

Aaron Schulman

Email: schulman@cs.umd.edu
Phone: (410) 533-4221
Web: <http://www.cs.umd.edu/~schulman>

3122 A.V. Williams Bldg.
University of Maryland
College Park, MD 20742 USA

Research Interests

Networking, wireless networks, visualization of network measurements, and incentives.

Education

University of Maryland, College Park

- Ph.D, Department of Computer Science
Started Fall 2007, expected graduation Summer 2012.
Advisor: Neil Spring
- M.S. Computer Science, May 2010
- B.S. Computer Science, May 2007. Minor: Philosophy

Conference Publications

Pingin' in the Rain

Aaron Schulman and Neil Spring

IMC 2011 (Internet Measurement Conference) - Short paper 13% acceptance

Bartendr: A Practical Approach to Energy-aware Cellular Data Scheduling

Aaron Schulman, Neil Spring, Vishnu Navda, Ramachandran Ramjee,

Pralhad Deshpande, Calvin Grunewald, Venkata N. Padmanabhan, Kamal Jain

MobiCom 2010 (Conference on Mobile Computing and Networking) 14% acceptance

Maranello: Practical Partial Packet Recovery for 802.11

Bo Han, *Aaron Schulman*, Neil Spring, Bobby Bhattacharjee,

Francesco Gringoli, Lorenzo Nava, Lusheng Ji, Seungjoon Lee, Robert Miller

NSDI 2010 (Networked Systems Design and Implementation) 17% acceptance

On the Fidelity of 802.11 Packet Traces

Aaron Schulman, Dave Levin and Neil Spring

PAM 2008 (Passive and Active Measurement Conference) 32% acceptance

Workshop Publications

Making Currency Inexpensive with iOwe

Dave Levin, *Aaron Schulman*, Katrina Lacurts, Neil Spring and Bobby Bhattacharjee

NetEcon 2011 (Workshop on the Economics of Networks, Systems, and Computation) 35% acceptance

Visualizing Real-Time Network Resource Usage (NetGrok)

Ryan Blue, Cody Dunne, Adam Fuchs, Kyle King and *Aaron Schulman*

VizSEC 2008 (Workshop on Visualization for Cyber Security) 72% acceptance

Demos

Phone Power Monitoring with BattOr

Aaron Schulman, Thomas Schmid, Prabal Dutta, Neil Spring

MobiCom 2011 (Conference on Mobile Computing and Networking)

Stratus: Energy-Efficient Mobile Communication using Cloud Support

Bhavish Aggarwal, Pushkar Chitnis, Amit Dey, Kamal Jain, Vishnu Navda

Talks

- CAIDA AIMS-4: *Pingin' in the Rain*
- NANOG 54 Lightning Talk: *Pingin' in the Rain*
- IMC 2011: *Pingin' in the Rain*
- MobiCom 2010: *Bartendr: A Practical Approach to Energy-aware Cellular Data Scheduling*
- NSDI 2010: *Maranello: Practical Partial Packet Recovery for 802.11*
- PAM 2008: *On the Fidelity of 802.11 Packet Traces*

Research Experience

University of Maryland (advisor: Neil Spring), College Park, MD
Research Assistant **2007-Present**
Involved in various areas of systems research including: wireless networking, visualizing network measurements, and incentive compatible systems.

University of Michigan (mentor: Prabal Dutta), Ann Arbor, MI
Visiting Research Student **2010-2012**

Microsoft Research India (mentors: Navda, Ramjee and Padmanabhan), Bangalore, India
Research Intern **Summer 2009**
Researched and designed a system for energy-aware cellular data scheduling.

Microsoft Research (mentor: Galen Hunt), Redmond, WA
Research Intern **Summer 2008**
Researched and implemented a system that removes the need for synchronizing application data between PCs and mobile devices; without modifying existing PC and mobile applications.

Professional Experience

KEYW Corporation, Annapolis Junction, MD
Software Engineer **2008-Present**
Advising the development of quick reaction software applications.

Northrop Grumman Mission Systems: Essex Windermere, Annapolis, MD
Software Engineer **2007-2008**
Designed and implemented software and hardware for a wireless system.

Consortium Research Fellows Program: National Defense University, Fort McNair, DC
Research Fellow **2005-2007**
Assisted in the design, implementation and presentation of an Information Assurance Laboratory used in executive briefings, presentations to foreign dignitaries and masters level coursework.

Teaching Experience

University of Maryland: CMSC412 Operating Systems
Graduate Teaching Assistant **Fall 2008**
Taught twice weekly, one hour discussions sections. Administered a semester long course project. Graded homework, projects, and the final exam. The projects consisted of adding the following features to an open source educational kernel: process listing, signals, scheduling, synchronization, paging, virtual memory, and an inodes based file system.

University of Maryland: CMSC420 Data Structures
Undergraduate Teaching Assistant **Spring 2006**

Revised and improved the specification for a semester long project. Answered students' questions regarding the project.

Service

- Reviewed papers for: ACM MC2R 2009, IEEE ToN 2009, IEEE Communications Letters 2009, Software: Practice and Experience 2010, IMC 2011
- Program committee: MobiSys PhD Forum 2011, ACM S3 2011
- Organizer: Syschat weekly paper discussions 2009-2010
- Data sets: 802.11 traces collected at SIGCOMM 2008

Patent Applications

Scheduling Communications in a Mobile Device

Vishnu Navda, Ramachandran Ramjee, *Aaron Schulman*, Venkata N. Padmanabhan, Kamal Jain

Awards

- SIGCOMM 2010 travel grant
- MobiCom 2011 travel grant
- Top team project, 2003 Intel International Science and Engineering Fair

Press

- NetGrok featured in: McRee, Russ "Security Visualization Tools" *Linux Magazine*, Sep. 2009

References

Neil Spring

Dept. of Computer Science and UMIACS
University of Maryland
4133 A.V. Williams Bldg.
College Park, MD 20742
Email: nspring@cs.umd.edu
Phone: +1 (301) 405-2909

Bobby Bhattacharjee

Dept. of Computer Science and UMIACS
University of Maryland
4147 A.V. Williams Bldg.
College Park, MD 20742
Email: bobby@cs.umd.edu
Phone: +1 (301) 405-1658

Venkata N. Padmanabhan

Microsoft Research India
"Scientia"
196/36 2nd Main, Sadashivnagar
Bangalore 560 080, India
Email: padmanab@microsoft.com
Phone: +91 (80) 6658-6004

Prabal Dutta

Dept. of Computer Science
University of Michigan
4773 CSE Bldg.
Ann Arbor, MI 48109
Email: prabal@eecs.umich.edu
Phone: +1 (734) 647-8821