

TRISHA BISWAS

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Objective Interested in research opportunities in the area of wireless networking. My research interests are in computer networking, protocol design, mobile applications, security and virtualization, wireless networks.

Education **North Carolina State University, Raleigh NC, USA** May '13 (expected)
PhD in Computer Science - Computer Networking
Advised by Dr. Rudra Dutta
GPA: 3.6 / 4.0

- *Courses:* Networking, Security, Survivable Networks, Wireless Networks, Graph Theory, Algorithms, Software Engineering
- *Projects:* Wireless emulator with virtual machines, Wireless Communication Using Android Phones, Securing Virtualized Networks, Security Issues in Web Applications, Modeling with Network Calculus, Compromised Nodes in Sensor Networks, Managing User Obligations and Trust

North Carolina State University, Raleigh NC, USA Aug '08 - May '11
Master of Science in Computer Science
GPA: 3.6 / 4.0

West Bengal University of Technology, India Aug '04 - May '08
Bachelor of Technology in Computer Science
Cumulative GPA: 8.7 / 10.0
Major GPA: 9.2 / 10.0

Research **Research Assistant, North Carolina State University** Aug '10 - Present
Designed multipath routing protocol called Petal Routing, for ad hoc networks. The protocol increases end-to-end reliability while reducing wireless transmissions. Tests carried out with OPNET simulations. Currently developing an analytical model for Petal Routing to help predict reliability of transmissions.

Teaching **Instructor, North Carolina State University** May '11 - Aug '11
Instructor for CSC116 - "Introduction to Computing - Java". Designed course material, schedule, assignments, projects and delivered lectures for the 10-week summer session. The course was evaluated by Dr. Sarah Heckman.

Teaching Assistant, North Carolina State University Aug '08 - May '10
Held weekly office hours, graded assignments and projects, occasionally designed projects and taught lectures.

Courses TA-ed:

- Programming Concepts - Java (Spring 2010)
- Computer Networks (Fall 2009)
- Computer and Network Security (Spring 2009)
- Operating Systems and Principles (Fall 2008)

- Experience**
- Intern, Extreme Networks, Raleigh NC** May '10 - Aug '10
- Developed command line interface (CLI) for custom banner of a router
 - Enhanced CLI commands related to Multiprotocol Label Switching
 - Languages used: C, Tcl/Tk
- Intern, Computer Sciences Corporation, India** June '07 - Aug '07
- Developed a Bandwidth Estimator (NETbee) to approximate available bandwidth of a network
 - Analyzed existing tools to estimate network bandwidth
 - Language used: Java
- Intern, Tata Consultancy Services, India** June '06 - July '06
- Worked on designing a network framework for wireless broadband (WiMAX)
 - Implemented scheduling algorithms to maintain QoS for the Medium Access Control layer
 - Language used: C

- Activities & Services**
- Member of STARS (Students & Technology in Academia, Research and Service). Involved in projects aimed at broadening participation in computing (2010 - Present)
Received Best Poster award for Tutoring project in STARS Celebration 2011
 - Invited to attend the Trusted Infrastructure Workshop 2010 at Carnegie Mellon University. Obtained NSF travel grant to attend the workshop (June 2010)
 - Reviewed paper for International Conference on Contemporary Computing, India (IC3 2009)
 - Served as an Officer At-large with the Computer Science Graduate Student Association (CSC GSA) and as a departmental representative to the University Graduate Student Association (2009 - 2010)
 - Invited to attend the CRA-W Grad Cohort 2009 Workshop for women in Computer Science (March 2009)
 - Microsoft Imagine Cup 2006: Ranked 2nd in India for Project Hoshimi: Programming Battle. The event entailed programming of intelligent agents using planning and game theory in C#

Computer Skills

Languages: Java, C, C++, C#, Visual Basic, Proto-C, nesC, Tcl/Tk
 Web Technologies: HTML, JavaScript, JSP, ASP, XML, IBM WebSphere
 Simulation Tools: OPNET, Omnet++, ns-2, C-PLEX, TinyOS, R

- Publications**
1. T. Biswas, R. Dutta, "Spatially Diffused Pathsets for Robust Routing in Wireless Ad Hoc Networks", to appear in *Proceedings of the IEEE Global Communications Conference*, December 2011
 2. U. Patel, T. Biswas, R. Dutta, "A Routing Approach to Jamming Mitigation in Wireless Multihop Networks", to appear in *Proceedings of the IEEE International Workshop on Local and Metropolitan Area Networks*, October 2011