

# Amir Reza Khakpour

## EDUCATION:

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- **Ph.D, Computer Science and Engineering, Michigan State University**, East Lansing, MI, USA.  
Graduated December 2011.  
Dissertation: Network Reachability: Quantification, Verification, Troubleshooting, and Optimization  
Advisor: Dr. Alex X. Liu
- **M.S., Computer and Communication Networks (CCN), Telecom SudParis<sup>1</sup>**, Evry, France.  
High Honors (Equivalent GPA<sup>2</sup>: A+)  
Graduation July 2007. Major: Wireless and Mobile Networks.  
Thesis: *Design and Prototyping of an Event-based Middleware for MANETs*
- **B.S., Electrical Engineering, University of Tehran**, Tehran, Iran.  
Graduated July 2005. Major: Telecommunications (Equivalent GPA: B)  
Thesis: *The Analysis of Different AAA Methods in Access Layer of Univ. of Tehran Enterprise Network.*

## HONORS, AWARDS AND ACTIVITIES:

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- Michigan State University Engineering Summer Fellowship, Summer 2009
- Best Paper Award in Mobilware 2009
- Nokia Research Fellowship, Summer 2008
- Ranked 1<sup>st</sup> among all graduate students in Telecom SudParis, 2007
- Co-founder and Vice President of IEEE Student Branch in Telecom SudParis, 2006
- Dean awarded for Implementation of Wireless HotSpot for ECE Dept. of Univ. of Tehran, 2004
- National prize of 1<sup>st</sup> International Kharazmi Youth Festival, December 1999  
For designing and building “Braille Scanning System” (BSS)- Braille line scanner and translator into text

## RESEARCH INTEREST:

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- **Network Management and Security:** Large-scale Network Access Control, Data Centers, Network Security, Network Monitoring, Firewalls, Cryptography, Anomaly Detection
- **Network Data Analysis:** Large-scale network measurement and data mining
- **Wireless Networking:** Mobile Ad Hoc Networks, Sensor Networks, RFID, and Mobile Middleware

## PUBLICATIONS AND PRESENTATIONS:

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### Journals:

- Amir R. Khakpour and Isabelle Demeure, “Chapar: A Persistent Overlay Event System for MANETs,” ACM/Springer Journal Mobile Networks and Applications (**MONET**), Vol. 15, No. 6, pages 866-875, December, 2010.
- Amir R. Khakpour and Alex X. Liu, “An Information Theoretical Approach to High-Speed Flow Nature Identification,” IEEE Transaction on Networking (**ToN**), (in revision)
- Alex X. Liu and Amir R. Khakpour, “Quantifying and Verifying Reachability for Access Controlled Networks,” IEEE Transaction on Networking (**ToN**), (in revision)

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<sup>1</sup> Former Institut National des Télécommunications (GET/INT)

<sup>2</sup> Based on WES (World Education Service) International Grade Conversion Guide For Higher Educations (<http://www.wes.org/gradeconversionguide/>)

## Conferences:

- Amir R. Khakpour, Joshua W. Hulst, Zhihui Ge, Alex X. Liu, Dan Pei, and Jia Wang, “Firewall Fingerprinting,” in *Proc. of the 31th Annual IEEE Conference on Computer Communications (INFOCOM'12)*, Orlando, FL, April, 2012.
- Mahmoud Taghizadeh, Amir R. Khakpour, Alex X. Liu, and Subir Biswas, “Collaborative Firewalling in Wireless Networks,” in *Proc. of the 30th Annual IEEE Conference on Computer Communications (INFOCOM'11) Mini-Conference*, Shanghai, China, April, 2011.
- Amir R. Khakpour and Alex X. Liu, “Quantifying and Querying Network Reachability” in *Proc. of the 30th International Conference on Distributed Computing Systems (ICDCS'10)*, Genoa, Italy, June, 2010.
- Amir R. Khakpour and Alex X. Liu, “Iustitia: An Information Theoretical Approach to High-speed Flow Nature Identification,” in *Proc. of the 29th International Conference on Distributed Computing Systems, (ICDCS'09)*, Montreal, Quebec, Canada, June 2009.
- Amir R. Khakpour and Isabelle Demeure, “Chapar: A Cross-Layer Overlay Event System for MANETs,” in *Proc. of the 2nd International ICST Conference on MOBILE Wireless MiddleWARE, Operating Systems, and Applications, (Mobilware'09)*, Berlin, Germany, April, 2009. **BEST PAPER AWARD**
- Amir R. Khakpour, Maryline Maknavicius-Laurent and Hakima Chaouchi, “WATCHMAN: An Overlay Distributed AAA Architecture for Mobile Ad hoc Networks,” in *Proc. of the 3rd International Conference on Availability, Reliability, and Security (ARES'08)*, Barcelona, Spain, March, 2008.
- Amir R. Khakpour and Hakima Chaouchi, “ESSTCP: Enhanced Spread-Spectrum TCP,” in *Proc. of the 3rd International Workshop on Security in Systems and Networks (SSN'07) in conjunction with IPDPS'07*, Long Beach, CA, March 2007.

## Technical Reports:

- Amir R. Khakpour and Alex X. Liu, “Quarnet: A Tool for Quantifying Static Network Reachability,” Technical Report, CSE Dept., Michigan State University, MSU-CSE-09-2, January 2009.
- Amir R. Khakpour and Isabelle Demeure, “Designing and Prototyping an Event-based Communication System on Mobile Ad Hoc Networks,” Technical Report, INFRES department, Ecole Nationale Supérieure des Télécommunications (GET/ENST), July 2007.
- Amir R. Khakpour, Maryline Laurent-Maknavicius and Hakima Chaouchi, “Through Access Control on Mobile Ad hoc networks: DAROPMAN Project,” Technical Report, LOR department, Institut National des Télécommunications (GET/INT), January 2007.

## Poster Papers, Magazine Papers and other Conferences:

- Amir R. Khakpour and Alex X. Liu, “Quarnet: A Tool for Quantifying and Verifying Static Network Reachability,” *IEEE International Conference on Network Protocols (ICNP'09)*, Princeton, NJ, USA, October 2009. (POSTER PAPER)
- Isabelle Demeure, Guilhem Paroux, Javier Hernando-Ureta, Amir R. Khakpour and Julien Nowalczyk, “An Energy-Aware Middleware for collaboration on small scale MANETs,” *Autonomous and Spontaneous Networks Symposium (ASNS'08)*, Paris, France, November 2008.
- Amir R. Khakpour, “Data Centers, and its Current Obstacles in Iran,” *Gozareh Computer (Computer Report) Magazine*, vol. 164, pp. 33-37, November 2005.
- Amir R. Khakpour and Fariborz Kiasi, “Introduction to BACnet, a Communication Protocol for Building Management and Automation,” *Iranian Student Conference on Electrical Engineering*, Tehran, Iran, September 2004.
- Ali R. Fereydoonian, Amir R. Khakpour and Fariborz Kiasi, “BMS (Building Management System) and Networking Protocols,” *Sanaate Hooshmand (Intelligent Industry) Magazine*, vol. 34, pp. 28-33, December 2002.

## PROFESSIONAL AND RESEARCH EXPERIENCES:

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- Jan 2012 - Present EdgeCast Networks. Santa Monica, CA  
**Software Engineer:** Optimizing the core HTTP server code
- May 2011 – December 2011 EdgeCast Networks. Santa Monica, CA  
**Research Intern:** Conducting research on access log of edge servers and implementing a monitoring system for anycast communications
- September 2009- May 2011 Michigan State University, CSE Dept. East Lansing, MI  
**Research Assistant:** Conducting research on large-scale networking and security problems, and working on my PhD thesis
- September 2007- May 2009 Michigan State University, CSE Dept. East Lansing, MI  
**Teaching Assistant:** Teaching assistant of the undergraduate course CSE410-Operating Systems and CSE422-Computer Networks
- January 2007- August 2007 Telecom ParisTech (ENST) Paris, France  
**Research Intern :** Working on prototyping and implementation of a event-based middleware for mobile ad hoc networks (MSc Thesis)
- October 2006 – December 2006 Telecom SudParis Evry, France  
**Research Assistant:** Doing research mostly conducting to security and security issues in ad hoc networks, working on WATCHMAN Project.
- June 2005 – January 2006 Iran Research and Academic Network (<http://www.iranet.ir>) Tehran, Iran  
**Administrator/Researcher:** Participating in security and networking research projects mainly conducting to wireless networking
- September 2004 – July 2005 University of Tehran, Informatics Center Tehran, Iran  
**Networking Researcher:** Working on analysis of different AAA methods which would be applied on access layer of Univ. of Tehran enterprise network based on different current applications and topologies
- August 2001– July 2005 University of Tehran, ECE Dept. Tehran, Iran  
**Network and Server Administrator:** Network and server maintenance besides to developing and implementing new services for ECE dept.
- May 2002 – April 2005 ParsOnline Corp. (<http://www.parsonline.net>) Tehran, Iran  
**Senior Unix/Linux System/Network Administrator:** Administration and maintenance of more than 40 servers, responsible for monitoring and surveillance of more than 200 network devices including routers, switches, and etc. , more than 40 servers, and 15000 links, participating in R&D projects for development of new technologies, participating in many national projects including ADSL across the country, and etc.
- September 2000 – May 2002 ParsOnline Corp. Tehran, Iran  
**Network & Computer Technical Support:** Network and computer troubleshooting for internet broadband access users.

## COMPUTER SCIENCE SKILLS:

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- Selected Graduate Courses: Data Mining, Machine Learning, Graph theory and Algorithmics
- Operating System: Linux, FreeBSD, MS Windows
- Programming Skills: C/C++, JAVA, Python, TCL, Perl, PHP, MATLAB, Javascript/JQuery, Shell Scripting
- Software: OPNet Modeler, NS2, Simulink, MATCAD, LATEX. , Microsoft Office

## LANGUAGES:

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- English -- Fluent
- Farsi (Persian) --Native Language
- French – Intermediate
- Arabic – Intermediate

## REFERENCES:

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Available upon request.