

# SRIKANTH SUNDARESAN

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## RESEARCH INTERESTS

I am interested in the design and evaluation of networked systems. My expertise is in network measurements and characterization, and My research focuses on performance issues in wired and wireless networks, and application services. I am also interested in network architectures, routing, management, and security.

## CURRENT POSITION

**International Computer Science Institute**  
Post-doctoral Fellow

**Berkeley, CA**  
**August 2014 – Current**

## EDUCATION

**Georgia Institute of Technology**  
Ph.D., Computer Science

**Atlanta, GA**  
**August 2008 – July 2014**

**University of Massachusetts**  
M.S., Computer Systems Engineering

**Amherst, MA**  
**August 2005 – February 2008**

**Malaviya National Institute of Technology**  
B.Tech. (Honors), Electrical Engineering

**Jaipur, India**  
**September 2000 – June 2004**

## AWARDS AND RECOGNITIONS

- Doctoral Dissertation Award 2014**, College of Computing, Georgia Institute of Technology.
- The **Community Contribution Award** at IMC 2013.
- The 2012 **IRTF Applied Networking Research Prize**.
- My work has been published as a **Research Highlight** by the Communications of the ACM.

## THESES

- Characterizing and Improving Last Mile Performance Using Home Networking Infrastructure**. Srikanth Sundaresan. PhD Dissertation. **Georgia Institute of Technology** 2014.
- Managing Resource Constrained Sensor Networks**. Srikanth Sundaresan. MS Thesis. **University of Massachusetts Amherst** 2008.

## PUBLICATIONS

- Header Enrichment or ISP Enrichment? Emerging Privacy Threats in Mobile Networks**. N. Vallina-Rodriguez, S. Sundaresan, C. Kreibich, V. Paxson. **ACM Workshop on Hot Middleboxes** 2015.
- Beyond the Radio: Illuminating the Higher Layers of Mobile Networks**. N. Vallina-Rodriguez, S. Sundaresan, C. Kreibich, N. Weaver, V. Paxson. **ACM Mobisys** 2015.
- uCap: An Internet Data Management Tool for the Home**: M. Chetty, H. Kim, S. Sundaresan, N. Feamster, W. K. Edwards. **ACM CHI** 2015.
- Measuring the Performance of User Traffic in Home Wireless Networks**. S. Sundaresan, N. Feamster, R. Teixeira. **PAM** 2015.
- BISmark: A Testbed for Deploying Measurements and Applications in Broadband Access Networks**. S. Sundaresan, S. Burnett, N. Feamster, W. de Donato. **USENIX ATC** 2014.

- **Measuring Broadband Performance in South Africa:** M. Chetty, S. Sundaresan, S. Muckaden, N. Feamster, E. Calandro. **ACM DEV 4** 2013.
- **Measuring and Mitigating Web Performance Bottlenecks in Broadband Access Networks:** S. Sundaresan, N. Feamster, R. Teixeira, N. Magharei. **ACM IMC** 2013.
- **Peeking Behind the NAT: An Empirical Study of Home Networks:** S. Grover, M. Park, S. Sundaresan, S. Burnett, H. Kim, B. Ravi, N. Feamster. **ACM IMC** 2013.
- **Measuring Home Broadband Performance:** S. Sundaresan, W. de Donato, N. Feamster, R. Teixeira, S. Crawford, A. Pescapè. **Communications of the ACM Research Highlights** 2012.
- **Broadband Internet Performance: A View From The Gateway:** S. Sundaresan, W. de Donato, N. Feamster, R. Teixeira, S. Crawford, A. Pescapè. **ACM SIGCOMM** 2011.
- **Helping Users Shop For ISPs with Internet Nutrition Labels:** S. Sundaresan, N. Feamster, R. Teixeira, A. Tang, W. K. Edwards, R. E. Grinter, M. Chetty, W. de Donato. **ACM Workshop on Home Networks** 2011.
- **Event-Driven Adaptive Duty-Cycling in Sensor Networks:** S. Sundaresan, I. Koren, Z. Koren, C. M. Krishna. **The International Journal of Sensor Networks** 2009.

#### POSTERS, DEMOS, AND EXTENDED ABSTRACTS

- **Locating Throughput Bottlenecks in Home Networks:** S. Sundaresan, N. Feamster, R. Teixeira. **Demo, ACM SIGCOMM** 2014.
- **Web Performance Bottlenecks in Broadband Access Networks:** S. Sundaresan, N. Magharei, N. Feamster, R. Teixeira, S. Crawford. **Extended Abstract, ACM SIGMETRICS** 2013.
- **Accelerating Last-Mile Web Performance With Popularity-Based Prefetching:** S. Sundaresan, N. Magharei, N. Feamster, R. Teixeira. **Poster, ACM SIGCOMM** 2012.
- **Communicating with Caps: Managing Usage Caps in Home Networks:** H. Kim, S. Sundaresan, M. Chetty, N. Feamster, W. K. Edwards. **Poster, ACM SIGCOMM** 2011.
- **BISMark: A Platform for Studying Home Networks:** W. de Donato, S. Sundaresan, N. Feamster, R. Teixeira, A. Pescapè. **Poster, USENIX NSDI** 2011.
- **Autonomous Traffic Engineering With Self-Configuring Topologies:** S. Sundaresan, C. Lumezanu, N. Feamster, P. Francois. **Poster, ACM SIGCOMM** 2010.

#### PAST PROFESSIONAL EXPERIENCE

- Guavus Inc.** **May 2013 — August 2013**
- Characterized usage behavior of 3G and 4G customers of a large US-based mobile ISP.
- Telefónica I+D** **June 2012 — August 2012**
- Developed techniques to locate home Internet performance degradation using cross-layer techniques.
- Laboratoire d'Informatique de Paris 6** **May 2009 — August 2009**
- Analyzed broadband performance using data from 12,000 homes in France.
- Qualcomm, San Diego, CA** **July 2007 — November 2007, March 2008 — July 2008**
- Analysis and optimization of power consumption for multimedia in Qualcomm mobile chip-sets.
- Infosys Technologies Ltd., India** **July 2004 — July 2005**
- Worked on testing Oracle database systems. Experience in C/C++, Oracle, PL/SQL.

## ACADEMIC EXPERIENCE

**Georgia Institute of Technology**

Spring 2009 — Summer 2014

- Research assistant, advised by Professor Nick Feamster.

**Georgia Institute of Technology**

Fall 2008, Fall 2011

- Teaching assistant Computer Networks, Graduate Introduction to Operating Systems.

**University of Massachusetts Amherst**

Spring 2006 — Spring 2007

- Teaching assistant for Hardware and Organization, Data Structures.

## COMPUTER SKILLS

- Languages: Python, C, Java, Assembly Language (MIPS, 8085/86), Shell programming
- Other: OpenWRT, Android Development, MySQL, PostgreSQL, NS-2, TinyOS, Trace32 on ARM

## TALKS

- Characterizing and Improving Access-Network Performance Using Home Networking Infrastructure**
  - Google, Mountain View, 2014
  - Meraki, San Francisco, 2014
  - Center for Applied Internet Data Analysis (CAIDA), San Diego 2014
  - International Computer Science Institute (ICSI), Berkeley, 2013
- Locating Performance Bottlenecks in Home Networks:**
  - NANOG 64, San Francisco, 2015
  - Netflix, Los Gatos, 2013
- Characterizing and Mitigating Web Performance Bottlenecks in Home Networks:**
  - NANOG 60, Atlanta, 2014
  - ISMA 2012; Workshop on Active Internet Measurements. CAIDA, San Diego 2012
- Broadband Internet Performance**
  - IRTF Open Meeting, IETF 85, Atlanta, 2012
  - NANOG 53, Philadelphia, 2011
  - Internet2 Fall Members Meeting, Raleigh, 2011
  - Stanford University Networking Seminar, 2011
  - Electrical Engineering and Computer Science, University of California, Berkeley, 2011
  - Microsoft Research, Bangalore, June 2011
  - Department of Computer Science and Automation, Indian Institute of Science, Bangalore, 2011
  - Department of Computer Science, University of Cape Town, South Africa, 2011
  - ISMA 2011; Workshop on Active Internet Measurements. CAIDA, San Diego 2011
  - Internet2 Member Meeting, Atlanta 2010
- Traffic Engineering using Self-Configuring Link Weights:** NANOG 50, Atlanta 2010

## PROFESSIONAL ACTIVITIES

- Technical Program Committee**, International Workshop on Traffic Analysis and Characterization (TRAC), 2015
- Reviewer**, ACM SIGCOMM Computer Communications Review, 2011, 2012, 2014, 2015
- External Reviewer**, IEEE ICC 2014
- Reviewer**, IEEE/ACM Transactions on Networking, 2013

- **External Reviewer**, Posters and Demos, INFOCOM 2013
- **External Reviewer**, IEEE Symposium on Computers and Communications, 2011
- **Reviewer**, IEEE Transactions on Wireless Communications, 2010

## REFERENCES

- **Professor Nick Feamster**, Georgia Institute of Technology, *feamster@cc.gatech.edu*
- **Dr. Renata Teixeira**, INRIA, *renata.teixeira@inria.fr*
- **Professor C. Mani Krishna**, University of Massachusetts Amherst, *krishna@ecs.umass.edu*