

PRAMITA MITRA

Current Address: 4546 Hickory Road • Apt 2D • Mishawaka, IN • 46545 • (574) 339-7277
pmitra@nd.edu

OBJECTIVE Obtain an internship utilizing my problem-solving, programming, organizational, and interpersonal skills

EDUCATION **UNIVERSITY OF NOTRE DAME** Notre Dame, IN
Ph.D. in Computer Science and Engineering May 2012 (Expected)
Research Area: Routing in Ad-Hoc Networks GPA 3.96/4.00

JADAVPUR UNIVERSITY Kolkata, India
Bachelor of Engineering May 2006
Major: Computer Science and Engineering GPA 8.68/10.00

GRADUATE COURSEWORK Mobile Computing and Wireless Comm. Complexity and Algorithms
Networked Sensor Systems Advanced Comp. Architecture
Real Time Systems Graduate Operating Systems
Graduate Networks Integrated Engg. & Business

TECHNICAL SKILLS

- Languages: C, Java, C++, 8085/8086 Assembly Language, Perl, HTML, XML
- Standard Platform: Linux, Windows
- Mobile/Embedded Device Platform: ARM-Linux (Crossbow Stargate), FreeRunner Linux (OpenMoko Neo Linux Phone), J2ME
- Simulation Software: NS-2, JiST-SWANS, Glomosim

RESEARCH AND COURSE PROJECTS **Publish/Subscribe for Mobile Environments** **Fall 2008**
Supporting mobility in pub/sub systems requires allowing for roaming clients so that existing applications can seamlessly be used in mobile environments. Courier, a group communication tool based on the pub/sub principle, exploits the location and velocity of roaming nodes to provide multicasting communications between publishers and subscribers in mobile environments.

Routing in Asymmetric Ad-Hoc Networks **Spring 2008**
Existing Geographic Forwarding (GF) algorithms fail to consider asymmetric links in neighbor discovery and thus discount a substantial number of potentially stable routes with good one-way reliability. Asymmetric Geographic Forwarding (A-GF) protocol discovers asymmetric links in the network and exploits them for finding shorter routes and increase in successful routing.

Secure Neighbor Discovery in Geographic Forwarding **Fall 2007**
Fake position data in Geographic Forwarding (GF) protocols degrades the performance of the system and violates data security. Secure Neighbor Discovery and Maintenance (SNDM) is a trust-based protocol for geographic location based networks that uses a number of design and performance parameters to give an estimation of the trustworthiness of the neighbor nodes' position claims, and avoids using suspicious nodes as relays.

Multi-Constraint Energy Aware Routing **Spring 2007**
Multi-Constraint Energy Aware Routing protocol builds on top of the Stability Aware Dynamic Source Routing (SA-DSR) protocol, which combines the stability metric with multiple energy metrics such as (1) Least-transmit-power and (2) Most-residual-energy.

Stability Aware Dynamic Source Routing

Fall 2006

Dynamic Power Management (DPM) techniques used in wireless nodes often put them into a sleep state when the nodes are not transmitting or receiving data, and this can result into loss of network connectivity and low packet delivery ratio. Stability Aware Dynamic Source Routing (SA-DSR) exploits the transient availability of the intermittently sleeping nodes by introducing DPM-awareness in the routing decisions, and enhances the amount of successful data transmission.

PUBLICATIONS

Pramita Mitra and Christian Poellabauer, "Routing in Asymmetric Wireless Ad-Hoc Networks", Encyclopedia of Next Generation Mobile Networks and Ubiquitous Computing (Book Chapter), Samuel Pierre Ed., IGI Global, 2009.

Pramita Mitra and Christian Poellabauer, "On Improving Performance and Reliability of Location Aware Routing in Asymmetric Networks", Refereed Poster at the Richard Tapia Celebration of Diversity in Computing Conference (Best Graduate Poster), Portland, Oregon, April 2009.

Pramita Mitra, Christian Poellabauer, and Shivajit Mohapatra, "Stability Aware Routing: Exploiting Transient Route Availability in MANETs", Proceedings of the High Performance Computation Conference, Houston, TX, September 2007.

Pramita Mitra, Christian Poellabauer and Shivajit Mohapatra, "On Improving Dynamic Source Routing for Intermittently Available Nodes in MANETs", Proceedings of the 4th Annual International Conference on Mobile and Ubiquitous Systems (short paper), Philadelphia, PA, August 2007.

Pramita Mitra, Amitabha Samajpati, Tanmoy Sarkar, Pradip K. Das, "An SMS Based Rural Application for Agricultural Consultancy and Commodity Booking Service", Proceedings of the International Conference on Emerging Applications organized by Computer Society of India, Kolkata, India, February 2006.

Amitabha Samajpati, *Pramita Mitra*, Tanmoy Sarkar, Pradip K. Das, "Next Generation Mobile Services using Location specific applications", Proceedings of the 4th Asian International Mobile Computing Conference, Kolkata, India, January 2006.

WORK EXPERIENCE

Teaching Assistant, University of Notre Dame, IN, USA

Fall 2007

Assisted in grading and administration in Real Time Systems, and guided students with technical assistance during their course projects.

Summer Intern, Indian Statistical Institute, WB, India

Summer 2005

Implemented a new performance metric, and compared the performance of Dynamic Source Routing and Ad-Hoc On Demand Distance Vector Routing.

AWARDS AND HONORS

- USENIX NSDI Travel Scholarship, 2009.
- Best Graduate Student Poster Award, Richard Tapia 2009.
- Richard Tapia Celebration of Diversity in Computing Scholarship, 2009.
- Graduate Research Assistantship, University of Notre Dame, 2006-Present.
- 1st rank in the state of West Bengal, India in the in 12th grade, 2002.
- 4th rank (1st among girls) in the state of West Bengal, India in 10th grade, 2000.

ACTIVITIES AND LEADERSHIP

- Graduate Co-President, Indian Association of Notre Dame
- Member, International Women's Club, University of Notre Dame