

CURRICULUM VITAE

Saman Taghavi Zargar

PhD Student / Research Assistant
LERSAIS, School of Information Sciences, University of Pittsburgh

Contact Information

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Research Interests

- Network security including Intrusion Prevention, Detection, and Response (IDS & IPS)
- Security, privacy, and trust issues in Cloud Computing environment
- Security, privacy, and trust issues in Dynamic Spectrum Access (DSA)
- Distributed, mobile, and pervasive/ubiquitous computing
- Traffic management & measurement, and traffic engineering
- Real-time and embedded systems
- Active queue management, congestion control, and queuing theory
- Artificial intelligence (Neural networks, genetic algorithms, genetic programming, and fuzzy systems)

Education

University of Pittsburgh, Pittsburgh, PA, United States
Ph.D. Student, Information Science, August 2008 - Present
Advisor: Dr. James B. D. Joshi

Ferdowsi University of Mashhad, Mashhad, Iran
M.Sc., Computer Engineering (Software), June 2007
Thesis Title: "A Method for Generating Synthetically Traffic Matrices, Applicable for Traffic Engineering Tasks"
Advisor: Dr. Mohammad Hossein Yaghmaee

Azad University of Mashhad, Mashhad, Iran
B.Sc., Computer Engineering (Software), September 2004
Thesis Title: "Universal University Content Management Systems"
Advisor: Dr. Saeed Rahati Ghuchani

Honors and Awards

- GSA/GSR Scholarship, University of Pittsburgh, Fall 2011-Spring 2012.
- **Fritz Froehlich Award** for outstanding contributions to the graduate program in Telecommunications, School of Information Sciences, University of Pittsburgh, April 2011.
- Teaching Fellow, University of Pittsburgh, Spring 2011.
- Travel Grant, the 6th International Conference on Collaborative Computing: Networking, Applications and Worksharing (CollaborateCom 2010), Chicago, IL, USA, October 9-12, 2010.
- GSA/GSR Scholarship, University of Pittsburgh, Fall 2009- Fall 2010.
- Recipient of the **IEEE MGA Achievement Award** as supporting tech team member of 2009 IEEEExtreme Team "For outstanding accomplishment and contributions toward the implementation of the 2009 IEEEExtreme Programming Contest", December 2009.
- GSA/GSR Scholarship, University of Pittsburgh, Fall 2008- Fall 2009.
- Recipient of student scholarships to study abroad from Ministry of Science and Information Systems, 2008, Iran.

- **Summa cum Laude** *M.Sc.* Student, Computer Engineering Department, Ferdowsi University, Mashhad, 2007.
- Ranked 228th among more than 8,000 *B.Sc.* participants in Nationwide Graduate University Entrance Exam for Master of Software Engineering, Iran, September 2004.
- Awarded outstanding *B.Sc.* Student getting admitted to graduate studies program, Computer Engineering Department, Azad University, Mashhad, 2004.

Publication

- **Saman Taghavi Zargar**, Hassan Takabi, and James B. D. Joshi. DCDIDP: A Distributed, Collaborative, and Data-driven Intrusion Detection and Prevention Framework for Cloud Computing Environments. In *the 7th Intl Conference on Collaborative Computing: Networking, Applications and Worksharing (CollaborateCom 2011)*, October 15-18, 2011, Orlando, FL.
- **Saman Taghavi Zargar**, Hassan Takabi, and James B. D. Joshi. DCDIDP: A Distributed, Collaborative, and Data-driven IDP Framework for Cloud. In *the 14th International Symposium on Recent Advances in Intrusion Detection (RAID'11)(Poster)*, September 20-21, 2011, Menlo Park, CA.
- **Saman Taghavi Zargar**, and James B. D. Joshi. A Collaborative Approach to Facilitate Intrusion Detection and Response against DDoS Attacks. In *the 6th Intl Conference on Collaborative Computing: Networking, Applications and Worksharing (CollaborateCom 2010)*, October 9-12, 2010, Chicago, IL.
- **Saman Taghavi Zargar**, Martin B.H. Weiss, and James B. D. Joshi. Security Issues in Dynamic Spectrum Access. In *the 37th Research Conference on Communication, Information and Internet Policy (TPRC 09)*, September 25-27, 2009, Arlington, VA.
- **Saman Taghavi Zargar**, M. Amir Moulavi, Rajkumar Buyya, Mahmoud Naghibzadeh, and James B. D. Joshi. RRNA: Reliable Soft Real-Time Network Aware Grid Scheduling Algorithm Using Round Trip Time. In *Proc. 12th Communications and Networking Simulation Symposium (CNS'09)*, March 22-27, 2009, San Diego, CA.
- Mohammad Tabaroki, Amin Keshavarz, and **Saman Taghavi Zargar**. Experience to create the cluster for distributed execution of MATLAB programs for graduate students of the School of Engineering, Persian Gulf University Bushehr. In *Proc. 8th International Congress on Civil Engineering (ICCE'09)*, May 11-13, 2009, Shiraz, Iran. (In Farsi)
- **Saman Taghavi Zargar**, and Mohammad Hossein Yaghmaee. Optimizing Network Routing to Minimize Congestion, Using the Conqueror Traffic Based Synthetically Generated Traffic Matrices. In *Proc. 5th annual IEEE Consumer Communications & Networking Conference (CCNC 2008)*, January 10-12, 2008, Las Vegas, NV.
- **Saman Taghavi Zargar**, and Mohammad Hossein Yaghmaee. A Conqueror Traffic Based Ranking Metrics Heuristic for Assigning Synthetically Generated Traffic Matrices to a Topology. In *Proc. 2nd IEEE International Conference on COMMunication System softWAre and middlewaRE (COMSWARE 2007)*, January 7-12, 2007, Bangalore, India.
- **Saman Taghavi Zargar**, Amin Milani Fard, Mohammad Hossein Yaghmaee. Fuzzy Proactive Queue Management Technique. In *Proc. IEEE INDICON 2006*, September 15-17, 2006, New Delhi, India.
- **Saman Taghavi Zargar**, Vahid Salmani, and Mahmoud Naghibzadeh. MMUF : An Optimized Scheduling Algorithm for Dynamically Reconfigurable Real-Time Systems. In *Proc. 2nd IEEE International Conference on Information & Communication Technologies: from Theory to Applications (ICTTA06)*, April 24-28, 2006, Damascus, Syria.
- Vahid Salmani, **Saman Taghavi Zargar**, and Mahmoud Naghibzadeh. A Modified Maximum Urgency First Scheduling Algorithm for Real-Time Tasks. In *Proc. 7th World Enformatika Conference*, Vol.9, November 25-27, 2005, Istanbul, Turkey.
- Vahid Salmani, **Saman Taghavi Zargar**, and Mahmoud Naghibzadeh. A Modified Maximum Urgency First Scheduling Algorithm for Real-Time Tasks. In *Proc. 7th World Enformatika Conference, Enformatika Transactions on Engineering, Computing and Technology*, Vol.9, No.4, November 25-27, 2005, Istanbul, Turkey.
- Mahdi Alipour, **Saman Taghavi Zargar**, Saeed Rahati Ghuchani, and Salman Salmi. Universal University Content Management Systems. In *Proc. 1st Conference on IT, Software & e-city, ELECIT2004*, October, 2004, Mashhad, Iran. (In Farsi)

- Under Publication**
- Liu Cui, **Saman Taghavi Zargar**, James B. D. Joshi, and Martin B. H. Weiss. Towards Trust Management in Cooperative Spectrum Sharing. (In progress).
 - **Saman Taghavi Zargar**, and James B. D. Joshi. Where, When, and How to Defend Against Distributed Denial of Service (DDoS) Attacks? Centralized or Distributed? A Survey of the Current Approaches. (Journal paper in progress).
 - Hassan Takabi, **Saman Taghavi Zargar**, James B. D. Joshi, and Hassan A. Karimi. Ubiquitous Cloud Computing and Its Security and Privacy Challenges. In *Security, Privacy, and Trust in Ubiquitous Computing & Applications: New Trends, Practices, and Concepts*, Editor: S. I. Ahamed and Md. M. H. Marquette, to be published by Chapman and Hall/CRC press (Taylor and Francis Group LLC)(Book chapter under review).
 - **Saman Taghavi Zargar**, Oleg A. Prokopyev, and James B. D. Joshi. A Distributed Collaborative Sampling/Monitoring approach to Facilitate NIDS/NIPS against DDoS Attack. (Journal paper in progress).

- Theses**
- **Saman Taghavi Zargar**. *A New Method for Generating Synthetically Traffic Matrices, Applicable for Traffic Engineering Tasks*. M.Sc. thesis, Department of Computer Engineering, Ferdowsi University of Mashhad, Iran, June. 2007. (In Farsi).
 - Mahdi Alipour, **Saman Taghavi Zargar**, and Salman Salmi. *Universal University Content Management Systems*. B.Sc. thesis, Department of Computer Engineering, Azad University of Mashhad, Mashhad, Iran, Sep. 2004. (In Farsi).

- Principal Technical and Research Experiences**
- Service Provider Video Technology Group (SPVTG), **Cisco Systems**, San Jose, CA, **PhD Intern**, June 2011-Sep 2011.
 - **Project title:** Android ABR client application development.
 - **Project description:** Developed an Android Adaptive Bit Rate (ABR) client to collect and report traffic statistics relevant to Cisco Mobile VideoScape project. These statistics help providers in providing optimized delivery of services and an enhanced video experience.
 - The Laboratory for Education and Research on Security Assured Information Systems (LERSAIS), University of Pittsburgh, PA, **Administrator**, fall 2009-Present.
 - The Laboratory for Education and Research on Security Assured Information Systems (LERSAIS), University of Pittsburgh, PA, **Researcher**, fall 2008-Present
 - Adonis Co., Mashhad, Iran, **Network & Computer Administrator**, 2002-2008
 - Nesbi Seifi Co., Mashhad, Iran, **Network & Computer Administrator**, 2004-2008
 - Other Ceram Co., Mashhad, Iran, **Administrative Manager**, 2002-2008
 - Communication and Computer Research Center, Ferdowsi University of Mashhad, Mashhad, Iran, **Researcher**, 2005-2007

- Principal Teaching Experiences**
- **Instructor** for INFSCI 1075: Network Security, School of Information Sciences, University of Pittsburgh, Spring 2011.
 - **2005-2008, Mashhad, Iran.**
 - Lecturer (Instructor) at:**
 - Azad University, spring 2008, Mashhad, Iran
 - Khorasan Advanced Training Center, fall 2006-spring 2007, Mashhad, Iran
 - Khorasan Industrial and Scientific Advanced Training Center, fall 2005-spring 2007, Mashhad, Iran
 - Jahad University, spring 2006-spring 2007, Mashhad, Iran
 - Azad University, Sama, fall 2006-spring 2007, Mashhad, Iran
 - Khorasan Trade Training Center, fall 2006-spring 2007, Mashhad, Iran
 - Subjects taught:**
 - Advanced Programming
 - Fundamentals of Computer and Programming
 - Fundamentals of Information Technology
 - Operating Systems

Network Security
Computer Networks
Computer Networks & Internet engineering

Teaching Assistantship

TELCOM 2120: Network Performance, School of Information Sciences, University of Pittsburgh, Fall 2010, Instructor: Dr. David Tipper.

TELCOM 2000: Introduction to Telecommunications, School of Information Sciences, University of Pittsburgh, Fall 2010. Instructor: Dr. Abdelmounaam Rezgui.

Graduate Courses ◦ Machine Learning ◦ Queuing Theory ◦ Introduction to Wireless Networks ◦ Cryptography ◦ Operations Research ◦ Wide Area Networks ◦ Mathematical Foundations ◦ Photonic Communications ◦ Introduction to Security ◦ Advanced Databases ◦ Advanced Software Engineering ◦ Advanced Computer Networks ◦ Advanced Computer Architecture ◦ Advanced Operating Systems ◦ Engineering Mathematics ◦ Distributed Systems ◦ Parallel Algorithms Design and Analysis

Committees and Membership

- 2006-Present IEEE Graduate member.
- 2006-Present ACM Student member.
- 2005-2006, Member of Nexus Soccer Simulation Team, Computer Department, Ferdowsi University, Mashhad, Iran.
- 2006-Present, Senior Member of Young Iranian Elites Association.
- 2005-2007, Member of Communication and Computer Research Center, Ferdowsi University, Mashhad, Iran.

Extra Curricular Activities

- Voting Member of Faculty Recruiting/Search Committee, School of Information Sciences, University of Pittsburgh, Fall 2011- Spring 2012.
- Doctoral students' representative, School of Information Sciences Council (SIS-Council), SIS, University of Pittsburgh 2011-2012
- President, Doctoral Guild, SIS, University of Pittsburgh 2011-2012
- Vice-President, School of Information Sciences Graduate Organization (SISGO), SIS, University of Pittsburgh 2011-2012
- Vice-President, School of Information Sciences Graduate Organization (SISGO), SIS, University of Pittsburgh 2010-2011
- Vice-President, Doctoral Guild, SIS, University of Pittsburgh 2010-2011
- Secretary, Persian Panthers, University of Pittsburgh 2009-2010
- Officer, Persian Panthers, University of Pittsburgh 2008-2009

Services

- Reviewer of the International Conference on Cyber-Enabled Distributed Computing and Knowledge Discovery (CyberC 2011), Beijing, China, October 10-12, 2011.
- Reviewer of the 20th International World Wide Web Conference (WWW 2011), Hyderabad, India, 28th March-1st April, 2011.
- Reviewer of *IEEE Network Magazine - Special Issue on Network Traffic Monitoring and Analysis*, January 2011.
- Reviewer of the International Conference on Cyber-Enabled Distributed Computing and Knowledge Discovery (CyberC 2010), Huangsham, China, October 10-12, 2010.
- Reviewer of the 15th IEEE Symposium on Computers and Communications (ISCC'10), Riccione, Italy, June 22-25, 2010.
- Technical team member of the third edition of IEEEExtreme Xtreme, IEEEExtreme 24 hour programming challenge, 24 October 2009
- External Reviewer of the IEEE 23rd International Conference on Advanced Information Networking and Applications (AINA-09), Bradford, UK, May 26-29, 2009
- Reviewer of the International Journal of Systems and Software, Elsevier, 2008

- Technical team member of the second edition of IEEEExtreme Xtreme, IEEEExtreme 24 hour programming challenge, 8-9 March 2008
- Reviewer of the third conference on Information and Knowledge Technology (IKT 07), Ferdowsi University of Mashhad, Iran, 27-29 November 2007
- Data security & encryption track assistant of the third conference on Information and Knowledge Technology (IKT 07), Ferdowsi University of Mashhad, Iran, 27-29 November 2007

Technical Skills

- Mobile Application Development: Android
- Programming Languages: Java (JDK), C/C++, Pascal, C#, Prolog
- Programming Environments: MS Visual Studio .Net, Borland C++ Builder, Delphi
- Web Development: HTML, CSS
- Database Systems: Microsoft SQL Server, MySQL
- Programming and Simulation Tools: NS2, MATLAB, Wireshark
- Optimization Packages: Gurobi, CPLEX
- Networking: Network Infrastructure, TCP/IP, DNS, DHCP, SNMP, RIP, OSPF, MPLS, NAT, VLAN, VPN, IPsec, TLS, SSH, SS7, networking products (Cisco, 3Com, DLink, Linksys, etc.)
- Wireless/Mobile Technologies: GSM, GPRS, UMTS/W-CDMA, CDMA2000, EV-DO, 802.11 a/b/g/n
- VOIP: H.323, SIP, RTP, IMS
- System Administration: Windows and Linux system administration, , Windows Application Development, Windows Advanced Server 2000, Active Directory,
- Security +, A+, Self-Study and work experience
- CCNA (Cisco Certified Network Administrator) Self-Study and work experience

Last Updated 12/05/2011