

Department of Computer Science  
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M. S. Raunak

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## Education

PhD Candidate (Expected Graduation: Summer 2009) Department of Computer Science University of Massachusetts Amherst <b>Thesis Title:</b> Resource Management in Complex and Dynamic Environments Advisor: Prof. Leon J. Osterweil Cumulative GPA: 3.844	2003 – Now Amherst, MA
MS in Computer Science University of Massachusetts Amherst Advisor: Prof. Prashant Shenoy Laboratory for Advanced System Software	May 2000 Amherst, MA
BS in Computer Science North South University <b>Cumulative GPA: 3.99</b> <b>Valedictorian</b> , class of 1996	Dec 1996 Dhaka, BD
High School Graduation Cambridge Rindge and Latin School, Cambridge, MA <b>Average Score: 91.35%</b> Awarded National Honor Society membership	June 1992 Cambridge, MA

## Teaching Experience

<b>Lab Instructor</b> Computer Science Department Mount Holyoke College, South Hadley, MA	Sep 2008 - now
Has been responsible for CMPSC-101 (Problem Solving and Object Oriented Programming) and CMPSC-100 (Introduction to Computer Science). Responsibilities include conducting lab classes, holding office hours, grading and sometimes lecture in the classroom as a substitute.	
<b>Teaching Assistant</b> University of Massachusetts Amherst	Spring 2008
Courses: CmpSci 620 (Graduate Software Engineering Course).	
<b>Lecturer</b> North South University, Dhaka, Bangladesh	Jan 2002 - Dec 2002

Took initiative in designing and teaching a new course named “*Internet and Web Technology*” for higher level undergraduate students which the department later added to the curriculum as a core course. Restructured the first year programming (CS135) course around Java. Worked on different departmental committees and took a lead role on revamping the lab facilities.

**Adjunct Faculty Member**

North South University, Dhaka, Bangladesh

Sep 2000 -  
Dec 2001

Taught at the top private university of the country as a part time lecturer. Courses offered included CSC338: Computer Networks and CSC482: Internet and Web Technology

**Teaching Assistant**

University of Massachusetts Amherst

Fall 1998,  
Spring 1999

CmpSci 445 (Database Systems) and CmpSci 105 (Introduction to Computers).

**Refereed Publications**

**Simulating Patient Flow through an Emergency Department Using Process-Driven Discrete Event Simulation**

*M. S. Raunak, L. J. Osterweil, A. Wise, L. Clarke, and P. Henneman*

Accepted to be published at Software Engineering in Healthcare workshop at the 31<sup>st</sup> International Conference on Software Engineering 2009 (ICSE ‘09)  
Also Technical Report (UM-CS-2009-003), University of Massachusetts Amherst, MA 01003, January 2009

May 2009  
Vancouver,  
Canada

**Definition and Analysis of Election Processes**

*M. S. Raunak, Bin Chen, A.Elssamadisy, L. A. Clarke and Leon J. Osterweil*

Proceedings of the Software Process Workshop (SPW) and International Workshop on Process Simulation and Modeling (ProSim) 2006

May 2006  
Shanghai  
China

**Process Definition Language Support for Rapid Simulation Prototyping**

*M. S. Raunak and Leon J. Osterweil*

Proceedings of the Software Process Workshop 2005

May 2005  
Beijing  
China

**Effective Resource Allocation for Process Simulation: A Position Paper**

*M. S. Raunak and Leon J. Osterweil*

Proceedings of the 6th International Workshop on Software Process Simulation and Modeling (ProSim)

May 2005  
St. Louis,  
MO, USA

**Artificial Intelligence Approach of Optimal Route Selection in Telematics**

*Muneer-Ul-Haque, M. S.Raunak, M A Rahim, Tashfin Delwar, and A L Haque*

Proceedings of the 3<sup>rd</sup> International Conference on Electrical and Computer Engineering, ICECE 2004, ISBN 984-32-1804-4

Dec 2004  
Dhaka,  
Bangladesh

**Pre-Attack and Post-Attack solutions for Distributed Denial of Service Attacks**

*Hosam M. Seraj, Shakil Ahmed and M. S. Raunak*

Proceedings of the 5<sup>th</sup> International Conference on Computing and Information Technology (ICCIT 2002)

Dec 2002  
Dhaka, BD

**Implications of Proxy Caching for Provisioning Servers and Networks (extended version)**

*M. S. Raunak, P. Shenoy, P. Goyal, K. Ramamritham and Puru Kulkarni*

June 2002

IEEE Journal on Selected Areas in Communications (JSAC), Special Issue on Internet Proxy Services

**Maintaining Mutual Consistency for Cached Web Objects** April 2001  
*Bhuvan Uргаonkar, Anoop Ninan, M. S. Raunak, P. Shenoy and K. Ramamritham* Phoenix, AZ  
Proceedings of the 21st International Conference on Distributed Computing Systems (ICDCS-21)

**Implications of Proxy Caching for Provisioning Servers and Networks** June 2000  
*M. S. Raunak, Prashant Shenoy, Pawan Goyal and Krithi Ramamritham* Santa Clara, CA  
Proceedings of ACM SIGMETRICS'2000 Conference (p 66-77)  
*\*This paper received nomination for best paper award*

## Other Experience

**Research Assistant** Jan 2003 -  
Laboratory for Advanced Software Engineering Research Now  
Umass

Worked on developing research concepts, building simulation and system infrastructure, designing and running experiments, collecting, organizing and interpreting test results, and writing papers.

**Founder President and Chief Technology Officer** Jan 2000 -  
Bangla2000.com Jan 2002

Set up a promising web services company in Bangladesh. Took lead in designing and developing an information portal, [www.bangla2000.com](http://www.bangla2000.com), the flagship product of the company. Bangla2000 was the first and the largest portal site for Bangladeshi people where one could find updated news and various exclusive and useful web based communication, information and entertainment services.

Wrote business plans, presented business cases to potential investors in local and international market, and consequently generated angel investment from multiple sources.

Managed a development team of 12 developers (programmers, web designers, testers). Set up and managed a heterogeneous office computer network and development environment.

**Consultant** Jan 2001 -  
Provided consulting services to some government and non-government Dec 2002  
organization regarding their infrastructure and MIS development. Dhaka, BD

PETRRA Project: Poverty Elimination Trough Rice Research Assistant is a DFID funded project under the Supervision of IRRI (International Rice Research Institute). Worked as an expert for identifying their MIS requirements, choosing vendor and ensuring quality of the delivered product. 2002

Bangladesh Chemical Industries Corporation (BCIC): Worked as a consultant for designing and establishing a high speed Local Area Network connecting all their departments and the existing mainframe computer 2001

**Research Assistant** Jun 1999 -  
Laboratory for Advanced Software System (LASS) Jun 2000  
Umass

Worked with Prof. P. Shenoy and K. Ramamritham. Took lead in a research

project for studying the potential benefits of web proxy caches in improving the effective capacity of servers and networks. Wrote simulation framework using CSIM and used real world proxy and network data to perform the study. Also worked on a project to study novel ways of maintaining mutual consistency amongst different web components by the proxy servers.

**Programmer**

Hongkong and Shanghai Banking Corporation, Dhaka, Bangladesh

Jan 1998 -

Aug 1998

Developed a database application (Certificate Tracking System) for the custodial service of the bank. Provided support for running a Novell Network with 50 nodes. Also provided support services to end users.

## Reference

**Dr. Leon J. Osterweil**

Professor

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