Arpit Gupta

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Research Interest

My research interest broadly is in Systems and Networks and specific focus on intersection of Internet Routing and Software Defined Networks (SDN).

Education

PhD, Computer Science   Fall 2013-Present
Georgia Tech, Atlanta, USA

Masters of Science, Computer Science   Spring 2013
North Carolina State University, Raleigh, USA

Bachelor of Technology, ECE   Spring 2009
Indian Institute of Technology (IIT), Roorkee, India

Honors and Awards

- Awarded **Internet-2 Innovation Award**, Fall 2013.
- Awarded **Meissner Fellowship**, Purdue University for Fall 2013.
- WiFox work was Slashdotted and covered by CBS, Engadget, TechCrunch, Telegraph etc.
- Awarded **College of Engineering Fellowship** at NC State University for 2010-11.
- Won **Motorola Innovation Award**, Fall 2007.
- Ranked Top 99.57 percentile (787) among 170,000 IIT-JEE-2005 aspirants.
- Ranked Top 99.88 percentile (591) among 450,000 AIEEE-2005 aspirants.

Selected Publications

- ***Arpit Gupta***, *Laurent Vanbever, Muhammad Shahbaz, Sean P. Donovan, Brandon Schlinker, Nick Feamster, Jennifer Rexford, Scott Shenker, Russ Clark, Ethan Katz-Bassett*, "SDX: A Software Defined Internet Exchange", ACM SIGCOMM 2014, Chicago.
- ***Arpit Gupta***, *Matt Calder, Nick Feamster, Marshini Chetty, Enrico Calandro, Ethan Katz-Bassett*, "Peering at the Internets Frontier: A First Look at ISP Interconnectivity in Africa", PAM 2014, Los Angeles.
- *Hyojoon Kim,* ***Arpit Gupta***, *Muhammad Shahbaz, Joshua Reich, Nick Feamster, Russ Clark*, "Simpler Network Configuration with State-Based Network Policies", Tech Report, GT-CS-13-04.
- ***Arpit Gupta***, *Jeongki Min, Injong Rhee*, "WiFox: Scaling WiFi Performance for Large Audience Environments", ACM SIGCOMM CoNEXT, 2012, Nice.

Talks

- SDX: A Software Defined Internet Exchange

    - Stanford NetSeminar, Fall 2014

    - ACM SIGCOMM, Fall 2014

    - Facebook Inc., Menlo Park, Summer 2014

    - Microsoft, Palo Alto, Summer 2014

    - GENI 21, Davis, Summer 2014

    - NANOG 59, Phoenix, Fall 2013

Talks

- Peering at the Internet's Frontier

  - PAM, Los Angeles, Spring 2014

- WiFox: Scaling WiFi Performance for Large Audience

  - SyNRG, Duke University, Fall 2012
  - SysChat, UNC Chapel Hill, Fall 2012
  - ACM SIGCOMM CoNEXT, Nice, December 2012

Research Experience

Research Student: **Georgia Tech, USA**   June 2013- Present
- Adviser: Nick Feamster
- Developed Software Defined Internet exchange point (SDX).
- Analyzed ISP inter-connectivity in developing regions.
- Worked on Kinetic, simplifying network configuration and management.

Research Student: **North Carolina State University, USA**   September 2010-May 2013
- Adviser: Injong Rhee
- Developed WiFox, solving WiFi peformance degradation for large conference environments.
- WiFi scan interval optimization problem to minimize energy wasted due to unnecessary WiFi scans.

Summer Intern: **Google Inc. Mountain View, CA, USA**   May-August 2011
- Adviser: Nandita Dukkipati
- Explored the problem of TCP timeouts for short flows.

Project Assistant: **Indian Institute of Science, Bangalore, India**   March-August 2010
- Adviser: Dr. Anurag Kumar
- Developed a scheduling algorithm ensuring fairness to clients with disparate link qualities.

Teaching Experience

Teaching Assistant: **Georgia Tech, USA**   Summer 2014 & Fall 2014
- Instructor: Nick Feamster
- TA for online SDN Coursera course (50K+ students)
- TA for in-class SDN Lab course (30 students)

Teaching Assistant: **North Carolina State University, USA**   Fall 2012
- Instructor: Rudra Dutta
- TA for in-class computer networks course (100 students)

Skills

- Programming: C/C++, Java, Python
- Software Packages: MATLAB, R, Android SDK, Pyretic, POX, Kinetic