ABHIGYAN SHARMA

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RESEARCH INTERESTS

Networking and distributed systems. I have conducted research on network traffic engineering, content distribution networks, distributed data stores, datacenter energy management and peer-to-peer networks.

EDUCATION

University of Massachusetts Amherst, USA	Ph.D., Computer Science, Sep 2008-Present M.S., Computer Science, May 2011
Indian Institute of Technology Kharagpur, India	Bachelor of Technology, Computer Science and Engineering, May 2008

EXPERIENCE

University of Massachusetts Amherst	Research Assistant, Sep 2008-Present Advisor: Prof. Arun Venkataramani
Microsoft Research India, Bangalore	Intern, Jun-Sep 2011 Mentor: Dr. Ranjita Bhagwan
University of Massachusetts Amherst	Teaching Assistant, Sep-Dec 2008 Instructor: Prof. Brian Levine
Microsoft India Development Center, Hyderabad	Intern, May-Jun 2007

PAPERS

- **Abhigyan Sharma**, Vijay Pasikanti, Arun Venkataramani, Ramesh Sitaraman. Shrink: A Cluster Manager for Greening Content Datacenters. Under Submission
  - Selected for a "Lightning talk" at 1st New England Systems and Networking Day, October 2014.
- Aditya Yadav, **Abhigyan Sharma**, Arun Venkataramani, Emmanuel Cecchet, David Westbrook. msocket: System Support for Developing Seamlessly Mobile, Multipath, and Middlebox-Agnostic Applications. Under Submission
- **Abhigyan Sharma**, Xiaozheng Tie, Hardeep Uppal, Arun Venkataramani, David Westbrook, Aditya Yadav. A Global Name Service for a Highly Mobile Internetwork. ACM SIGCOMM 2014
- **Abhigyan Sharma**, Antonio A. A. Rocha, Arun Venkataramani. Pros and Cons of Model-Based Bandwidth Control for Client-assisted Content Delivery. COMSNETS 2014
- **Abhigyan Sharma**, Arun Venkataramani, Ramesh Sitaraman. Distributing Content Simplifies ISP Traffic Engineering. ACM SIGMETRICS 2013
- Arun Venkataramani, **Abhigyan Sharma**, Xiaozheng Tie, David Westbrook, Hardeep Uppal and Jim Kurose, Dipankar Raychaudhuri. Design Guidelines for a Global Name Service for a Mobility-Centric, Trustworthy Internetwork. COMSNETS 2013 (Invited paper)

- **Abhigyan Sharma**, Aditya Mishra, Vikas Kumar, Arun Venkataramani. Beyond MLU: An Application Centric Comparison of Traffic Engineering Schemes. IEEE INFOCOM 2011
    - A related poster presented at USENIX NSDI 2009
- **Abhigyan**, Joydeep Chandra, Niloy Ganguly. A Bandwidth-Aware Topology Generation Mechanism for Peer-to-Peer based Publish-Subscribe Systems. IEEE ICIIS 2008

TECHNICAL PRESENTATIONS

CONFERENCES
- "A Global Name Service for a Highly Mobile Internetwork" at ACM SIGCOMM 2014, Chicago, IL in Aug 2014
- "Pros and Cons of Model-Based Bandwidth Control for Client-assisted Content Delivery" at COMSNETS 2014, Bangalore, India in Jan 2014
- "Distributing Content Simplifies ISP Traffic Engineering" at ACM SIGMETRICS 2013, Philadelphia, PA in Jun 2013
- "Beyond MLU: An Application Centric Comparison of Traffic Engineering Schemes" at IEEE INFOCOM 2011, Shanghai, China in Apr 2011

OTHERS
- "Shrink: A Cluster Manager for Greening Content Datacenters" at New England Systems and Networking Day, Boston, MA in Oct 2014
- "Content Distribution Networks: A Tutorial" and "Distributing Content Simplifies ISP Traffic Engineering" at Indian Institute of Technology, Patna, India in Jan 2014
- "Internet Traffic Engineering: A Tutorial" and "Beyond MLU: An Application Centric Comparison of Traffic Engineering Schemes" at Indian Institute of Technology, Kharagpur, India in Aug 2010

EXTERNAL SERVICE
- Reviewer for IEEE/ACM Transactions on Networking
- Reviewer for IEEE Internet Computing Magazine
- Organizing Committee, FIA Student Workshop 2015

INSTITUTIONAL SERVICE
- Organizer of graduate student weekly tea for Computer Science, Umass Amherst during Fall 2008 and Spring 2009
- Member of organizing committee of cultural events for Indian Student Association, Umass Amherst (two events per year) from 2008-09 to 2011-12
- Captain of Nehru Hall, IIT Kharagpur, India for dramatics and literary events during 2007-08
- Library secretary of Nehru Hall. IIT Kharagpur, India during 2004-05

AWARDS & ACHIEVEMENTS
- Recipient of Student Travel Grant at USENIX NSDI 2011 and at USENIX NSDI 2009
- Order of Merit for Excellence in Social and Cultural Activities (Dramatics) at Indian Institute of Technology Kharagpur in 2008
- Achieved a perfect score of 1600/1600 on the GRE General Test in 2007
- All India Rank 223 in Indian Institute of Technology Joint Entrance Examination 2004
- All India Rank 182 in All India Engineering Entrance Examination 2004

- Awarded KVPY Fellowship in Science Stream by Govt. of India from 2002 to 2004. Only 50 students all over India received this fellowship
- Ranked 12 in Group Mathematics Olympiad 2004
- Ranked 11 in Regional Mathematics Olympiad 2003
- Certificate of Merit for being in the top 0.1% of the students in Mathematics appearing for the All India Secondary School Examination in 2002

GRADUATE LEVEL COURSES

Content-oriented Networking	Advanced Computer Architecture
Readings in Big Data Systems	Machine Learning
Advanced Computer Networking	Theory of Computation
Distributed Operating Systems	Advanced Algorithms
Cognitive Radios and Wireless Networks	Artificial Intelligence
Green Computing	Mathematical Statistics

PROGRAMMING SKILLS

Programming languages: Java, Python, C, C++ (in order of preference, most preferred first)

Research and educational software: Mininet, ns-2 (network simulator), CPLEX (mathematical programming solver)

REFERENCES

Prof. Arun Venkataramani
Associate Professor
Department Of Computer Science
University of Massachusetts Amherst

Prof. Ramesh Sitaraman
Associate Professor
Department Of Computer Science
University of Massachusetts Amherst