

# HOSSEIN AHMADI

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## RESEARCH INTERESTS

- **Wireless Sensor and Ad-Hoc Networks**  
Communication Abstractions and Protocols  
Resource Management
- **Peer to Peer and Distributed Systems**
- **Parallel Computing and Distributed Algorithms**

## EDUCATION

- **Ph.D. in Computer Science, University of Illinois at Urbana Champaign, (Fall 2007 – Present)**  
Current GPA: 4.0/4.0  
Advisor: Prof. Tarek Abdelzaher
- **M.Sc. in Computer Science, Simon Fraser University, Canada (Spring 2006 – Summer 2007)**  
GPA: 3.88/4.0  
Thesis: Probabilistic Coverage and Connectivity in Wireless Sensor Networks.  
Advisor: Prof. Mohamed Hefeeda
- **B.Sc. in Computer Engineering, Sharif University of Technology, Iran, (Fall 2001 - Spring 2005)**  
GPA: 17.56/20  
Thesis: Parallel Numerical Interpolation in SIMD Architectures.  
Advisor: Prof. Hamid Sarbazi-Azad

## AWARDS AND HONORS

- **Sohaib and Sara Abbasi Fellowship**  
University of Illinois at Urbana-Champaign, 2007-2008 Academic year
- **Graduate Fellowship**  
Simon Fraser University, Fall 2006
- **M.Sc. Program Entrance Scholarship**  
Simon Fraser University, Spring 2006
- **Ranked 3 among Computer Engineering students**  
Sharif University of Technology, Spring 2005.
- **Ranked 4 in American Open'03 Robocup Soccer Simulation Competitions.**  
Carnegie Mellon University, Pittsburgh, April 30- May 4, 2003.
- **Ranked 34 among 400,000 participants in the Iran National University Entrance Exam**  
Iran, 2001.

## RESEARCH EXPERIENCE

- **Research Assistantship, Simon Fraser University, Fall 2007 - Present**  
Resource management, communication abstraction, and programming paradigms in sensor networks.  
Advisor: Prof. Tarek Abdelzaher.
- **Research Assistantship, Simon Fraser University, Spring 2006 - Summer 2007**  
Analysis on and realistic coverage and connectivity models.  
Developed probabilistic coverage and connectivity protocols in wireless sensor networks.  
Advisor: Prof. Mohamed Hefeeda.
- **Undergraduate Research, Sharif University of Technology, 2004 – 2005.**  
Used SIMD processing model in high performance numerical computations like interpolations, polynomial root findings, and solving sets of equations.  
Advisor: Prof. Hamid Sarbazi-Azad.
- **Undergraduate Research, Sharif University of Technology, 2001 - 2004.**  
Introduced new dynamic models for nano-actuator and nano-sensors to be used in simulations.  
Advisor: Prof. Hossein Golnabi.
- **Undergraduate Research, Sharif University of Technology, 2003.**  
Studied several machine learning techniques for intelligent agents used in Robocup Soccer Simulation Competitions.  
Advisor: Prof. Jafar Habibi.

## SELECTED PUBLICATIONS

- **Complete list of publications can be found at**  
<http://www.cs.uiuc.edu/homes/hahmadi2/publications.html>
- **Refereed Conference Papers**
  1. M. Hefeeda and **H. Ahmadi**, A Probabilistic Coverage Protocol for Wireless Sensor Networks, In Proc. of IEEE International Conference on Network Protocols (ICNP'07), Oct. 16-19, Beijing, China, 2007.
  2. M. Hefeeda and **H. Ahmadi**, Network Connectivity under Probabilistic Communication Models in Sensor Networks, In Proc. of The Fourth IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS'07), Oct. 8 - 11, Pisa, Italy, 2007.
  3. **H. Ahmadi**, M.Moslemi Naeini, H. Sarbazi-Azad, Efficient SIMD Numerical Interpolation, Proceedings of International Conference on High Performance Computing and Communications (HPCC 2005) (LNCS), Sept. 21 – 23, Sorrento, Italy, 2005.
  4. M. Moslemi Naeini, **H. Ahmadi**, H. Sarbazi-Azad, Efficient Polynomial Root Finding Using SIMD Extensions, Proceedings of The 11th International Conference on Parallel and Distributed Systems ICPADS-05, Vol. 2, pp. 529-533, July 20-22, Fukuoka, Japan, 2005.
  5. H. Golnabi, and **H. Ahmadi**, Proposing a long range sliding nanoactuator with a fine step resolution, Proceedings of the 14th International Conference on Flexible Automation and Intelligent Manufacturing, FAIM'04, pp. 1042 -1048, 2004.

6. H. Golnabi, **H. Ahmadi**, S. Bahrami, and M. Oskoie, Dynamic modeling of a long range nanoactuator, Proceedings of the 13th International Conference on Flexible Automation and Intelligent Manufacturing, FAIM'03, pp. 852-862, 2003.
7. H. Golnabi, P. Kamyar, and **H. Ahmadi**, Characterizing microchannel plates for X-ray detection and imaging, Proceedings of the International Conference on X-ray and Related Techniques in Research and Industry, ICXRI'2002, Oct. 30-31, Kuala Lumpur, Malaysia, 18(2), 2002.

- **Technical Reports and Manuscripts Under Review**

1. M. Hefeeda and **H. Ahmadi**, Energy-Efficient Protocol for Deterministic and Probabilistic Coverage in Sensor Networks, Submitted for publication, July 2007.
2. M. Moslemi Naeini, **H. Ahmadi**, H. Sarbazi-Azad, "High Speed Numerical Computing on Personal Computers Using SIMD Extensions", Submitted for publication, 2007.

## TEACHING EXPERIENCE

- **Teaching Assistantship, Simon Fraser University**  
Computer Networks, Spring 2006, Summer 2007
- **Teaching Assistantship, Sharif University of Technology**  
Data Structure and Algorithms, Fall 2004

## WORK EXPERIENCE

- **Software Engineer, GeoPars Project, [Tamim Consortium of Technology](#), 2003-2004**  
Developed a petroleum reservoir study software suite including reservoir modeling, simulation and analysis tools.
- **Database Designer, Quest project, [ObjectJ Co.](#), 2004.**  
Designed database for a web based learning assessment tool.
- **Software Engineer, Electronic Municipality of Tehran, [Tamim Consortium of Technology](#), 2004.**  
Developed standards for a unified information system to integrate information systems used in the municipality of Tehran.
- **Software Engineer, [Hasin Technology Co.](#), 2005.**  
Developed an integrated network firewall, encrypted file system, and authentication package.

## TECHNICAL SKILLS

- **Proficient in programming with C, C++, Java**
- **Proficient in Object Oriented Software Design (C++, Java)**
- **Familiar with OS and Network Security**
- **Familiar with J2EE and .NET Software Development, C# and Database programming**
- **Familiar with Designing Microprocessor Systems**