

## Maryam S. Mirian



Robotics Lab., ECE Dept.,  
University of Tehran, Tehran, Iran  
Tel./ Fax +98-21-8010119  
Email [mmirian@ut.ac.ir](mailto:mmirian@ut.ac.ir)  
Homepage: <http://maryam.mirian.ir>  
Born on March 21, 1977

<p><b>Education:</b></p> <p>Sep. 2004 – Sep. 2010</p> <p>Sep. 2000 – June 2003</p> <p>Sep. 1995 – July. 1999</p> <p>Sep. 1991 – June 1995</p>	<p><b>Ph.D. in Computer Engineering, Robotics and Artificial Intelligence</b> Faculty of Engineering, University of Tehran, Tehran, Iran GPA : 18.22 Thesis: Learning Attention Control in a Multi-modal Perceptual space <b>Doctoral Thesis Assessment: Excellent</b></p> <p><b>M.Sc. in Computer Engineering, Robotics and Machine Intelligence</b> Faculty of Engineering, University of Tehran, Tehran, Iran GPA: 18.78 / 20.00 <u>Thesis</u> : “<i>Help Provision, a Mechanism to Improve the Fault-Tolerance of Distributed Systems</i>”, <u>Grade</u> : 20</p> <p><b>B.Sc. in Computer Hardware Engineering</b> Faculty of Engineering, University of Tehran, Tehran, Iran GPA: 15.89 /20.00</p> <p>High School : Roshangar Complex Physics &amp; Mathematics Diploma, Roshangar high school, GPA 19.02/20</p>
<p><b>Research Interests</b></p>	<ul style="list-style-type: none"><li>• Mixture of Experts Learning</li><li>• Knowledge Extraction from Experts’ Mind</li><li>• Learning under Uncertainty</li><li>• Reinforcement Learning</li></ul>
<p><b>Selected Publications</b></p>	<p>[1] <b>Maryam S. Mirian</b>, Majid Nili Ahmadabadi, Babak N. Araabi, Learning Active Fusion of Multiple Experts' Decisions: An Attention-based Approach, Neural Computation, MIT Press, February 2011, Vol. 23, No. 2, Pages 558-591.</p> <p>[2] <b>Maryam S. Mirian</b>, Majid Nili Ahmadabadi, Babak N. Araabi, Mohammad M. Ajallooeian, “Learning with which Expert to Consult Next, Case study: Arrhythmia Diagnosis”, International Journal of Innovative Computing, Information and Control (IJICIC), Volume 7, Number 1, January 2011, pp. 289–299.</p> <p>[3] <b>Maryam S. Mirian</b>, Majid Nili Ahmadabadi, Babak N. Araabi, Roland R. Siegwart, Comparing Learning Attention</p>

Control In Perceptual and Decision Space, LNAI 5395, pp. 242 – 256, 2009, Springer-Verlag Berlin Heidelberg 2009.

[4] **Maryam S. Mirian**, Majid Nili Ahmadabadi, Babak N. Araabi, Roland Siegwart, METAL: Mixture of Experts task and attention learning, Journal of Intelligent and Fuzzy systems, under press.

[5] **Maryam S. Mirian**, Leila Beig, Mahmood Kharrat, A Unified Multi-aspect Architecture to Establish Knowledge Network, IEEE International Symposium on Telecom, IST2010, Tehran, Iran.

[6] **Maryam S. Mirian**, Hadi Firouzi, Majid Nili Ahmadabadi, Babak N. Araabi, Concurrent learning of Task and attention in the decision space, IEEE/ASME Conference on Advanced Intelligent Mechatronics, pp. 1353-1358, Singapore, 14-17 July 2009.

[7] Narges Noori, Majid Nili, **Maryam S. Mirian**, Babak Araabi, Speeding up top-down attention control learning by using full observation knowledge, 2009 IEEE International Symposium on Computational Intelligence in Robotics and Automation (CIRA), 15-18 Dec. 2009, pp: 369 - 374, Daejeon, Korea.

[8] **Maryam S. Mirian**, Majid Nili Ahmadabadi, Hadi Firouzi, Babak N. Araabi, and Roland R. Siegwart, A Novel Framework for Learning Attention Control in a multi-dimensional sensory space, IEEE IROS'08 Workshop on Robotics Challenges for Machine Learning II, Sep. 2008, Niece, France.

[9] H. Vosoughpour, M. Nili, **Maryam S. Mirian**, Hierarchical Functional Concept Formation using Reinforcement Learning, Proceeding of WCECS 2007, ICMLDA

[10] **Maryam S. Mirian**, Babak N. Araabi, Image Retrieval Using image Query by means of color Histograms and Number of straight lines of the image (In FARSI), 3<sup>rd</sup> Conf on Machine Vision and Image Processing, pp 30-37, MVIP 2005, Iran, Tehran

[11] M.S. **Mirian**, M.R. Hejazi, E. Darrudi, Finding Answers through Heuristic Reasoning Mechanism for an Ontology-based Question Answering System, The Second workshop on Information Technology & Its Disciplines, WITID 2004, Kish Island, Iran.

[12] **Maryam S. Mirian**, Majid Nili Ahmadabadi, A Distributed Deterministic Help Scheme to Improve the System Fault Tolerance, World Automation Congress (WAC'04), 2004, Spain.

[13] **Maryam S. Mirian**, Majid Nili Ahmadabad, "Application of

	<p>Task Redistribution in Non-Homogenous Multi-agent Systems to Improve Fault Tolerance", 9th Annual Conference of Computer Soceity of Iran, CSICC2004 (in FARSI)</p> <p>[14] <b>Maryam S. Mirian</b>, Majid Nili Ahmadabad, "A Multi-agent Perspective to Fault Clearance", 8th Annual Conference of Computer Soceity of Iran, CSICC2003 (in FARSI)</p> <p>[15] <b>Maryam S. Mirian</b>, Majid Nili Ahmadabadi, Babak Nadjar Araabi, "A Fault Tolerant Multi-Agent System with Non-Deterministic Decision-Making for Task Allocation", Accepted in ERSA'03, June 23-26, 2003, Las Vegas, Nevada, USA.</p> <p>[16] <b>Maryam S. Mirian</b>, Majid Nili Ahmadabadi, Zainalabedin Navabi, " A New Task Redistribution Method for Fault Clearing in Multi-agent Systems", Proc. of IEEE International Conference on Systems, Man and Cybernetics, Vol. 2, October 6-9, 2002, Hammamet, Tunisia</p> <p>[17] <b>Maryam S. Mirian</b>, Majid Nili Ahmadabadi, Zainalabedin Navabi, "Evaluating Task Redistribution Methods for Fault Clearing in Multi-Agent Systems", ERSA'02, pp219-225, Las Vegas, USA, May 2002</p> <p>[18] <b>Maryam S. Mirian</b>, Majid Nili Ahmadabadi, Zainalabedin Navabi, "Agent's Role Reconfiguration Based on Decision-Making for Distributed Fault Recovery in Multi Agent Systems", AIM'02, Workshop of EURASIA-ICT 2002, pp 289-293, Shiraz, Iran, Oct. 2002.</p> <p>[19] <b>Maryam S. Mirian</b>, Majid Nili Ahmadabadi, Zainalabedin Navabi, "A Decision-Making based Approach for Fault-Handling in Multi-Agent Systems", ICONIP'02, Vol.4, pp 1905-1910, Singapore, Nov. 2002.</p> <p>[20] Mahmoudreza Hejazi, <b>Maryam S. Mirian</b> , Kouros Neshatian, Azam Jalali, and Bahadorreza Ofoghi, A Telecommunication Literature Question/Answering System Benefits from a Text Categorization Mechanism, International Conference on Information and Knowledge Engineering (IKE2003), July 2003, USA.</p>
<p><b>Honors</b></p>	<ul style="list-style-type: none"> <li>• Ranked 1<sup>st</sup> among 10 M.Sc. Students in Robotics and AI in ECE Dept., Faculty of Engineering, University of Tehran, Iran, 2003</li> <li>• Ranked 6<sup>th</sup> among 60 students in undergraduate level in</li> </ul>



	<p>course</p> <ul style="list-style-type: none"> <li>• 2002-2005: Developing a Question Answering System named TeLQAS<sup>1</sup> with major focus on NLP, Query Processing, Text Summarization and Categorization and Crawling from the web</li> </ul>
<p><b>Other Projects</b> (Term Projects at the University of Tehran)</p>	<ul style="list-style-type: none"> <li>• 2005, Using DNA Computing in DNA Security Applications, as the term project of Network Security course</li> <li>• 2005, Developing an Sport Video Classification system, as the term project for Multimedia Systems course</li> <li>• 2004, Proposing a New Task Assignment Strategy based on Personal Motivation Theory, as the term project of Distributed AI and System Identification courses</li> <li>• 2000, Developing a new fuzzy cache replacement algorithm, as the term project of Fuzzy systems course</li> <li>• 2000, Design and Implementation of the vision module of a mobile robot<sup>2</sup> designed for a Robot Contest.</li> </ul>
<p><b>References</b></p>	<p><b>Majid Nili Ahmadabadi, Ph.D.</b> Associate Professor and Head of Robotics and Machine Intelligence Group School of Electrical and Computer Eng. University of Tehran PO Box 14395/515 Tehran, Iran Email: mnili@ut.ac.ir Web: <a href="http://robotics.ut.ac.ir/People/MajidNili.aspx">http://robotics.ut.ac.ir/People/MajidNili.aspx</a></p> <p><b>Babak N. Araabi, PhD</b> Associate Professor and Head of Control Systems Division School of Electrical and Computer Eng. University of Tehran PO Box 14395/515 Tehran, Iran Tel: (+98-21) 8863-0024 Fax: (+98-21) 8863-3029 Email: araabi@ut.ac.ir Web: <a href="http://eng.ut.ac.ir/ece/araabi/">http://eng.ut.ac.ir/ece/araabi/</a></p> <p><b>Mohammad Khansari, Ph.D.</b> Head of IT Faculty, Iran Telecom. Research Center, Tehran, Iran Tel: (+98-21) 84977043 Email: khansari@itrc.ac.ir Web: <a href="http://ce.sharif.edu/~khansari/">http://ce.sharif.edu/~khansari/</a></p>

<sup>1</sup> <http://en.wikipedia.org/wiki/TeLQAS>

<sup>2</sup> The robot had 3 major responsibilities: 1) gathering red boxes and recognizing the letters written on them, 2) gathering yellow tennis balls from all over the field, 3) picking up some cans in specific positions of the field. Then the robot had to empty each group of objects in a specific goal.