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RESEARCH INTERESTS

I am broadly interested in the areas of networking and distributed systems. My research is motivated by the challenges arising out of the growing “complexity” (i.e., scale, heterogeneity, decentralized control, and dynamic evolution) of today's networked systems. Example complex systems that I am currently studying include the emerging social Web, cloud computing infrastructures, and the Internet infrastructure. My projects focus both on understanding how existing systems work in practice and on building new systems. I use a combination of measurement, analysis, design, implementation, and deployment methodologies to achieve my goals.

EMPLOYMENT HISTORY

Max Planck Institute for Software Systems Head, Networked Systems Research Group	Saarbruecken, Germany October 2005 – <i>Present</i>
University of Washington Research Assistant	Seattle, WA, USA September 2000 – October 2005
Intel Research Lab, Berkeley Summer Intern	Berkeley, CA, USA 2003
ICSI, Berkeley Summer Intern	Berkeley, CA, USA 2002
Microsoft Research, Redmond Summer Intern	Redmond, WA, USA 2001
Dartfish (Formerly Inmotion Technologies) Summer Intern	Fribourg, Switzerland 2000
Ecole Polytechnique Federale de Lausanne Summer Intern	Lausanne Switzerland 1999

EDUCATION BACKGROUND

University of Washington Ph.D. in Computer Science and Engineering	Seattle, WA October 2005
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Dissertation topic: “Measurement-driven Modeling and Design of Large-scale Distributed Systems”

Advisors: Steven D. Gribble and Henry M. Levy

University of Washington
M.S. in Computer Science and Engineering

Seattle, WA
December 2002

Indian Institute of Technology
B. Tech. in Computer Science and Engineering

Madras, India
August 2000

TEACHING EXPERIENCE

Max Planck Institute for Software Systems and University of Saarland, Germany

Instructor, scheduled to co-teach advanced undergraduate course in networking, Summer 2012
Instructor, co-taught seminar on recent advances in computer systems, Winter 2010
Organizer, systems seminar every semester from Summer 2006 to Summer 2008, and Summer 2010
Instructor, co-taught advanced undergraduate course in data networks, Summer 2007

University of Washington, Seattle

Teaching Assistant for CSE 142, an undergraduate course in programming, Winter 2001
Teaching Assistant for CSE 370, an undergraduate course in digital design, Autumn 2000

Indian Institute of Technology, Madras

Teaching Assistant for CS 101, an undergraduate course in programming, Fall 1999

AWARDS

Best student paper: Usenix/ACM Symposium on Operating Systems Design and Implementation (OSDI) 2002

Best student paper: ACM SIGCOMM Internet Measurement Workshop (IMW) 2002

Best paper: SPIE/ACM Conference on Multimedia Computing and Networking (MMCN) 2002

REFEREED PUBLICATIONS: 35

TOTAL CITATIONS: 6973 (SOURCE: GOOGLE SCHOLAR) H-INDEX: 21

- [1] Tiago Rodrigues, Fabricio Benevenuto, Meeyoung Cha, Krishna P. Gummadi, and Virgilio Almeida, "On Word-of-Mouth Based Discovery of the Web." To Appear In *Proc. of the 11th Usenix/ACM SIGCOMM Internet Measurement Conference (IMC)*, Berlin, Germany, November 2011.
- [2] Yabing Liu, Krishna P. Gummadi, Balachander Krishnamurthy, and Alan Mislove, "Analyzing Facebook privacy settings: User expectations vs. reality." To Appear In *Proc. of the 11th Usenix/ACM SIGCOMM Internet Measurement Conference (IMC)*, Berlin, Germany, November 2011.
- [3] Jisun An, Meeyoung Cha, Krishna P. Gummadi, and Jon Crowcroft, "Media Landscape in Twitter: A World of New Conventions and Political Diversity." In *Proc. of the 5th International AAAI Conference on Weblogs and Social Media (ICWSM)*, Barcelona, Spain, July 2011.

- [4] Massimiliano Marcon, Bimal Viswanath, Meeyoung Cha, and Krishna P. Gummadi, "Sharing Social Content from Home: A Measurement-driven Feasibility Analysis." In *Proc. of the 21st International Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV)*, Vancouver, Canada, June 2011
- [5] Massimiliano Marcon, Marcel Dischinger, Krishna P. Gummadi, and Amin Vahdat, "The Local and Global Effects of Traffic Shaping in the Internet." In *Proc. of the 3rd International Conference on Communication Systems and Networks (COMSNETS)*, Bangalore, India, January 2011.
- [6] Bimal Viswanath, Ansley Post, Krishna P. Gummadi, and Alan Mislove, "An Analysis of Social Network-based Sybil Defenses." In *Proc. of the ACM SIGCOMM 2010*, New Delhi, India, August 2010. (Cited by 13)
- [7] Meeyoung Cha, Hamed Haddadi, Fabricio Benevenuto, and Krishna P. Gummadi, "Measuring User Influence in Twitter: The Million Follower Fallacy." In *Proc. of the 4th International AAAI Conference on Weblogs and Social Media (ICWSM)*, Washington, DC, May 2010. (Cited by 73)
- [8] Marcel Dischinger, Massimiliano Marcon, Saikat Guha, Krishna P. Gummadi, Ratul Mahajan, and Stefan Saroiu, "Glasnost: Enabling End Users to Detect Traffic Differentiation." In *Proc. of the 7th Usenix Symposium on Networked Systems Design and Implementation (NSDI)*, San Jose, CA, April 2010. (Cited by 9)
- [9] Alan Mislove, Bimal Viswanath, Krishna P. Gummadi, and Peter Druschel, "You are who you know: Inferring user profiles in Online Social Networks." In *Proc. of the 3rd ACM International Conference on Web Search and Data Mining (WSDM)*, New York, NY, February 2010. (Cited by 20)
- [10] Nuno Santos, Krishna P. Gummadi, and Rodrigo Rodrigues, "Towards Trusted Cloud Computing." In *Proc. of the Workshop On Hot Topics in Cloud Computing (HotCloud)*, San Diego, CA, June 2009. (Cited by 75)
- [11] Bimal Viswanath, Alan Mislove, Meeyoung Cha, and Krishna P. Gummadi, "On the Evolution of User Interaction in Facebook." In *Proc. of the 2nd ACM SIGCOMM Workshop On Social Networks (WOSN)*, Barcelona, Spain, August 2009. (Cited by 77)
- [12] Meeyoung Cha, Alan Mislove, and Krishna P. Gummadi, "A Measurement-driven Analysis of Information Propagation in the Flickr Social Network." In *Proc. of the 18th International World Wide Web Conference (WWW)*, Madrid, Spain, April 2009. (Cited by 79)
- [13] Andreas Haeberlen, Rodrigo Rodrigues, Krishna P. Gummadi, and Peter Druschel, "Pretty Good Packet Authentication." In *Proc. of the 4th Workshop on Hot Topics in System Dependability (HotDep)*, San Diego, CA, December 2008. (Cited by 5)
- [14] Marcel Dischinger, Alan Mislove, Andreas Haeberlen, and Krishna P. Gummadi, "Detecting BitTorrent Blocking." In *Proc. of the 8th Usenix/ACM SIGCOMM Internet Measurement Conference (IMC)*, Vouliagmeni, Greece, October 2008. (Cited by 44)
- [15] Marcel Dischinger, Andreas Haeberlen, Ivan Beschastnikh, Krishna P. Gummadi, and Stefan Saroiu, "SatelliteLab: Adding Heterogeneity to Planetary-Scale Testbeds." In *Proc. of the ACM SIGCOMM 2008*, Seattle, WA, August 2008. (Cited by 20)
- [16] Meeyoung Cha, Alan Mislove, Ben Adams, and Krishna P. Gummadi, "Characterizing Social Cascades in the Flickr Social Network." In *Proc. of the 1st ACM SIGCOMM Workshop On Social Networks (WOSN)*, Seattle, WA, August 2008. (Cited by 49)
- [17] Alan Mislove, Hema Swetha Koppula, Krishna P. Gummadi, Peter Druschel, and Bobby Bhattacharjee, "Growth of the Flickr Social Network." In *Proc. of the 1st ACM SIGCOMM Workshop On Social Networks (WOSN)*, Seattle, WA, August 2008. (Cited by 96)

- [18] Alan Mislove, Ansley Post, Peter Druschel, and Krishna P. Gummadi, "Ostra: Leveraging Trust to Thwart Unwanted Communication." In *Proc. of the 5th Usenix Symposium on Networked Systems Design and Implementation (NSDI)*, San Francisco, CA, April 2008. (Cited by 57)
- [19] Marcel Dischinger, Andreas Haeberlen, Krishna P. Gummadi, and Stefan Saroiu, "Characterizing Residential Broadband Networks." In *Proc. of the 7th Usenix/ACM SIGCOMM Internet Measurement Conference (IMC)*, San Diego, CA, October 2007. (Cited by 132)
- [20] Alan Mislove, Massimiliano Marcon, Krishna P. Gummadi, Petr Druschel, and Samrat Bhattacharjee, "Measurement and Analysis of Online Social Networks." In *Proc. of the 7th Usenix/ACM SIGCOMM Internet Measurement Conference (IMC)*, San Diego, CA, October 2007. (Cited by 547)
- [21] Andrew G. Miklas, Kiran K. Gollu, Kelvin K.W. Chan, Stefan Saroiu, Krishna P. Gummadi, and Eyal de Lara, "Exploiting Social Interactions in Mobile Systems." In *Proc. of the 9th International Conference on Ubiquitous Computing (UbiComp)*, Innsbruck, Austria, September 2007. (Cited by 68)
- [22] Alan Mislove, Krishna P. Gummadi, and Peter Druschel, "Exploiting Social Networks for Internet Search." In *Proc. of the 5th ACM Workshop on Hot Topics in Networks (HotNets)*, Irvine, CA, November 2006. (Cited by 78)
- [23] Andreas Haeberlen, Marcel Dischinger, Krishna P. Gummadi, and Stefan Saroiu, "Monarch: A Tool to Emulate Transport Protocol flowover the Internet at Large." In *Proc. of the 6th Usenix/ACM SIGCOMM Internet Measurement Conference (IMC)*, Rio De Janeiro, Brazil, October 2006. (Cited by 17)
- [24] Krishna P. Gummadi, Harsha Madhyastha, Steven D. Gribble, Henry M. Levy, and David J. Wetherall, "Improving the Reliability of Internet Paths with One-hop Source Routing." In *Proc. of the 6th Usenix/ACM Symposium on Operating Systems Design and Implementation (OSDI)*, San Francisco, CA, December 2004. (Cited by 214)
- [25] Prasanna Ganesan, Krishna P. Gummadi, and Hector Garcia-Molina, "Canon in G Major: Designing DHTs with Hierarchical Structure." In *Proc. of the 24th IEEE International Conference on Distributed Computing Systems (ICDCS)*, Tokyo, Japan, March, 2004. (Cited by 156)
- [26] Krishna P. Gummadi, Richard J. Dunn, Stefan Saroiu, Steve D. Gribble, Henry M. Levy, and John Zahorjan, "Measurement, Modeling, and Analysis of a Peer-to-Peer File-Sharing Workload." In *Proc. of the 19th ACM Symposium on Operating Systems Principles (SOSP)*, Bolton Landing, NY, October 2003. (Cited by 832)
- [27] Krishna P. Gummadi, Ramakrishna Gummadi, Sylvia Ratnasamy, Steven D. Gribble, Ion Stoica, and Scott Shenker, "The Impact of DHT Routing Geometry on Resilience and Proximity." In *Proc. of the ACM SIGCOMM 2003*, Karlsruhe, Germany, August 2003. (Cited by 595)
- [28] Stefan Saroiu, Krishna P. Gummadi, and Steven D. Gribble, "Measuring and Analyzing the Characteristics of Napster and Gnutella Hosts." In *ACM Multimedia Systems Journal*, Volume 9, Number 2, pp. 170-184, Springer-Verlag, August 2003. (Cited by 272)
- [29] Krishna P. Gummadi, Madhavarapu J. Pradeep, and C. Siva Ram Murthy, "An Efficient Primary Segmented Backup Scheme for Dependable Real-Time Communication in Multihop Networks." In *IEEE/ACM Transactions on Networking*, Volume 11, Issue 1, February 2003. (Cited by 70)
- [30] Stefan Saroiu, Krishna P. Gummadi, Richard J. Dunn, Steven D. Gribble, and Henry M. Levy, "An Analysis of Internet Content Delivery Systems." In *Proc. of the 5th Usenix/ACM*

- Symposium on Operating Systems Design and Implementation (OSDI)*, Boston, MA, December 2002. (Cited 545)
- [31] Krishna P. Gummadi, Stefan Saroiu, and Steven D. Gribble, “King: Estimating Latency between Arbitrary Internet End Hosts.” In *Proc. of the 2nd Usenix/ACM SIGCOMM Internet Measurement Workshop (IMW)*, Marseille, France, November 2002. (Cited by 521)
- [32] Stefan Saroiu, P. Krishna Gummadi, and Steven D. Gribble, “Exploring the Design Space of Distributed and Peer-to-Peer Systems: Comparing the Web, TRIAD, and Chord/CFS.” In *Proc. of the 1st International Workshop on Peer-to-Peer Systems*, Cambridge, MA, March 2002. (Cited by 20)
- [33] Stefan Saroiu, P. Krishna Gummadi, and Steven D. Gribble, “A Measurement Study of Peer-to-Peer File Sharing Systems.” In *Proc. of the SPIE/ACM Conference on Multimedia Computing and Networking 2002 (MMCN)*, San Jose, CA, January 2002. (Cited by 2261)
- [34] G. Ranjith, G. P. Krishna, and C. S. R. Murthy, “A Distributed Primary-Segmented Backup Scheme for Dependable Real-Time Communication in Multihop Networks.” In *IEEE Workshop on Fault-Tolerant Parallel and Distributed Systems*, Ft. Lauderdale, FL, April 2002. (Cited by 9)
- [35] P. Krishna Gummadi, M. Pradeep, and C. Siva Ram Murthy, “A Segmented Backup Scheme for Dependable Real-Time Communication in Multihop Networks.” In *Proc. of the 8th IEEE International Workshop on Parallel and Distributed Real-time Systems*, Cancun, Mexico, May 2000. (Cited by 19)

INVITED / POSITION PAPERS

- [1] Krishna P. Gummadi, Alan Mislove, and Balachander Krishnamurthy, “Addressing the Privacy Management Crisis in Online Social Networks.” In *the LAB Workshop on Internet Privacy*, Position Paper, Boston, MA, December 2010.
- [2] Constantine Dovrolis, Krishna P. Gummadi, Aleksandar Kuzmanovic, and Sascha D. Meinrath, “Measurement Lab: Overview and an Invitation to the Research Community.” In *Proc. of the ACM SIGCOMM Computer Communication Review (CCR)*, Editorial Section, July 2010.

INVITED TALKS AT WORKSHOPS AND CONFERENCES

- Panel on the Impact of Social Media on News Generation and Consumption, ICWSM 2011
- International Workshop on the Social Web organized by KAIST, Korea, 2010
- Workshop on Social Networks and Distributed Systems held in conjunction with PODC 2010
- 2020 Networking Summit organized by Cambridge University and Telefonica Research, 2010
- Winter School on Hot Topics in Distributed Systems organized by INRIA, France, 2010
- Tutorial on Online Social Networks, SIGMETRICS 2009
- 1st Workshop on Active Measurements organized by CAIDA, UCSD, 2009
- Panel on Measurement Challenges in Online Social Networks, IMC 2008
- Future Internet Workshop organized by KAIST, Korea, 2007

STUDENT ADVISING

- Past Students:
 - Marcel Dischinger (Ph.D., 2010) is a Senior Software Engineer at Barracuda Networks

Meeyoung Cha (postdoc, 2010) is an Assistant Professor at KAIST, Korea
Alan Mislove (Ph.D., 2009) is an Assistant Professor at NorthEastern University (co-advised with Peter Druschel)
Alexey Reznichenko (masters, 2009) is a Ph.D. student at MPI-SWS
Malveeka Tewari (bachelors, 2008) is a Ph.D. student at UCSD

- Current Students:
 - Massimiliano Marcon (Ph.D., since 2006)
 - Nuno Santos (Ph.D., since 2008)
 - Bimal Viswanath (Ph.D., since 2008)
 - Mainack Mondal (Ph.D., since 2010)
 - Farshad Kooti (Ph.D., since 2010)
 - Juhi Kulshrestha (Ph.D., since 2011)

PROFESSIONAL SERVICE

- Conference Program Committees:
 - SIGCOMM 2007, 2008, 2009, and 2012
 - NSDI 2007, 2008, and 2009
 - CoNext 2008, 2009, and 2011
 - IMC 2010
 - WSDM 2012
 - WWW 2010
 - INFOCOM 2008
 - ICDCS 2007
- Workshop Program Committees:
 - HotNets 2007, 2009, and 2011
 - NetEcon 2011
 - DBSocial 2011
 - FOCI 2011
 - WOSN 2008 and 2009
 - ROADS 2008 (co-chair)
 - EuroSys Authoring Workshop 2007 (co-chair)
 - IPTPS 2006
 - WORLDS 2006.
- Poster Session Committees:
 - SIGCOMM 2006, 2009, and 2010
 - NSDI 2007 and 2008 (co-chair)
- Guest Editor of a special issue of IEEE J-SAC on *Measurement of Internet Topologies*
- Steering Committee of *Measurement Lab* (2009 - present)
- Selection Committee for the new ICT public research institute in Cantabria, Spain

RESEARCH GRANTS (PRINCIPAL INVESTIGATOR)

- Approved and Funded:
 - Topic: “Online Social Networks”
 - Sponsor: Federal Ministry of Education and Research, Germany & Department of Science and Technology, India
 - Investigators: Krishna P. Gummadi and Niloy Ganguly
 - Amount: 250,000 Euros for 5 years
 - Awarded: February 2011