Conference on Web and Social Media. 2015, 2016, 2017, 2018
- ICDCS IEEE International Conference on Distributed Computing Systems. 2018
- COMSNETS International Conference on Communication Systems & Networks. 2016, 2018, 2019

Patents

- 2016 **Method Of And Device For Deploying An Application Reliably In A Computer Network**
Ruichuan Chen, Bimal Viswanath, Istemi Ekin Akkus, Ivica Rimal, and Volker Hilt
Europe 01380478EP, Filed May 2016. Patent pending
- 2016 **Method Of And Device For Determining Reliability in A Computer Network**
Istemi Ekin Akkus, Ivica Rimal, Ruichuan Chen, Bimal Viswanath, and Volker Hilt
Europe 013804077EP, Filed May 2016. Patent pending

Selected Press

- 10/2017 *"Could AI Be the Future of Fake News and Product Reviews?"*, Scientific American
- 09/2017 *"Many People Can't Tell The Difference Between Yelp Reviews Written By An AI And A Human. Can You?"*, Forbes
- 09/2017 *"AI writes Yelp reviews that pass for the real thing"*, Engadget
- 09/2017 *"The potential of AI generated 'crowdturfing' could undermine online reviews and dramatically erode public trust"*, News.com.au
- 08/2017 *"Researchers taught AI to write totally believable fake reviews, and the implications are terrifying"*, Business Insider
- 08/2017 *"Restaurant Reviews Could Be Generated By AI Without You Noticing"*, Fortune
- 08/2017 *"AI Writes Believable Fake Yelp Reviews"*, NVIDIA Developer
- 08/2017 *"AI trained on Yelp data writes fake restaurant reviews 'indistinguishable' from real deal"*, The Verge
- 08/2017 *"Robots learned how to write fake Yelp reviews like a human"*, New York Post
- 10/2016 *"Using Google Chrome as your preferred browser? Think again"*, Economic Times, India
- 04/2015 *"The Bot Bubble: How click farms have inflated social media currency"*, New Republic
- 04/2012 *"Who's to blame for Twitter spam? Obama, Gaga and you"*, GigaOM
- 03/2011 *"Privacy: Facebook's Achilles heel"*, CNET News
- 03/2010 *"On Social Networks, You Are Who You Know"*, Slashdot

■ Teaching Experience

2018 **Instructor**, Security Analytics, Virginia Tech, Spring 2019

2018 **Instructor**, Network Architecture and Programming, Virginia Tech, Fall 2018

2013 **Instructor**, Readings in Social Computing Systems, Saarland University, Summer 2013

■ Advising

Ph.D. students: Jiameng Pu (Virginia Tech)

Undergraduate students: Neal Mangaokar (Virginia Tech)