

# Tanzima Zerin Islam

Electrical & Computer Engineering  
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**OBJECTIVE**     *A full-time position in a leading Computer Science / Computer Engineering organization where strong problem solving ability and expertise in extensive software development are required.*

**EDUCATION**   ◇ Purdue University, West Lafayette, IN.  
                  **Ph.D.** in Electrical & Computer Engineering (Fall 2007 – present)  
                  Major area: **Computer Engineering**  
                  Current GPA: 3.85 (Out of 4.00)  
                  Expected Graduation: **May 2012**  
                  Advisors: Saurabh Bagchi, Rudolf Eigenmann  
                  ◇ Bangladesh University of Engineering and Technology, Bangladesh.  
                  B.Sc. in Computer Science and Engineering (November 2006).

**RESEARCH INTEREST**   Grid Computing and Cycle Sharing Systems, High Throughput and High Performance Computing, Distributed Systems.

## **PUBLICATIONS** § Papers

- **FALCON**: A System for Reliable Checkpoint Recovery in Shared Grid Environments, **Tanzima Zerin Islam**, Saurabh Bagchi and Rudolf Eigenmann. *International Conference for High Performance Computing, Networking, Storage and Analysis (SC) 2009*. **One of the four finalists for the Best Student Paper Award.**
- gpNoCsim - A General Purpose Simulator for Network-On-Chip, Hemayet Hossain, Mostak Ahmed, Abdullah Al-Nayeem, **Tanzima Zerin Islam**, Md. Mostofa Akbar. *International Conference on Information and Communication Technology (ICICT) 2006*, Dhaka.
- ◇ Short Paper & Technical Report
  - **EUNOMIA**: A Fast and Collaborative Interference Avoidance Technique for Wireless Medical Devices, Mohammad Sajjad Hossain, Tanzima Zerin Islam, Jinliang Wei, Saurabh Bagchi, and Vijay Raghunathan. *ECE Technical Reports, Purdue University 2011*.
  - Fast and Collaborative Interference Avoidance for Wireless Medical Devices, Mohammad Sajjad Hossain, Tanzima Zerin Islam, Saurabh Bagchi, Vijay Raghunathan. *IEEE/IFIP International Conference on Dependable Systems and Networks (DSN) 2009*.
- ◇ Research Posters
  - Harnessing Multiple Cores for Efficient Checkpointing in Grid Systems, Tanzima Zerin Islam, Saurabh Bagchi and Rudolf Eigenmann. **2nd place winner in ACM Student Research Competition (SRC)** at the 2010 Anita Borg Institute Grace Hopper Celebration of Women in Computing.
  - Data-Aware Inter-Process Checkpoint Compression, Tanzima Zerin Islam, Kathryn Mohror, Adam Moody, Bronis de Supinski, Saurabh Bagchi, Rudolf Eigenmann. *SC'10*.

**AWARDS**       ◇ **2<sup>nd</sup> Position Winner in ACM Student Research Competition (SRC)** at the Grace Hopper Celebration of Women in Computing 2010.  
                  ◇ **Winner of Broader Engagement Grant** for traveling to and participation in *SC'09*, *'10*, and *'11*.  
                  ◇ **Best Female Team Award** in National Computer Programming Contest of Bangladesh, 2004.

- ◇ 5<sup>th</sup> position in National Computer Programming Contest of Bangladesh, 2004.
  - ◇ 6<sup>th</sup> position in ACM International Collegiate Programming Contest (ICPC) 2003, Asia Region, Dhaka Site.
  - ◇ Dean's List Scholarship for Academic Excellence, BUET (2001-2005).
  - ◇ University Merit Scholarship for Academic Excellence, BUET (2001-2005).
  - ◇ National Higher Secondary General Scholarship, Bangladesh Education Board (2001-2005).
- RESEARCH EXPERIENCES
- ◇ Summer Research Internship  
Lawrence Livermore National Laboratory (LLNL) [May 2010 - August 2010, May 2011 - August 2011]  
Mentor: Bronis de Supinski  
Worked on improving the compression ratio of large-scale checkpoints for better scalability and lower network transfer overhead. This work will potentially enable fault-tolerant systems to be applicable to the supercomputers in coming exa-scale era.
  - ◇ Thesis Research  
Purdue University [August 2007-present]  
My research focuses on developing techniques for improving the reliability of Grid Systems. Developed a large scale system software that uses failure-aware checkpointing techniques to enhance overall performance of grid applications which run in highly unreliable execution environment with non-dedicated checkpoint repositories. Also deployed our system in one of the largest multi-university Condor pools - BoilerGrid.
- SOFTWARE DEVELOPMENT EXPERIENCES
- ◇ Graduate Research Assistant, Center for Earthquake Engineering, Purdue University (Jan 2010 - Present). Working on developing a tool that facilitates the researchers in uploading large volume of data to a central repository. Once developed, this tool will be capable of utilizing the idle cycles of a machine to complete the uploading process. Also, have developed numerous Joomla! components for the hub environment.
  - ◇ Graduate Research Assistant, Rosen Center for Advanced Computing, Purdue University (May 2009 - Dec 2009). Worked on developing web portal for drought research engineers in the hub environment. Worked with PHP, MySQL and web 2.0 tool.
  - ◇ Member, Research & Development, Commlink Info Tech Ltd., Bangladesh (November 2006 - July 2007). Designed and implemented a software that provides IN services to land phones. This software has actually been deployed by a leading Telephone Operator in Bangladesh to serve millions of customers.
  - ◇ Selected Course Projects, Bangladesh University of Engineering & Technology, Bangladesh (August 2001 - Nov 2006). A complete list of course projects can be found at <http://web.ics.purdue.edu/~tislam/projects.html>.
    - (Diagnostic Center Management System) Developed for the database course. It also had an integrated hospital management system. Developed using C#, ORACLE 9.0, JSP, JS.
    - (E-Commerce) After analyzing an existing Online Auction System, designed and developed an improved system applying design patterns and STRUTS framework.
    - (Online Office Management System) For *Business Automation Ltd.* using PHP, JavaScript and MySQL.
- SKILLS
- ◇ Languages: C, Java, C++, PL/SQL, Shell Programming
  - ◇ Web Programming: HTML, PHP, JSP, Java Script
  - ◇ Database Systems: MySQL, Oracle
  - ◇ Networking: TCP/IP Socket Programming
- COURSES TAKEN
- ◇ Algorithm, Compiler, Data Structure, Networking, Random Variables and Signals, Software Engineering, Operating System, Database etc. A complete list of courses taken can be found at <http://web.ics.purdue.edu/~tislam/courses.html>.
- REFERENCES Available on request