Bimal Viswanath

Postdoctoral Researcher

University of California Santa Barbara
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Research interests

Security and privacy; Data mining; Machine learning; Measurement and analysis of networked systems

Education

2008–2016 **Doctor of Philosophy in Computer Science**
Saarland University and Max Planck Institute for Software Systems (MPI-SWS), Saarbruecken, Germany
Advisors: Prof. Krishna P. Gummadi, Prof. Alan Mislove
Thesis: *Towards Trustworthy Social Computing Systems*

2005–2008 **Master of Science in Computer Science and Engineering**
Indian Institute of Technology Madras, Chennai, India
Advisor: Prof. C. Siva Ram Murthy
Thesis: *A Stochastic Model for TCP over Optical Burst Switching Networks*

2001–2005 **Bachelor of Technology in Computer Science and Engineering**
Cochin University of Science and Technology, Cochin, India

Employment History

2016–Present **Postdoctoral Researcher**
University of California Santa Barbara, 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, Germany
Mentor: Dr. Saikat Guha
Research topic: Understanding Social Ad Traffic Quality

2011 **Research Intern**
Northeastern University, Boston, MA, USA
Mentor: Prof. Alan Mislove
Research topic: Building Scalable Sybil Tolerant Systems

2010 **Research Intern**
Microsoft Research, Redmond, WA, USA
Mentor: Dr. Emre Kıcıman, Dr. Stefan Saroiu
Research topic: User Privacy in Third-Party Social applications

2005-2008	**Graduate Student**
	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)
2013	Institutional nominee (MPI-SWS), Google European Doctoral Fellowship
2008–2015	Graduate student fellowship, MPI-SWS
2005–2008	Graduate student fellowship, Ministry of Human Resources and Development (MHRD), Government of India

Publications

Total Citations: 2626, H-Index: 12 (Source: Google Scholar as of September 2017)

Refereed Conference Publications

CoNEXT'17	**Towards Reliable Application Deployment in the Cloud**
	Ruichuan Chen, Istemi Ekin Akkus, Bimal Viswanath, Ivica Rimac 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, 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

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

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

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

Refereed Workshop Publications

WOSN'12 **Keeping Information Safe from Social Networking Apps**
Bimal Viswanath, Emre Kıcıman, and Stefan Saroiu
WOSN, Helsinki, Finland, August 2012

WWW'12 **Simplifying Friendlist Management** (*Demo Paper*)
Yabing Liu, Bimal Viswanath, Mainack Mondal, Krishna P. Gummadi, and Alan Mislove
WWW, Lyon, France, April 2012

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

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

Refereed Journal Publications

2011 **A Stochastic Model for the Behavior of Multiple TCP NewReno Sources over Optical Burst Switching Network**
Bimal Viswanath, T. Venkatesh, C. Siva Ram Murthy
Photonic Network Communications, October 2011

Non-Refereed Publications

2011 **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
Technical Report 2011-006, MPI-SWS, November 2011

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

Patents

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

Talks

Invited Talks

2015 *"Strength in Numbers: Robust Tamper Detection in Crowd Computations"*
Yelp Security Team, San Francisco, CA, USA, November 2015

2015 *"Towards Trustworthy Social Computing Systems"*

- NEC Laboratories Europe, Heidelberg, Germany, March 2015
- Bell Labs, Stuttgart, Germany, March 2015
- Microsoft Research India, Bangalore, India, April 2015
- Telefonica Research, Barcelona, Spain, May 2015

2012 *"Understanding and Combating Link Farming in the Twitter Social Network"*
Réseaux et individus, Informatique et sciences sociales, Paris-Diderot University, Paris, France, November 2012

Conference/Workshop Talks

2015 *"Strength in Numbers: Robust Tamper Detection in Crowd Computations"*
COSN, Stanford University, CA, USA, November 2015

2014 *"Towards Detecting Anomalous User Behavior in Online Social Networks"*
USENIX Security, San Diego, CA, USA, August 2014

2012 *"Understanding and Combating Link Farming in the Twitter Social Network"*
WWW, Lyon, France, April 2012

2012 *"Canal: Scaling social network-based Sybil tolerance schemes"*
EuroSys, Bern, Switzerland, April 2012

2012 *"Keeping information safe from social networking apps"*
WOSN, Helsinki, Finland, August 2012

2011 *"Sharing social networking content from home: A measurement-driven feasibility study"*
NOSSDAV, Vancouver, Canada, June 2011

2010 *"An analysis of Social network-based Sybil defenses"*
SIGCOMM, New Delhi, India, August 2010

2009 *"On the evolution of user interaction in Facebook"*
WOSN, Barcelona, Spain, August 2009

Selected Press

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
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

Software

TrulyTweeting, `http://trulytweeting.app-ns.mpi-sws.org/`: A service to detect tampered tweet promotions

TrulyFollowing, `http://trulyfollowing.app-ns.mpi-sws.org/`: A service to detect users with tampered follower counts

Professional Activities

Technical Program Committees

2017	ICWSM, AAAI International Conference on Web and Social Media
2016	ICWSM, AAAI International Conference on Web and Social Media
2016	COMSNETS, International Conference on COMmunication Systems & NETworkS
2015	ICWSM, AAAI International Conference on Web and Social Media
2015	Social Networking Workshop at COMSNETS

Teaching Experience

2013	**Instructor**, Readings in Social Computing Systems, Saarland University, Summer 2013
2009	**Teaching Assistant**, Operating Systems, Saarland University, Summer 2009
2007	**Teaching Assistant**, Performance Evaluation of Computer Systems, IIT Madras, July-November 2007
2006	**Teaching Assistant**, Performance Evaluation of Computer Systems, IIT Madras, July-November 2006
2006	**Teaching Assistant**, Network Management Systems, IIT Madras, January-May 2006
2006	**Teaching Assistant**, Computational Engineering, IIT Madras, January-May 2006

2005 **Teaching Assistant**, Computational Engineering, IIT Madras, July-November 2005

Advising

Research Intern at Nokia Bell Labs: Jörg Thalheim

Research Interns at MPI-SWS: Advait Alai, M. Ahmad Bashir, Simon Bouget

References

○ **Prof. Ben Y. Zhao**
Neubauer Professor of Computer Science, University of Chicago
Address: 257D Ryerson, 1100 E 58th Street, University of Chicago, Chicago, IL 60636, USA
Email: ravenben@cs.uchicago.edu

○ **Prof. Krishna P. Gummadi**
Head, Networked Systems Research Group, Max Planck Institute for Software Systems
Address: Campus E1 5, 66123 Saarbruecken, Germany
Email: gummadi@mpi-sws.org
Phone: +49 681 9303 8601

○ **Prof. Alan Mislove**
Associate Professor of Computer Science, Northeastern University
Address: 360 Huntington Ave, College of Computer and Information Science, Northeastern University, Boston, MA 02115, USA
Email: amislove@ccs.neu.edu
Phone: +1 617 373 7069

○ **Prof. Peter Druschel**
Scientific Director, Max Planck Institute for Software Systems
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Email: druschel@mpi-sws.org
Phone: +49 681 9303 9101