

## Saikat Guha

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### RESEARCH INTERESTS

Computer networks with particular interests in security and privacy issues in network architecture, and ancillary interests in P2P systems.

### EDUCATION

#### **Cornell University**, Ithaca, NY

Ph.D in Computer Science, Aug 2009

Advisor: Paul Francis

Dissertation: “Chasing EME: Arguments for an End-Middle-End Internet”

B.S. in Computer Science, *magna cum laudé*, May 2003, GPA: 3.96/4.0

transferred from B.Tech program, Indian Institute of Technology (IIT), Delhi; CGPA: 8.9/10.0

### EMPLOYMENT

- June 2009 – **Max Planck Institute for Software Systems**, Kaiserslautern, Germany  
Postdoctoral Researcher
- Summer 2008 **Max Planck Institute for Software Systems**, Saarbrücken, Germany  
Summer Research Intern with Krishna Gummadi
- Summer 2007 **Google Inc.**, Mountainview, CA  
Summer Intern with the Security Group
- Summer 2006 **Microsoft Research**, Cambridge, UK  
Summer Research Intern with Pablo Rodriguez
- Summer 2005 **DoCoMo Labs USA**, San Jose, CA  
Summer Research Intern with Neil Daswani

### PUBLICATIONS

#### **Refereed Conference Publications and Book Chapters**

- S. Guha, J. Chandrasekhar, N. Taft and K. Papagiannaki, “How Healthy are Today’s Enterprise Networks?,” in *Proceedings of the 2008 Internet Measurement Conference (IMC’08)*, Vouliagmeni, Greece, Oct. 2008.
- S. Guha and P. Francis, “An End-Middle-End Approach to Connection Establishment,” in *Proceedings of SIGCOMM 2007*, Kyoto, Japan, Aug. 2007.
- S. Annapureddy, S. Guha, C. Gkantsidis, D. Gunawardena and P. Rodriguez. “Is High-Quality VoD Feasible using P2P Swarming?,” in *Proceedings of the 16th International World Wide Web Conference (WWW2007)*, Banff, Canada, May 2007.
- S. Guha and P. Francis, “Characterization and Measurement of TCP Traversal through NATs and Firewalls,” in *Proceedings of the 2005 Internet Measurement Conference (IMC’05)*, New Orleans, LA, Oct. 2005.
- S. Guha, R. Murty, and E. G. Sirer, “Sextant: A Unified Node and Event Localization Framework Using Non-Convex Constraints,” in *Proceedings of ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc’05)*, Urbana-Champaign, IL, May 2005.
- C. Botev et al., “Supporting Workflow in a Course Management System,” in *Proceedings of the Technical Symposium of Computer Science Education (SIGCSE’05)*, St. Louis, MO, Feb. 2005.
- K. P. Birman, S. Guha, and R. Murty, *Advances in Pervasive Computing and Networking*. Kluwer Academic Press, Fall 2004, Chapter: Scalable, Self-Organizing Technology for Sensor Networks.

## Refereed Workshop and Symposium Publications

- S. Guha, A. Reznichenko, H. Haddadi and P. Francis, “Serving Ads from localhost for Performance, Privacy, and Profit,” in *Proceedings of the 2009 Workshop on Hot Topics in Networks (HotNets '09)*, New York, NY, Oct. 2009.
- S. Guha, K. Tang and P. Francis, “NOYB: Privacy in Online Social Networks,” in *Proceedings of the First ACM SIGCOMM Workshop on Online Social Networks (WOSN '08)*, Seattle, WA, Aug. 2008.
- B. Wong and S. Guha, “Quasar: A Probabilistic Publish-Subscribe System for Social Networks,” in *Proceedings of the IPTPS'08*, Tampa Bay, FL, Feb. 2008.
- S. Guha and P. Francis, “Identity Trail: Covert Surveillance Using DNS,” in *Proceedings of the Privacy Enhancing Technologies Symposium (PET '07)*, Ottawa, Canada, Jun. 2007.
- S. Annapureddy, S. Guha, C. Gkantsidis, D. Gunawardena and P. Rodriguez. “Exploring VoD in P2P Swarming Systems,” in *Proceedings of the 26th Annual IEEE Conference on Computer Communications Mini Symposiums (INFOCOM '07 Mini Symposium)*, Anchorage, AK, May 2007.
- S. Guha, N. Daswani, and R. Jain, “An experimental study of the skype peer-to-peer voip system,” in *Proceedings of the IPTPS'06*, Santa Barbara, CA, Feb. 2006.
- S. Guha, Y. Takeda, and P. Francis, “NUTSS: A SIP-based Approach to UDP and TCP Network Connectivity,” in *Proceedings of SIGCOMM'04 Workshops*, Portland, OR, Aug. 2004, pp. 43–48.

## Thesis

- S. Guha, “Chasing EME: Arguments for an End-Middle-End Internet”, Cornell University, Ph.D. Thesis, Ithaca, NY, Aug. 2009.

## RFCs, Internet drafts, and Technical Reports

- P. Srisuresh, B. Ford, S. Sivakumar and S. Guha, “RFC5508 - NAT Behavioral Requirements for ICMP,” Apr. 2009.
- S. Guha (Ed.), K. Biswas, B. Ford, S. Sivakumar and P. Srisuresh, “RFC5382 - NAT Behavioral Requirements for TCP,” Oct. 2008.
- P. Srisuresh, B. Ford, S. Sivakumar, and S. Guha. “NAT Behavioral Requirements for ICMP protocol,” *Internet Draft: draft-ietf-behave-nat-icmp-08.txt*, Jun. 2008. Awaiting IESG review.
- S. Guha, M. Dischinger, B. Ford, R. Mahajan, S. Saroiu, and K. Gummadi, “Detecting Traffic Differentiation with Hidden Markov Models,” Nov 2008. Under submission.
- S. Guha and P. Francis, “ShutUp: End-to-End Containment of Unwanted Traffic,” Cornell University, Ithaca, NY, Tech. Rep. <http://hdl.handle.net/1813/11101>, July 2008. Under submission.

## TEACHING EXPERIENCE

### Instructor, Cornell University

Introduction to C (Fall 2006, Spring 2007, Fall 2008), *student evaluation: 5/5*  
Operating Systems Practicum (Fall 2005), *outstanding TA award*

### Teaching Assistant, Cornell University

Computer Architecture (Fall 2008), *student evaluation: 4.58/5, outstanding TA award*  
Functional Programming and Data Structures (Spring 2004)  
Intermediate Computer Systems (Fall 2003), *student evaluation: 5/5*

### Undergraduate Consultant, Cornell University

Functional Programming and Data Structures (Spring 2002, Fall 2002, Spring 2003)

## INVITED TALKS

- Mar. 2009 "On End-Middle-End Connection Establishment in the Internet," AT&T Labs Research  
Feb. 2009 "On End-Middle-End Connection Establishment in the Internet," Telefonica I&D  
Feb. 2009 "On End-Middle-End Connection Establishment in the Internet," MSR India  
Oct. 2008 "How Healthy are Today's Enterprise Networks?," conference talk at IMC  
Aug. 2008 "Dear Facebook, My Data is None of Your Business," workshop talk at WOSN  
Jul. 2008 "An Endhost Perspective Into Today's Enterprise Networks," Thomson Labs  
Jul. 2008 "ShutUp: End-to-End Containment of Unwanted Traffic," Telefonica I&D  
Jun. 2008 "ShutUp: End-to-End Containment of Unwanted Traffic," MPI-SWS  
Feb. 2008 "Quasar: A Probabilistic Publish-Subscribe System for Social Networks," workshop talk at IPTPS  
Aug. 2007 "NUTSS: An End-Middle-End Approach to Connection Establishment," conference talk at SIGCOMM  
Jun. 2007 "Identity Trail: Covert Surveillance Using DNS," workshop talk at PET  
Aug. 2006 "Going NUTSS with NATs, P2P, VoIP and other TLAs," MSR Cambridge  
Jul. 2006 "NAT Behavioral Requirements for Unicast TCP," IETF BEHAVE working group  
Jul. 2006 "Using Off-Path and On-Path Signaling for Internet Security," IRTF EME research group  
Mar. 2006 "NAT Behavioral Requirements for Unicast TCP," IETF BEHAVE working group  
Feb. 2006 "An Experimental Study of the Skype Peer-to-Peer VoIP System," workshop talk at IPTPS  
Nov. 2005 "NAT Behavioral Requirements for Unicast TCP," IETF BEHAVE working group  
Nov. 2005 "Characterization and Measurement of TCP Traversal Through NATs and Firewalls," MSR Redmond  
Oct. 2005 "Architecting a Secure Internet," work-in-progress talk at SOSIP  
Oct. 2005 "Characterization and Measurement of TCP Traversal through NATs and Firewalls," conference talk at IMC  
May 2005 "Sextant: A Unified Node and Event Localization Framework Using Non-Convex Constraints," conference talk at MobiHoc

## AWARDS AND HONORS

- Fall 2005, Fall 2008 *Outstanding TA Award*, Dept. of Computer Science, Cornell University  
Fall 2001 *Berman Prize*, Dept. of Engineering Communications, Cornell University  
Fall '01 – Spring '03 *Dean's List* for each semester of undergraduate study, Cornell University

## SERVICE

- PC Member ICCCN  
Reviewer CCR, TON  
External Reviewer IPTPS, TON, WOSN, INFOCOM

## SOFTWARE ARTIFACTS

- Privad client  
Facebook profile scrambler  
TCP NAT traversal library  
NAT testing and classification software  
Graphical network traffic monitoring console

## PARTICULARS

Citizen of **India**

REFERENCES

**Dr. Paul Francis**  
Scientific Director  
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for Software Systems*  
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