

# Bimal Viswanath

*Assistant Professor*

Virginia Tech  
Department of Computer Science  
✉ [vbimal@cs.vt.edu](mailto:vbimal@cs.vt.edu)  
📁 [people.cs.vt.edu/vbimal](http://people.cs.vt.edu/vbimal)

## Research interests

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

## Education

- 2008–2016 **Doctor of Philosophy 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  
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

- 2018–Present **Assistant Professor (tenure-track)**  
Virginia Tech, Blacksburg, VA, USA
- 2017–2018 **External Postdoctoral Researcher**  
University of Chicago, Chicago, IL, USA  
Research topic: Systems and Network Security
- 2016–2018 **Postdoctoral Scholar**  
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**  
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

## Publications

Total Citations: 2996, H-Index: 14 (Source: [Google Scholar](#) as of August 2018)

- 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

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## Professional Activities

### Technical Program Committees

ICWSM AAI 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

## 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

**Ph.D. students:** Anupama Aggarwal (IIIT-Delhi, India), Mainack Mondal (MPI-SWS, Germany), Giridhari Venkatadri (MPI-SWS, Germany), Bolun Wang (University of California, Santa Barbara, USA), Yuanshun Yao (University of Chicago, USA)

**Masters students:** Kirti Bhandari (University of California, Santa Barbara, USA)

**Research Intern at Nokia Bell Labs:** Jörg Thalheim (TU Dresden, Germany)

**Research Interns at MPI-SWS:** Advait Alai (IIT Madras, India), M. Ahmad Bashir (LUMS, Pakistan), Simon Bouget (IRISA/INRIA Rennes – Bretagne Atlantique, France)

## References

- **Prof. Ben Y. Zhao (ravenben@cs.uchicago.edu )**  
Neubauer Professor of Computer Science, University of Chicago, USA
- **Prof. Krishna P. Gummadi (gummadi@mpi-sws.org )**  
Head, Networked Systems Research Group, Max Planck Institute for Software Systems, Germany
- **Prof. Alan Mislove (amislove@ccs.neu.edu )**  
Associate Professor of Computer Science, Northeastern University, USA
- **Prof. Peter Druschel (druschel@mpi-sws.org )**  
Scientific Director, Max Planck Institute for Software Systems, Germany