



## A Brief Biography of **Dr. Mohsen Heydarian**

Azarbaijan Shahid Madani University  
Tabriz, Iran

<b>Name:</b> Mohsen	<b>Research Interest:</b> Computer Networks, QoS, Routing, Optimization, Internet engineering, Mathematical Modeling.
<b>Surname :</b> Heydarian	<b>Faculty:</b> Information Technology and Computer Engineering
<b>Degree:</b> Ph.D	<b>M.Sc</b> Degree: Applied Mathematics
<b>Major:</b> Applied Mathematics	<b>B.Sc Degree:</b> Applied Mathematics
<b>Field:</b> Computer Systems	<b>Email:</b> <a href="mailto:Mohsen_i2003@yahoo.com">Mohsen_i2003@yahoo.com</a> <a href="mailto:Heydarian@azaruniv.ac.ir">Heydarian@azaruniv.ac.ir</a>

### **The Biography**

Mohsen Heydarian received the B.Sc. degree in Applied Mathematics from University of Tabriz in 1999, the M.Sc. degree in Applied Mathematics (Numerical Analysis) from Tabriz University in 2002, and the Ph.D. degree in Applied Mathematics and Computer Science from Tabriz University in 2010.

Dr. Heydarian is currently an Assistance Professor in the Department of Information Technology and Computer Engineering at Azarbaijan Shahid Madani University and has been a founding member of this department since 2010. His current research interests include Communication Technologies, Mathematical Optimization, and Information Technology.

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## اهداف و زمینه‌های پژوهشی:

### My current research interest

I am interested in to establish a new optimal dynamic routing algorithm for supporting QoS Routing in **Data Communication Networks** (Internet, ATM, MPLS). This algorithm is based on the optimization modeling, graph theory and constrained based routing. By using this algorithm we can reduce or increase the number of destination nodes and used links when the algorithm is transmitting data.

### Main Research Interested in Topics:

#### Computer Networks :

1. Quality of Services, Traffic Engineering in Computer Networks
2. Switching (Label Switching, Packet Switching, Data Gram Model Switching)
3. Voice over Internet Protocol (Services, Mechanisms, Protocols)
4. Internet (TCP\IP), Ad Hoc Networks, Mobile IP
5. Routing Algorithms (OSPF, MOSPF, RIP, BGP, EIGRP)
6. Network Programming, Socket Programming, Web Engineering

#### Applied Mathematics:

7. Operation Research (Linear Programming, Parametric Linear Programming)
8. Computations and Algorithms
9. Linear Algebra, Numerical Linear Algebra
10. Numerical Analysis
11. Graph Theory

#### Softwares, Systems and Tools:

12. Robotic Engineering (Microcontroller Programming (AVR-Codevision), Electro Motors (Step, Servo) , Sensors, Industrial Robots)
13. Solidwork, Matlab, Assembly, C#, ASP.NET
14. Coordinate Measuring Machine (CMM)

#### Cyber Ethics:

15. Cybernetic Ethics (Consisting of Professional Ethics, Applied Ethics, Normative Ethics)

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## Paper Publications

### ISI Journals:

- [1] A. Isazadeh, **M. Heydarian**, [Optimal Multicast Multichannel Routing in Computer Networks](#). *Computer Communications*, Elsevier, Vol. 31, No. 17, Pages 4149-4161, 2008. Language: English.
- [2] A. Isazadeh, **M. Heydarian**. [Traffic Distribution for End-to-End QoS Routing with Multicast Multichannel Services](#). *Journal of Supercomputing*, Springer, To appear. Language: English.
- [3] A. Isazadeh and **M. Heydarian**, [Multicast Multichannel Paths](#), *TeleCommunication Systems Journal*, It will be in Volume 50: 3 – July 2012 and published online.
- [4] Mohsen Heydarian, [A High Performance Optimal Dynamic Routing Algorithm with Unicast Multichannel QoS Guarantee in Communication Systems](#), *Journal of Supercomputing*, Published Online, 2012.
- [5] **Mohsen Heydarian**, A New High Performance Approach: Merging Optimal Multicast Sessions for Supporting Multi-source Routing, *Supercomputing, Journal of Supercomputing*, Springer, Accepted. (Under publish on line.)
- [6] **Mohsen Heydarian** · Reza Hadi Mogavi, [A new high performance approach: merging optimal, multicast sessions for supporting multisource routing](#), *Journal of Supercomputing*, Springer, 2012.
- [7] **Mohsen Heydarian**, [Dynamic Distributed Unicast Routing: Optimal Incremental Paths](#), *Journal of Supercomputing*, Springer., 2013.
- [8] Somayyeh Gholizadeh, Azizol Abdullah, Mohamed Othman, Zurina Mohd Hanapi, **Mohsen Heydarian**, Optimized performance data transmission in Mobile IP networks, *Journal of Supercomput*, 70:906–929, 2014.

### Under Review:

- [8] Mohsen Heydarian, Marzieh Hosseini, Samaneh Zekri, High Performance Multicasting Services: A New Dynamic Routing Algorithm, *Computer Networks (Elsevier)*, Under Review (Revision).
- [9] Mohsen Heydarian, Optimized Performance Data Transmission in Mobile IP Networks, *Journal of Supercomputing*, Under Review (Revision).
- [10] Mohsen Heydarian, Merging Sessions: Optimal Unicast Multi-Sources Routing in Communication Networks, *Journal of Networks*, Under Review (Revised).
- [11] Mohsen Heydarian, Optimal Dynamic Multicast Data Transmission in Wireless Ad Hoc Networks, *Journal of Ad Hoc Networks*, Under Review (Revised).



## مقالات کنفرانس‌های ملی و بین‌المللی:

### Conferences Papers:

- [1] **Mohsen Heydarian**, A. Isazadeh, S. Gholizadeh. In *Proceedings of International Conference on Internet Computing*, Pages 10-16, 2008. Language: English.
- [2] Habib Karimpour, Ayaz Isazadeh, **Mohsen Heydarian**: [Object-Oriented Hypermedia Design and J2EE Technology for Web-based Applications](#). Software Engineering Research and Practice 2008: 334-340
- [3] **Mohsen Heydarian**, A. Isazadeh, and H. Isazadeh. [Optimal Multicast Multichannel Routing in Computer Networks](#). In *Proceedings of the International Symposium on Parallel and Distributed Processing and Applications*, Lecture Notes in Computer Science 4743, Springer, Pages 503-512, Canada, 2007. Language: English.
- [4] Y. Seif A. Isazadeh, and **Mohsen Heydarian**, [A New Method of Data Communication in networks with Differentiated Services Architecture](#). In *Proceedings of the 36th Iranian Mathematics Conference (IMC'2005)*, Yazd, Iran, 2005. Language: Farsi.
- [5] A. Isazadeh, and **Mohsen Heydarian**, [A New Method of Maximized Data Communication for Multicasting Multichannel Routing](#). In *Proceedings of the 36th Iranian Mathematics Conference (IMC'2005)*, Yazd, Iran, 2005. Language: Farsi.
- [7] A. Isazadeh and **Mohsen Heydarian**, [Formal Specification of the Cross-Point Switching System Using Z<sub>2</sub>](#). In *CD-ROM Proceedings of the WSEAS International Conference on Applied Mathematics*, Corfu, Greece, August 2004. Language: English.
- [8] **Mohsen Heydarian** and A. Isazadeh. [Effect of Information Systems on the Development of University and Industry](#). In *CD-ROM Proceedings of the National Conference on Development and Information Technology*, Urmia, Iran, July 2004. Language: Farsi.
- [9] A. Isazadeh and **Mohsen Heydarian**, [Optimized Efficiency for Multicast Service: A New Approach](#). *WSEAS Transactions on Mathematics*, Vol. 2, No. 2, Pages 171-173, 2003. Language: English.
- [10] **Mohsen Heydarian**, and A. Isazadeh. [Optimized Congestion Control using an Improved Multicast Routing Algorithm](#). In *Proceedings of the National Computer Conference*, Pages 318-330, Mashhad, Iran, 2002. Language: Farsi.
- [11] **Mohsen Heydarian**, [Merging Sessions: Optimal Unicast Multi-Sources Routing in Communication Networks](#), 2011 Networking and Electronic Commerce Research Conference, Italy, 13-16 October, 2011.

- [12] **Mohsen Heydarian**, [Optimal Dynamic Multicast Routing](#), 2011 Networking and Electronic Commerce Research Conference, Italy, 13-16 October, 2011.
- [13] **Mohsen Heydarian**, Foroug Shirin Abkenar, [A New Algorithm: Optimal Multi-Source Multicast Routing Algorithm](#), The first Regional Seminar of Mathematics Students Azerbaijan Shahid Madani University, 18-19 July, 2011.
- [14] **Mohsen Heydarian**, Forough Shirin Abkenar, [A New Approach: Optimal Multi Source Unicast Routing Algorithm](#), 14<sup>th</sup> Iranian Student Conference on Electrical Engineering, Kermanshah, September 6-8, 2011.
- [15] **Mohsen Heydarian**, Yashar Kavosian, [A New Optimized Multicasting Data Transmission Algorithm in MPLS Networks](#), WCIT2011, Turkey, 2011.
- [16] **Mohsen Heydarian**, Reza Hadi Mogavi, [Applications of Nono Technology in Computer Science](#), 1<sup>th</sup> Nano technology Conference, Azerbaijan Shahid Madani University, Tabriz, Iran, January 2012,
- [17] **Mohsen Heydarian**, [the Effect of new Industries of Information Technology on Media and Broadcast Substructures: Effect of VoIP on Media](#), 4<sup>th</sup> Iranian Biennial Broadcast Engineering Conference (BEC2011), Tehran-IRIB University, Tehran, November 20-22, 2011.
- [18] **Mohsen Heydarian**, Mostafa Nouri Chini Bolagh, [Applied Computations: Determining Optimal coordinates for Mobile Nodes in MANET using Lineer Programming](#), 1<sup>th</sup> Iranian Extending Industrial Applications of Information, Communication and Computations (EIAICC2012), Azerbaijan Shahid Madani University, Tabriz, Iran, February 7, 2012.
- [19] **Mohsen Heydarian**, Reza Hadi Mogavi, [E-learning Architecture](#), 1<sup>th</sup> Iranian Extending Industrial Applications of Information, Communication and Computations (EIAICC2012), Azerbaijan Shahid Madani University, Tabriz, Iran, February 7, 2012.
- [20] **Mohsen Heydarian**, [Effects of VPNs: Investments, Regularity and Security](#), 1<sup>th</sup> Iranian Extending Industrial Applications of Information, Communication and Computations (EIAICC2012), Azerbaijan Shahid Madani University, Tabriz, Iran, February 7, 2012.
- [21] **Mohsen Heydarian**, [Multimedia Data Communication in Broadcasting Environments](#), ICEE2012, Iran, Tehran, Tehran University. 15-17 May 2012.
- [22] **Mohsen Heydarian**, Mostafa Nouri Chini Bolagh , [Traffic Engineering in MANET Based on the Optimal Topology](#), ICEE2012, Iran, Tehran, Tehran University. 15-17 May 2012.
- [23] **Mohsen Heydarian**, Forough Shirin Abkenar, [Optimal Multicast Multi-Sources Routing In Communication Networks](#), 2<sup>nd</sup> World Conference on Information Technology, 24-27 November 2011, Antalya-Turkey.

- [24] **Mohsen Heydarian**, Forough Shirin Abkenar, A New Approach: Optimal Unicast-Multicast Routing Algorithm, 15<sup>th</sup> Iranian Student Conference on Electrical Engineering, 28-30 August 2012, Kashan.
- [25] **Mohsen Heydarian**, Amir Hossein Shahsavari, A New Method for Evaluating Proposed Trust among Various Entities using Social Networks, 1<sup>st</sup> National Industrial Mathematics Conference (NIMC2014), Iran, Tabriz.



## سمت‌های مدیریتی و اجرایی در دانشگاه شهید مدنی آذربایجان:

- ۱- همکاری با دانشگاه شهید مدنی آذربایجان در تاسیس و راه اندازی دانشکده فناوری اطلاعات و مهندسی کامپیوتر - سال ۱۳۸۱
- ۲- اولین دانشجوی دکتری بورسیه و اولین عضو هیات علمی دانشکده فناوری اطلاعات و مهندسی کامپیوتر - سال ۱۳۸۲
- ۳- همکاری با دانشگاه شهید مدنی آذربایجان در تاسیس رشته کارشناسی مهندسی فناوری اطلاعات - سال ۱۳۸۳
- ۴- مدیر گروه مهندسی فناوری اطلاعات (بیش از ۲ سال - از تاریخ ۱۳۸۹/۱۰/۱۱)
- ۵- تاسیس و راه اندازی رشته کارشناسی ارشد رشته مهندسی فناوری اطلاعات - بهمن ۱۳۹۱
- ۶- عضو کارگروه ارزیابی توانایی علمی دانشکده فناوری اطلاعات و مهندسی کامپیوتر (به مدت ۲ سال از ۹۲/۱۱/۰۱)
- ۷- نماینده دانشکده فناوری اطلاعات و مهندسی کامپیوتر در شورای پژوهشی دانشگاه (از ۹۰/۰۳/۲۳ به مدت ۲ سال)
- ۸- نماینده دانشکده فناوری اطلاعات و مهندسی کامپیوتر در شورای رفاه دانشگاه (۹۱/۱۰/۰۹)
- ۹- مسئول دفتر ارتباط با صنعت دانشکده فناوری اطلاعات و مهندسی کامپیوتر (از ۸۹/۱۰/۰۵ به مدت یک سال)
- ۱۰- عضو شورای ارتباط با صنعت دانشگاه و نماینده دانشکده فناوری اطلاعات و مهندسی کامپیوتر در این شورا
- ۱۱- منتخب خانه صنعت، معدن و تجارت استان آذربایجان شرقی به عنوان فعال دانشگاه و صنعت در سال ۱۳۹۲ و دریافت لوح تقدیر از استاندار استان آذربایجان شرقی در روز صنعت و معدن
- ۱۲- استاد مشاور دانشجویان اینترگر دانشگاه شهید مدنی آذربایجان
- ۱۳- عضو ستاد فناوری اطلاعات و میکرو الکترونیک استانداری آذربایجان شرقی (مدیر و مسئول کمیته ارتقاء دانش)

### Academic Position and Responsibilities:

1. Head of Information Technology Engineering group, 2011, (Faculty of Information Technology and Computer Engineering, Azerbaijan Shahid Madani University)
2. Responsible of industrial office in collage.
3. Member of Industry Council of Azarbijan Shahid Madani University.



## دبیر کل کنفرانس‌ها و مسابقات ملی:

- ۱- دبیر کل اولین کنفرانس ملی توسعه کاربردهای صنعتی اطلاعات، ارتباطات و محاسبات (<http://eiaicc.azaruniv.edu>)
- ۲- دبیر کل دومین کنفرانس ملی توسعه کاربردهای صنعتی اطلاعات، ارتباطات و محاسبات ([eiaicc92.atoicc.com](http://eiaicc92.atoicc.com))  
آبان ماه ۱۳۹۲
- ۳- دبیر کل اولین کنفرانس ملی ریاضیات صنعتی ([indmath.atoicc.com](http://indmath.atoicc.com)) - خرداد ماه ۱۳۹۳
- ۴- دبیر کل هشتمین مسابقات ملی رباتیک موش‌های هوشمند (<http://madani-robocup8.azaruniv.ac.ir>)  
شهریور ماه ۱۳۹۲
- ۵- دبیر و داور کرسی آزاد اندیشی "فیسبوک: آری یا نه" - آذر ۱۳۹۲
- ۶- دبیر پنجمین جشنواره ملی کتاب و کتابخوانی رضوی (برگزار کنندگان جشنواره: دانشگاه شهید مدنی آذربایجان، وزارت علوم تحقیقات و فناوری، وزارت فرهنگ و ارشاد اسلامی)
- ۷- دبیر اولین کنفرانس ملی فضای سایبری و تحولات فرهنگی [cyber1.atoicc.com](http://cyber1.atoicc.com)
- ۸- دبیر دومین کنفرانس ملی ریاضیات صنعتی [indmath2.atoicc.com](http://indmath2.atoicc.com)
- ۹- دبیر سومین کنفرانس ملی توسعه کاربردهای صنعتی اطلاعات، ارتباطات و محاسبات [eiaicc93.atoicc.com](http://eiaicc93.atoicc.com)
- ۱۰- دبیر سومین کنفرانس ملی ریاضیات صنعتی [indmath3.atoicc.com](http://indmath3.atoicc.com)
- ۱۱- دبیر دومین کنفرانس ملی فضای سایبری و تحولات فرهنگی [cyber2.atoicc.com](http://cyber2.atoicc.com)

## General chair of the following Conferences:

1. Extending of Industrial Applications of Information, Communications and Computations.  
Azerbaijan Shahid Madani University, Information Technology and Computer Engineering  
College, Tabriz, Iran, 7 Feb, 2012. (<http://eiaicc.azaruniv.edu/>)
2. 8<sup>th</sup> National Smart Mice Robotics Competitions, Azarbijan Shahid Madani University, 2013.
3. 2<sup>th</sup> Extending of Industrial Applications of Information, Communications and Computations.
4. 1<sup>st</sup> National Industrial Mathematics Conference (NIMC2014).



## راهنمای پایان‌نامه‌های دانشجویان کارشناسی ارشد:

## Supervised M.Sc Students PROJECTS:

	M.Sc	Title of Thesis	Student Name	Supervisor/Advisor	Defense Date	University	Financially Supported by
1	Information Technology		Mrs. Motamed Vaziri			Azarbijan Shahid Madani University	
2	Information Technology		Mr. Delkhood Hoseini			Azarbijan Shahid Madani University	
3	Information Technology		Mrs. Eslami			Azarbijan Shahid Madani University	
4	Information Technology		Naser Akbari			Azarbijan Shahid Madani University	



**راهنمایی پایاننامه های دانشجویان کارشناسی (بیش از ۲۵ مورد):**

## Supervised B.Sc Students PROJECTS:

	BS	Title of Thesis	Student Name	Supervisor/Advisor	Defense Date	University	Financially Supported by
1	BS of Information Technology	A New Architecture for Internet Switches: Optimal Packets Switching In Computer Networks	Forough Shirin Abkenar	Supervisor	2 Sep 2012	Azarbijan Shahid Madani University	
2	BS of Information Technology	Artificial Intelligence	Reza Hadi Mogavi	Supervisor	2014	Azarbijan Shahid Madani University	
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## کتابهای تالیف شده و ترجمه شده منشر شده:

### Published Books:

1- Serious Economic Crime (Translation).

طرح پژوهشی با دفتر تحقیقات کاربردی به منظور ترجمه کتاب "جرام اقتصادی حاد" که خاتمه یافته است.

1- Professional Ethics in Information and Communication Technology, 2013, Under Referee.

محسن حیدریان - احد فرامرز قراملکی - اخلاق حرفه ای در فناوری اطلاعات و اتباطات - انتشارات سازمان مدیریت صنعتی - اسفند ماه ۱۳۹۳ (طرح پژوهشی خاتمه یافته)

2- Cooperation of University and Industry: Challenges and Approaches, 2013, Under Referee.

محسن حیدریان - تعامل دانشگاه و صنعت: چالش ها و رهیافت ها - انتشارات نشر فکر سبز - اسفند ماه ۱۳۹۳ (طرح پژوهشی خاتمه یافته)



## پروژه‌های ربائیک تحت بررسی جهت اجرا:

### Patent Registration:

[1] Gluing Robot: Designing and Manufacturing.

[2] Welding Robot: Designing and Manufacturing.

[3] Robotic and software Updating of the Validator Machine (Model 50) in order to manufacturing the technology of Coordinate Measuring Machine (CMM)

[4] Repairing CMM of Motogen

[5] Designing and Manufacturing of Flow meter



## پروژه‌های داخل دانشگاه:

### Academic Projects:

[1]: **Dynamic Unicast Routing with Quality of Services Guarantee in Computer Networks**, This research has been supported by a grant/research fund Number 217/sad/335 from Azerbaijan Shahid Madani University.

[2]: **Multicast Dynamic Data Transmitting with Optimal Multichannel Routing Approach for Quality of Services Guarantee** , This research has been supported by a grant/research fund Number 217/sad/461 from Azerbaijan Shahid Madani University.

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## **پروژه‌های صنعتی خارج از دانشگاه (در حال اجرا یا خاتمه یافته):**

### **Industrial Projects:**

[1] Robotics Industrial Automation, Motorsazan (Manufacture of Diesel and Gas Engines Company), Contract price: 25 000 000 Rial.

[2] Research, Authorship and Publishing Book: **Cooperation of University and Industry: Challenges and Approaches**. Fulad Mehr Sahand Company, Contract price: 45 000 000 Rial.

[3] Robotic and software Updating of the Validator Machine (Model 50) in order to manufacturing the technology of Coordinate Measuring Machine (CMM)

[۴] ساخت گیج اندازه گیری موتورهای الکتریکی

[۵] ساخت فلومتر - دبی سنج هوا

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## **داوری مجلات علمی پژوهشی داخلی و ISI بین‌المللی:**

### **Referees of Journals and Conferences papers:**

#### **A) Journals:**

[1] Supercomputing journal, Springer.

[2] Journal of Information Systems & Telecommunication, (ISC), Information and Communication Technology Council of Iran (Jahad Daneshgahi).

[3] JNSEE Journal, Sahand University of Technology.



## عضویت در کمیته‌های علمی کنفرانس‌های ملی:

### B) Conferences:

- [1] ICEE2012 (Iran, Tehran, Tehran University)
- [2] Information Technology Conference (Iran, Hamedan)



## داوری طرح‌های پژوهشی و صنعتی – دانشگاهی:

۱- داور طرح‌های علمی و پژوهشی دانشگاه‌های آزاد و سراسری شهید مدنی آذربایجان، بناب و غیره

## Referees of Industrial and Academic Research and Projects:



## دروس تدریسی:

### Academic Courses:

- 1- Computer Networks 1 & 2,
- 2- Information Technology: Basics and Concepts
- 3- Algorithms Designing
- 4- Information Technology Management
- 5- Technical and Scientific Research Methodologies
- 6- Information Technology Engineering
- 7- Programming Language (C, C#, HTML, ASP, PHP, Code Vision, Scripting)
- 8- Internet Engineering
- 9- Information and communication Ethics

## Industrial Courses:

- 1- Micro Control Programming: PIC & AVR Programming Languages.
- 2- Robotic Industrial Automation.
- 3- Robotic Simulation Tools and Computations Softwares.
- 4- MATLAB tools, Computations, and Simulations.
- 5- Industrial Robots Designing and Manufacturing.



## همکاری با تشکل های دانشجویی:

- ۱- استاد مشاور انجمن علمی دانشجویان گروه مهندسی فناوری اطلاعات
- ۲- استاد راهنمای بسیج دانشجویی دانشگاه شهید مدنی آذربایجان
- ۳- استاد مشاور دانشجویان ایثارگر دانشگاه شهید مدنی آذربایجان
- ۴- استاد مشاور کمیته رباتیک سازمان ورزش و جوانان استان آذربایجان شرقی

