

EMPLOYMENT

Tarbiat Modares University, Tehran

Associate Professor, Industrial Engineering Dept.	Apr. 2016 – present
Assistant Professor, Industrial Engineering Dept.	Feb. 2005 – Mar. 2015
Chair, Industrial Engineering Group, IE Dept.	Oct. 2009 – Feb. 2012
Director, Manufacturing Systems Modeling Laboratory, IE Dept.	Apr. 2007 – present
Director of Educational Affairs, IE Dept.	Sep. 2005 – Sep. 2015
Member of Educational Council, Faculty of Engineering	May 2005 – Sep. 2009

Iran University of Science and Technology, Tehran

Invited lecturer, School of Industrial Engineering	Sep. 2002 – Dec. 2004
Member of Curriculum Design Committee, School of IE	2003 – 2004

University of Science and Culture, Tehran

Invited lecturer, Department of Industrial Engineering	2000 – 2002
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EDUCATION

Tarbiat Modares University (TMU)

Ph.D. in Industrial Engineering	Feb. 1998 – May 2004
Dissertation title: New Compound Models for Robot Motion Planning.	
Overall GPA: 3.76 / 4	

Iran University of Science and Technology (IUST)

M.S. in Industrial Engineering	Sep. 1994 – Dec. 1997
Thesis title: Design and Fabrication of an Open-web Girder-Cutting Machine.	
Overall GPA: 3.6 / 4	

Iran University of Science and Technology (IUST)

B.Sc. in Industrial Engineering (minor: Industrial Technology)	Sep. 1990 – Sep. 1994
Senior Project title: A Study on the Productivity of Bolt and Nut Manufacturing Plants.	
Overall GPA: 3.4 / 4 (Top student of the School of Industrial Engineering, class of 1994)	

RESEARCH INTERESTS

Robotics and Robot Motion Planning
Industrial Automation and Flexible Manufacturing Systems
Combinatorial Optimization and Metaheuristics
Artificial Intelligence and Expert Systems
Advanced Manufacturing Processes
Additive Manufacturing
Computer Aided Design and Manufacturing

PUBLICATIONS

Books

1. Masehian E. and Ronagh M., *Manufacturing Processes and Technologies* (in Persian), Farmanesh Pub., ISBN 978-600-90502-1-5, Sep. 2010, 560 pp. (Selected as

the official textbook for Payame-Noor University, with annual readership of 8000 engineering students).

2. Masehian E. and Ronagh M., *Introduction to Manufacturing Processes* (in Persian), Farmanesh Pub., ISBN 978-600-5597-25-7, Sep. 2011, 412 pp. (Selected as the official textbook for Payame-Noor University and Finalist at the 19th Iran's Book of the Season Award, March 2012).

Book Chapters

1. Masehian E. and Royan M., "Cooperative Control of a Multi Robot Flocking System for Simultaneous Object Collection and shepherding", *Studies in Computational Intelligence*, K. Madani, A. Dourado, A. Rosa and J. Filipe (Eds.), Springer Verlag, Vol. 577, 2014, pp. 97-114, DOI: 10.1007/978-3-319-11271-8_7.
2. Mohabbati-Kalejahi N., Akbaripour H., and Masehian E., "Basic and Hybrid Imperialist Competitive Algorithms for Solving the Non-attacking and Non-dominating n -Queens Problems", *Studies in Computational Intelligence*, K. Madani, A. Dourado, A. Rosa and J. Filipe (Eds.), Springer Verlag, Vol. 577, 2014, pp. 79-96, DOI: 10.1007/978-3-319-11271-8_6.
3. Masehian E. and Sedighzadeh D., "An Improved Particle Swarm Optimization Method for Motion Planning of Multiple Robots", *Springer Tracts in Advanced Robotics*, A. Martinoli, F. Mondada, N. Correll, G. Mermoud et al. (Eds.), Springer Verlag, Vol. 83, 2013, pp. 175-188, DOI: 10.1007/978-3-642-32723-0_13.
4. Mousavi, S. J. and Masehian, E., "Robotic Grippers, Grasping, and Grasp Planning", in *Engineering Creative Design in Robotics and Mechatronics*, M. K. Habib and J. Paulo Davim (Eds.), IGI Global, June 2013, pp. 277-300, DOI: 10.4018/978-1-4666-4225-6.ch016.
5. Masehian E. and Hassan Nejad A., "Graph-based Multi Robot Motion Planning: Feasibility and Structural Properties", in *Multi-Robot Systems, Trends and Development*, T. Yasuda and K. Ohkura (Eds.), InTech Pub., January 2011, pp. 211-232, ISBN: 978-953-307-425-2.
6. Masehian E. and Amin-Naseri M.R., "Composite Models for Mobile Robot Offline Path Planning", in *Mobile Robots: Perception and Navigation*, S. Kolski (Ed.), Pro Literatur Verlag and Advanced Robotic Systems International Germany/Austria, Feb. 2007, pp. 237-262, ISBN: 3-86611-283-1.

Journal Articles

2017

1. Maddahi, A., and Masehian, E., "A Linguistic Geometry Approach for Solving the Cops and Robber Problem in Grid Environments", *Information Sciences*, accepted.
2. Neishabouri Jami, E., and Masehian, E., "Automatic Reverse Warehousing System: Principal Concepts, Modeling and Optimizing of Shelving and Routing Problems" (in Persian), *University of Tehran Journal of Industrial Engineering*, accepted.
3. Masehian, E., Jannati, M., and Hekmatfar, T., "Cooperative Mapping of Unknown Environments by Multiple Heterogeneous Mobile Robots with Limited Sensing", *Robotics and Autonomous Systems*, Vol. 87, pp. 188-218, DOI: 10.1016/j.robot.2016.08.006.

2016

4. Masehian, E., and Morovati, R., "A Sequential Bi-criteria Search Algorithm for Robot Path Planning in the Box Pushing Problem", *Journal of Intelligent and Robotic Systems*, 2016, DOI: 10.1007/s10846-016-0424-2.

5. Borjian, N., Kabir, E., Seyedin, S., and Masehian, E., "Query-by-Example Music Retrieval by using Genre Recognition for Enhancing Performance" (in Persian), *Journal of Acoustical Engineering Society of Iran*, 2016, accepted.
6. Hekmatfar T., and Masehian E., "Object Transportation by a Multirobot Distributed System Using a Compound Architecture" (in Persian), *Iranian Journal of Electrical and Computer Engineering*, Vol. 14, No. 1, 2016, pp. 1-15.
7. Akbaripour, H. and Masehian, E., "Semi-lazy Probabilistic Roadmap: a Parameter-tuned, Resilient and Robust Path Planning Method for Manipulator Robots", *International Journal of Advanced Manufacturing Technology*, 2016, DOI 10.1007/s00170-016-9074-6.
8. Moghaddam, S.K., and Masehian, E., "Planning Robot Navigation among Movable Obstacles (NAMO) through a Recursive Approach", *Journal of Intelligent and Robotic Systems*, 2016, DOI: 10.1007/s10846-016-0344-1.
9. Masehian, E., and Royan, M., "Characteristics of and Approaches to Flocking in Swarm Robotics", *Applied Mechanics & Materials*, Vol. 841, 2016, pp. 240-249, DOI: 10.4028/www.scientific.net/AMM.841.240.
10. Ahmadzadeh H. Masehian E., and Asadpour, M., "Modular Robotic Systems: Characteristics and Applications", *Journal of Intelligent and Robotic Systems*, Vol. 81, No. 3-4, 2016, pp. 317-357, DOI: 10.1007/s10846-015-0237-8.

2015

11. Kaheh Z., Baradaran Kazemzadeh R., Masehian E., and Hosseinzadeh Kashan A., "A Bi-level Mathematical Model for Procurement Management and its Solution by a Compound Algorithm" (in Persian), *Sharif Journal of Science and Technology*, Nov. 2015, accepted.
12. Akbaripour H., Masehian, E., Roostaei, A., "Landscape Analysis and Scatter Search Metaheuristic for Solving the Uncapacitated Single Allocation Hub Location Problem", *International Journal of Industrial and Systems Engineering*, Winter 2015.
13. Masehian E. and Mafakheri Z., "Modeling and Solving the Rail Fleet Sizing Problem with Multiple Objectives and Heterogeneous Fleet Using Metaheuristic Algorithms" (in Persian), *Quarterly Journal of Transportation Engineering*, Vol. 6, No. 4, Summer 2015, pp. 683–699.
14. Masehian E., Eghbal Akhlaghi V., Akbaripour H., and Sedighzadeh D., "An Expert System for Intelligent Selection of Proper Particle Swarm Optimization Variants", *International Journal of Supply and Operations Management*, Vol. 2, No. 1, 2015.
15. Ghandi, S., and Masehian, E., "Assembly Sequence Planning of Rigid and Flexible Parts", *Journal of Manufacturing Systems*, Vol. 36, July 2015, pp. 128–146. DOI: 10.1016/j.jmsy.2015.05.002.
16. Ghandi, S., and Masehian, E., "Review and Taxonomies of Assembly and Disassembly Path Planning Problems and Approaches", *Computer Aided Design*, Vols. 67–68, October 2015, pp. 58–86. DOI: 10.1016/j.cad.2015.05.001.
17. Fazlollahtabar H., Saidi-Mehrabad M., and Masehian E., "Mathematical model for deadlock resolution in multiple AGV scheduling and routing network: a case study", *Industrial Robot: An International Journal*, Vol. 42, No. 3, 2015, pp. 252–263, DOI: 10.1108/IR-12-2014-0437.
18. Ahmadzadeh H. and Masehian E., "Modular Robotic Systems: Methods and algorithms for abstraction, planning, control, and synchronization", *Artificial Intelligence*, Vol. 223, 2015, pp. 27–64, DOI: 10.1016/j.artint.2015.02.004.
19. Ghandi S. and Masehian E., "A Breakout Local Search (BLS) Method for Solving the Assembly Sequence Planning Problem", *Engineering Applications of Artificial Intelligence*, Vol. 39, 2015, pp. 245–266, DOI: 10.1016/j.engappai.2014.12.009.

20. Moghaddam, S.K. and Masehian E., "Navigation Among Movable Obstacles" (in Persian), *Supply Chain Management*, Vol. 16, No. 46, 2015, pp. 14-23.
21. Masehian E., "The Role of Motion Planning in Robotics", *Applied Mechanics & Materials*, Vol. 811, 2015, pp. 311-317, DOI: 10.4028/www.scientific.net/AMM.811.311.

2014

22. Baradaran Kazemzadeh R., Kaheh Z., and Masehian E., "A Mixed Integer Nonlinear Programming Model for Order Replenishment and a Heuristic Algorithm for its Solution" (in Persian), *Journal of Industrial Engineering Research in Production Systems*, Vol. 2, No. 3, 2014, pp. 63-75.
23. Eskandarpour M., Masehian E., Soltani R., and Khosrojerdi A., "A Reverse Logistics Network for Recovery Systems and a Robust Metaheuristic Solution Approach", *International Journal of Advanced Manufacturing Technology*, Vol. 74, No. 9-12, pp. 1393-1406, 2014, DOI: 10.1007/s00170-014-6045-7.
24. Masehian E. and Kakahaji H., "NRR: A Nonholonomic Random Replanner for Navigation of Car-Like Robots in Unknown Environments" *Robotica*, Vol. 32, No. 7, October 2014, pp. 1101-1123, DOI: 10.1017/S0263574713001276.
25. Masehian E., Akbaripour H., and Mohabbati-Kalejahi N., "Solving the n-Queens Problem using a Tuned Hybrid Imperialist Competitive Algorithm (HICA)", *The International Arab Journal of Information Technology*, Vol. 11, No. 6, 2014, pp. 550-559.
26. Masehian E. and Katebi Y., "Sensor-Based Motion Planning of Mobile Robots in Unknown Dynamic Environments", *Journal of Intelligent and Robotic Systems*, June 2014, Volume 74, No. 3-4, pp 893-914. DOI: 10.1007/s10846-013-9837-3.
27. Movafaghpour M.A., Masehian E., and Moradi H., "Scenario Reduction for Probabilistic Robot Path Planning in Presence of Preferences on Hidden States", *Arabian Journal of Science and Engineering*, Vol. 39, No. 4 , pp 2909-2928, 2014, DOI: 10.1007/s13369-014-0959-0.

2013

28. Masehian E. and Abouei Mehrizi A.A, "Path Planning of Manipulator Robots using Mixed Integer Nonlinear Programming" (in Persian), *University of Tehran Journal of Industrial Engineering*, Vol. 47, No. 1, pp. 55-68, Spring 2013.
29. Noorosana, R., Shekary, M., and Masehian, E., "Optimization of Cause-Selecting Adaptive Control Chart Parameters by Particle Swarm Optimization Metaheuristic" (in Persian), *Journal of Quality Engineering and Management*, Vol. 3, No. 1, 2013, pp. 11-18.
30. Akbaripour H., Salmasnia A., Baradaran-Kazemzadeh R., and Masehian E., "A Robust Hybrid Heuristic for Solving the Uncapacitated Hub Location Problem" (in Persian), *International Journal of Industrial Engineering and Production Management*, accepted, 2013.
31. Masehian, E., Akbaripour, H., and Mohabbati-Kalejahi N., "Landscape Analysis and Efficient Metaheuristics for Solving the n-Queens Problem", *Computational Optimization and Applications*, Vol. 56, No. 3, pp. 735-764, 2013, DOI: 10.1007/s10589-013-9578-z.
32. Akbaripour, H. and Masehian, E., "Efficient and Robust Parameter Tuning for Heuristic Algorithms", *International Journal of Industrial Engineering and Production Research*, Vol. 24, No. 2, 2013.
33. Jannat D. and Masehian E., "Path Planning for Tractor-Trailer Robots using the Fast Marching Method" (in Persian), *Journal of Modeling in Engineering*, Vol. 11, No. 34, pp. 31-47, Jun. 2013.

34. Nahavandi N., Maddahi A., and Masehian E., "Solving Multi-objective Dynamic Facility Layout Problem Using a Hybrid Local Search-Simulated Annealing Algorithm" (in Persian), *International Journal of Industrial Engineering and Production Management*, Vol. 24, No. 1, 2013, pp. 14-21.

2012

35. Mirdar Harijani A. and Masehian E., "Planning of Covering and Minesweeping Operations for Multiple Robots in Unknown Environments" (in Persian), *Passive Defense Science and Technology*, Vol. 3, No. 1, pp. 57-71, 2012.
36. Movafaghpour M.A. and Masehian E., "Poly Line Map Extraction in Sensor-Based Mobile Robot Navigation using a Consecutive Clustering Algorithm", *Robotics and Autonomous Systems*, Vol. 60, No. 8, 2012, pp. 1078-1092, DOI: 10.1016/j.robot.2012.02.001.
37. Jannat D. and Masehian E., "Car-like Robots Motion Planning by the Fast Marching Method (FMM)", (in Persian), *International Journal of Industrial Engineering and Production Management*, Vol. 23, No. 2, 2012, pp. 228-238.

2011

38. Masehian, E. and Samadian, H., "Multi Robot Motion Planning with Concurrent Moves on Graphs" (in Persian), *The Modares Journal of Electrical Engineering*, Vol. 11, No. 1, 2011, pp. 85-101.
39. Masehian E., Barzinpour F., and Saedi S., "Mobile Robot Path Planning Using a New GA-based Method with Variable Chromosome Length" (in Persian), *International Journal of Industrial Engineering & Production Management*, Vol. 22, 2011, pp. 99-111.

2010

40. Masehian E. and Sedighzadeh, D., "Multi-Objective PSO- and NPSO-based Algorithms for Robot Path Planning", *Advances in Electrical and Computer Engineering*, Vol. 10, No. 4, 2010, pp. 69-76, DOI: 10.4316/AECE.2010.04011.
41. Masehian E. and Amin-Naseri M.R., "Mobile Robot Online Motion Planning Using Generalized Voronoi Graphs", *Journal of Optimization in Industrial Engineering*, Vol. 5, 2010, pp. 1-15.
42. Masehian E. and Sedighzadeh D., "Multi-Objective Robot Motion Planning Using a Particle Swarm Optimization Model", *Journal of Zhejiang University-SCIENCE C (Computers & Electronics)*, Vol. 11, No. 8, 2010, pp. 607-619, DOI: 10.1631/jzus.C0910525.

2009

43. Masehian E. and Khosravi, N., "A Review on the Effects of Communicative Multi-agent Systems on the Future of Digital Media" (in Persian), *Radio and Television Quarterly*, Vol. 5, No. 10, Winter 2009, pp. 71-86.
44. Masehian E. and Amraei H., "Analysis of Concurrent Patterns in Statistical Process Control (SPC) Charts using Neural Networks" (in Persian), *International Journal of Industrial Engineering & Production Management*, Vol. 20, No. 3, 2009, pp. 15-23.
45. Sedighzadeh D. and Masehian E., "Particle Swarm Optimization Methods, Taxonomy and Applications", *International Journal of Computer Theory and Engineering*, Vol. 1, No. 5, 2009, pp. 486-502.
46. Masehian E. and Daneshzand F., "Designing Solvable Graphs for Multiple Moving Agents", *Journal of Optimization in Industrial Engineering*, Vol. 1, No. 2, 2009, pp. 41-54.
47. Masehian E., "New Heuristic Algorithms for Solving Single-Vehicle and Multi-Vehicle Generalized Traveling Salesman Problems (GTSP)", *Journal of Optimization in Industrial Engineering*, Vol. 2, No. 3, 2009, pp. 49-58.

Before 2009

48. Masehian E. and Amin-Naseri M.R., "Sensor-Based Robot Motion Planning - A Tabu Search Approach", *IEEE Robotics & Automation Magazine*, Vol. 15, No. 2, 2008, pp. 48-57, DOI: 10.1109/MRA.2008.921543.
49. Masehian E. and Sedighzadeh D., "Classic and Heuristic Approaches in Robot Motion Planning – A Chronological Review", *International Journal of Mechanical, Aerospace, Industrial and Mechatronics Engineering*, Vol. 1, No. 5, 2007, pp. 249-254.
50. Masehian E. and Katebi Y., "Robot Motion Planning in Dynamic Environments with Moving Obstacles and Target", *International Journal of Computer, Information, Systems and Control Engineering*, Vol. 1, No. 5, 2007, pp. 1234-1239.
51. Masehian E. and Habibi G., "Robot Path Planning in 3D Space Using Binary Integer Programming", *International Journal of Computer, Information, Systems and Control Engineering*, Vol. 1, No. 5, 2007, pp. 1240-1245.
52. Masehian E. and Amin-Naseri M.R., "A Voronoi Diagram-Visibility Graph-Potential Field Compound Algorithm for Robot Path Planning", *Journal of Robotic Systems*, Vol. 21, No. 6, 2004, pp. 275-300, DOI: 10.1002/rob.20014
53. Masehian E., Amin-Naseri M.R., and Esmaeilzadeh Khadem S., "A Hybrid Roadmap Model for Robot Path Planning", *International Journal of Engineering Science*, Vol. 15, No. 2, 2004, pp. 77-87.

Refereed Conference Papers

2016

1. Olaru, A., Masehian, E., Olaru, S., and Mihai, N., "Achieving Extreme Precisions for Multiple Manipulators Using a Proper Coupled Neural Network Matrix Method and LabVIEW Instrumentation", in Proceedings of the 4th *International Conference of Robotics and Mechatronics (ICROM)*, Oct. 2016, Tehran, Iran.
2. Masehian E., and Rezvani, N., "Analysis and Solution of the Broadcasting Problem in a Multi-Hop Wireless Network", in Proceedings of the 12th *International Industrial Engineering Conference*, Feb. 2016, Tehran, Iran.
3. Masehian E, Kaveh Moakhar, E., and Falkpeyma, A., "Fitness Landscape Analysis of the Longest Path Problem on Graphs" (in Persian), in Proceedings of the 12th *International Industrial Engineering Conference*, Feb. 2016, Tehran, Iran.
4. Nasri, P., Masehian, E., Mousavi, S.J., and Teimoori, M. "A Fuzzy Expert System for Deciding Road and Pavement Maintenance Policy" (in Persian), in Proceedings of the 12th *International Industrial Engineering Conference*, Feb. 2016, Tehran, Iran.

2015

5. Ahmdzadeh H. and Masehian E., "A Fluid Dynamics Approach for Self-Reconfiguration Planning of Modular Robots", in Proceedings of the 3rd *International Conference of Robotics and Mechatronics (ICROM)*, October 2015, Tehran, Iran.
6. Shokri A. and Masehian E., "A Meta-module Approach for Cluster Flow Locomotion of Modular Robots", in Proceedings of the 3rd *International Conference of Robotics and Mechatronics (ICROM)*, October 2015, Tehran, Iran.
7. Mohamadnejad N. and Masehian E., "Path Planning of Nonholonomic Flying Robots Using a New Virtual Obstacle Method", in Proceedings of the 3rd *International Conference of Robotics and Mechatronics (ICROM)*, October 2015, Tehran, Iran.
8. Hoseini Tehrani S.S., Masehian E., and Mousavi S.J., "Estimating Part Pose Statistics Ranks in Automatic Assembly Line Part Feeders" (in Persian), in Proceedings of the 11th *International Industrial Engineering Conference*, Jan. 2015, Tehran, Iran.

9. Zarouri F., Masehian E., and Zegordi S.H., "Fitness Landscape Analysis of the Set Packing Problem and its Solution by GA and PSO Metaheuristics" (in Persian), in Proceedings of the *11th International Industrial Engineering Conference*, Jan. 2015, Tehran, Iran.
10. Neyshabouri Jami E. and Masehian E., "Reverse Warehousing System: Principal Concepts and Problem Modeling for Optimal Shelving" (in Persian), in Proceedings of the *11th International Industrial Engineering Conference*, Jan. 2015, Tehran, Iran.
11. Akbaripour H., Hekmatfar T., and Masehian E., "An Efficient and Optimal Algorithm for Solving the Sokolor Problem", in Proceedings of the *11th International Industrial Engineering Conference*, Jan. 2015, Tehran, Iran.

2014

12. Borjian N., Kabir E., Seyedin S., and Masehian E., "Music Retrieval using a Gaussian Mixture Model" (in Persian), in Proceedings of the *4th International Conference on Acoustics and Vibration*, December 2014, Tehran, Iran.
13. Hekmatfar T., Masehian E., and Mousavi S.J., "Cooperative Object Transportation by Multiple Mobile Manipulators through a Hierarchical Planning Architecture", in Proceedings of the *2nd International Conference of Robotics and Mechatronics (ICROM)*, October 2014, Tehran, Iran.
14. Mousavi S.J., Masehian E., and Moghaddam S.K., "Regrasp Planning through Throwing and Catching", in Proceedings of the *2nd International Conference of Robotics and Mechatronics (ICROM)*, October 2014, Tehran, Iran.
15. Ahmadzadeh H. and Masehian E., "Fuzzy Coordination Graphs and Their Application in Multi Robot Coordination under Uncertainty", in Proceedings of the *2nd International Conference of Robotics and Mechatronics (ICROM)*, October 2014, Tehran, Iran.
16. Borjian N., Kabir E., and Masehian E., "Music Retrieval through Genre Identification", in Proceedings of the *12th Iranian Conference on Intelligent Systems (ICIS)*, February 2014, Bam, Iran.

2013

17. Borjian N., Kabir E., and Masehian E., "A Music Retrieval System Based on Acoustic and Musical Features" (in Persian), in Proceedings of the *3rd International Conference on Acoustics and Vibration*, December 2013, Tehran, Iran.
18. Mousavi S.J., and Masehian E., "A New Taxonomy of Robotic Regrasp Planning Approaches and Methods", in Proceedings of the *1st International Conference of Robotics and Mechatronics (ICROM)*, February 2013, Tehran, Iran.
19. Masehian E., Mehrandish S., and Akbaripour H., "Development of random-sampling based motion planning algorithms for manipulator robot equipped with Kinect sensor" (in Persian), in Proceedings of the *3rd Iran's International Conference on Industrial Automation*, January 2013, Tehran, Iran.
20. Jannat D., and Masehian E., "Online Motion Planning of Car-like Robots in Unknown Environments using the Fast Marching Method" (in Persian), in Proceedings of the *3rd Iran's International Conference on Industrial Automation*, January 2013, Tehran, Iran.

2012

21. Akbaripour H. and Masehian E., "TOPSIS-Based Robust Parameter Tuning for Heuristic Algorithms using Design of Experiments Methodology", in Proceedings of the *1st International Quality Engineering Conference (QEC)*, December 2012, Tehran, Iran (Best paper).
22. Masehian E. and Royan M., "A New Model for Solving the Simultaneous Object Collecting and Shepherding Problem in Flocking Robots", in Proceedings of the *4th*

International Conference on Evolutionary Computation Theory and Applications, October 2012, Barcelona, Spain (nominated for the best paper award).

23. Masehian E., Mohabbati-Kalejahi, N., and Akbaripour H., "Basic and Hybrid Imperialist Competitive Algorithms for Solving the n-Queens Problem", in *Proceedings of the 4th International Conference on Evolutionary Computation Theory and Applications*, October 2012, Barcelona, Spain (nominated for the best paper award).
24. Akbaripour H., Masehian E., and Mohabati Kalejahi N., "Simulating the Queue of the Self Service System: A Case Study in Tarbiat Modares University", in *Proceedings of the 5th International Conference of Iranian Operations Research Society*, May 2012, Tabriz, Iran.
25. Akbaripour H. and Masehian E., "Application of Simulated Annealing in Solving the Uncapacitated Hub Location Problem", in *Proceedings of the 5th International Conference of Iranian Operations Research Society*, May 2012, Tabriz, Iran.
26. Yazdekhashti A., Salmasnia A., Amin-Naseri M.R., and Masehian E., "Landscape Analysis of the Stochastic p-Hub Center Problem for Designing a Proper Optimization Algorithm", in *Proceedings of the 5th International Conference of Iranian Operations Research Society*, May 2012, Tabriz, Iran.
27. Akbaripour H., Masehian E., Salmasnia A., and Mohabati Kalejahi N., "A Hybrid Heuristic with TOPSIS-based Parameter Tuning for Solving the N-Queens Problem", in *Proceedings of the 8th International Industrial Engineering Conference*, Feb. 2012, Tehran, Iran.

2011

28. Movafaghpour M.A. and Masehian, E., "Optimal Probabilistic Robot Path Planning with Missing Information", in *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Sep. 2011, San Francisco, pp. 4299–4306.
29. Movafaghpour M.A., and Masehian, E., "A Linear Programming Approach for Probabilistic Robot Path Planning with Missing Information of Outcomes", in *Proceedings of the 7th Annual IEEE Conference on Automation Science and Engineering*, Aug. 2011, Trieste, Italy, pp. 126-132.
30. Akbaripour H. and Masehian E., "A Record-to-Record Travel Approach for solving the Capacitated Minimum Spanning Tree Problem", in *Proceedings of the 4th International Conference of Iranian Operations Research Society*, May 2011, Rasht, Iran, p. 786-787.
31. Masehian E. and Mirdar Harijani A., "Exploration and Foraging of Multiple Robots in Online Environments" (in Persian), in *Proceedings of the 2nd Iran's International Conference on Industrial Automation*, Mar. 2011, Tehran, Iran.

2010

32. Masehian E. and Sedighzadeh D., "An Improved Particle Swarm Optimization Method for Motion Planning of Multiple Robots", in *Proceedings of the 10th International Symposium on Distributed Autonomous Robotics Systems (DARS)*, Nov. 2010, Lausanne, Switzerland.
33. Masehian E. and Habibi G., "A New Fuzzy PID Controller for Motion Control of a Two-Wheeled Robot", in *Proceedings of the 1st International Conference on Applied Bionics and Biomechanics (ICABB)*, October 2010, Venice, Italy, pp. 62-68.
34. Maddahi A., Masehian E., and Zegordi S.H., "Solving the Dynamic Facility Layout Problem using an Adaptive Tabu Search Method" (in Persian), in *Proceedings of the 7th International Industrial Engineering Conference*, September 2010, Isfahan, Iran.
35. Enayati S., Masehian E., and Hosseini S.M., "Automatic Training of Bayesian Networks using Genetic Algorithms based on minimum description length metric" (in Persian),

in Proceedings of the 7th International Industrial Engineering Conference, September 2010, Isfahan, Iran.

36. Khosravi N. and Masehian E., "Designing a New Framework for Cooperation and Coordination of Intelligent Agents in Robot Soccer Simulation" (in Persian), in Proceedings of the 2nd International Conference on Control, Instrumentation and Automation, June 2010, Tehran, Iran.
37. Masehian E. and Sedighizadeh D., "A multi-objective PSO-based algorithm for robot path planning", in Proceedings of IEEE International Conference on Industrial Technology (ICIT), March 2010, Valparaíso, Chile, pp. 465-470. DOI: 10.1109/ICIT.2010.5472755.
38. Masehian E. and Hassan Nejad A., "A Hierarchical Decoupled Approach for Multi Robot Motion Planning on Trees", in Proceedings of IEEE International Conference on Robotics and Automation (ICRA), May 2010, Anchorage, USA, pp. 3604-3609.

2009

39. Khosravi N. and Masehian E., "Evaluation of Multi-agent Communication Systems and its Effect on the Future of Digital Media" (in Persian), in Proceedings of the 3rd Conference on Media Engineering, Dec. 2009, Tehran, Iran.
40. Jannat D. and Masehian E., "Path Planning of Car-like Robots by Fast Marching Method" (in Persian), in Proceedings of the 1st Iran's International Conference on Industrial Automation, Nov. 2009, Tehran, Iran.
41. Masehian E. and Hassan Nejad A., "Solvability of multi robot motion planning problems on trees", in Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Oct. 2009, St. Louis, USA, pp. 5936-5941.
42. Sedighizadeh D. and Masehian E., "A New Taxonomy for Particle Swarm Optimization (PSO)", in Proceedings of the 10th International Conference on Automation Technology, Tainan, Taiwan, June 2009, pp. 317-322.
43. Masehian E. and Movafaghpour M.A., "An Adaptive Sequential Clustering Algorithm for Generating Poly-line Maps from Range Data Scan in Mobile Robot Exploration", in Proceedings of the 10th International Conference on Automation Technology, Tainan, Taiwan, June 2009, pp. 886-891.
44. Masehian E., Samadian H., and Daneshzand F., "Analysis of Motion Feasibility of Multiple Mobile Agents on Graphs", in Proceedings of the 4th International Conference on Information Technology, June 2009, Amman, Jordan, ISBN 9957-8583-0-0 (Best paper).
45. Masehian E. and Samadian H. "The Application of Graph Theory in Robot Motion planning: Minimal Solvable Graphs" (in Persian), in Proceedings of the 1st National Conference on Software Engineering Applications, March 2009, Lahijan, Iran.
46. Jannat D. and Masehian E., "Motion planning of Mobile Robots in Unknown Environments using Visibility Graph and Tabu Search" (in Persian), in Proceedings of the 6th International Industrial Engineering Conference, March 2009, Tehran, Iran.

Before 2009

47. Sedighizadeh D., Jalili S., and Masehian E., "Error Recognition in Part Grasping by an Assembly Robot through Decision Tree Method" (in Persian), in Proceedings of the International Conference on Data Mining, November 2008, Tehran, Iran.
48. Habibi G., Masehian E., and Beheshti M.T.H., "Binary Integer Programming Model of Point Robot Path Planning", in Proceedings of IEEE 33rd Annual Conference of the Industrial Electronics Society (IECON), Nov. 2007, Taipei, Taiwan, pp. 2841-2845.
49. Masehian E. and Habibi G., "Motion planning and control of mobile robot using Linear Matrix Inequalities (LMIs)", in Proceedings of IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Oct. 2007, San Diego, USA, pp. 4277-4282.

50. Habibi G., Beheshti M.T.H., and Masehian E., "Mobile Robot Path Planning using Linear Matrix Inequalities and Binary Integer Programming" (in Persian), in Proceedings of the 1st Joint Congress on Fuzzy and Intelligent Systems, September 2007, Mashhad, Iran.
51. Masehian E. and Amin-Naseri M.R., "A Tabu Search-based Approach for Online Motion Planning", in Proceedings of IEEE International Conference on Industrial Technology (ICIT), Dec. 2006, Mumbai, India, pp. 2756-2761.
52. Masehian E. and Ahmadzadeh H., Robot Path Planning Using a Fast Roadmap Searching Method, in Proceedings of the 10th International Conference on Mechatronics Technology (ICMT), Nov. 2006, Mexico City, Mexico.
53. Masehian E., Amin-Naseri M.R., and Esmaeilzadeh Khadem S., "Online Motion Planning Using Incremental Construction of Medial Axis", in Proceedings of IEEE International Conference on Robotics and Automation (ICRA 2003), Sep. 2003, Taipei, Taiwan, pp. 2928-2933.
54. Masehian E., Amin-Naseri M.R., and Esmaeilzadeh Khadem S., "Path Planning Using a Pruned Generalized Voronoi Diagram – Potential Field Compound Model", in Proceedings of the 7th International Conference on Automation Technology, Sep. 2003, Chiayi, Taiwan, pp. 882-887.
55. Masehian E., Rapid Prototyping: A State of the Art Review, in Proceedings of the 8th Student Conference of Industrial Engineering, March 2001, Tehran, Iran.
56. Masehian, E., and Sepehri, M.M., A Moment-based Constructive Algorithm for Solving Generalized Salesman Problem (GSP), in Proceedings of the 8th Student Conference of Industrial Engineering, March 2001, Tehran, Iran.
57. Masehian E., Artificial Intelligence in Industrial Engineering: A Robotic Approach (in Persian), in Proceedings of the 8th Student Conference of Industrial Engineering, March 2001, Tehran, Iran.
58. Masehian, E., Babai, E., and Asadi, S., Detection of Out-of-Control States of SPC Charts Using Expert Systems (in Persian), in Proceedings of the 8th Student Conference of Industrial Engineering, March 2001, Tehran, Iran.

TEACHING

Graduate Courses

- **At Tarbiat Modares University**

- Applications of Artificial Intelligence (developed course): Spring 2013
- Combinatorial Optimization and Metaheuristic Algorithms (developed course): Fall 2009, Fall 2010, Fall 2011, Fall 2012, Fall 2013, Fall 2014, Spring 2014, Fall 2015, Fall 2016
- Computer Aided Design and Manufacturing: Spring 2005, Fall 2007, Spring 2010
- Design of Automatic Production Systems: Fall 2005, Fall 2006, Spring 2009
- Flexible Manufacturing Systems: Spring 2007, Spring 2008, Spring 2014, Spring 2016
- Process Planning and Product Design (developed course): Spring 2014
- Robotics and Motion Planning (developed course): Spring 2006, Spring 2011, Spring 2012
- Soft and Bio-Inspired Computing (developed course): Fall 2015, Fall 2016
 - Average teaching assessment score during Fall 2005 – Spring 2016: 19.1 / 20

- **At Iran University of Science and Technology**

- Design of Automatic Production Systems: Fall 2005, Fall 2004

- **At Azad University, Tehran branch (Invited lecturer)**

- Computer Aided Design and Manufacturing: Spring 2013, Fall 2014

- Design of Automatic Production Systems: Fall 2013, Spring 2013, Fall 2014, Fall 2015
- Robotics and Motion Planning: Fall 2014, Fall 2015

Undergraduate Courses

- **At Iran University of Science and Technology**

- Facilities Layout Planning: Fall 2002
- Manufacturing Processes: Fall 2002, Spring 2002, Fall 2003, Spring 2003
- Production Technologies (developed course): Fall 2004
 - Average teaching assessment score during 2002 – 2004: 3.5 / 4

- **At University of Science and Culture**

- Manufacturing Processes: Fall 2000, Spring 2000, Fall 2001, Spring 2001
- Technical English: Spring 2001, Spring 2002

Intensive Courses (non-academia)

- Automation and Artificial Intelligence intensive courses for various industries and companies.

ACADEMIC ADVISING

- **Doctoral Dissertations**

Supervisor

1. Ahmad Allahyari (ongoing): *Determining Optimal Motion Strategies for Multiple Agents in the Pursuit and Evasion Problem Using Linguistic Geometry* (at Azad University, Tehran branch).
2. Ensieh Neishabouri Jami (2016): *Modeling and Solving Routing, Assignment, Inventory, and Queuing Problems in Reverse Warehousing Systems*.
3. Somayé Ghandi (2015): *Motion and assembly planning of flexible objects*.
4. Hossein Ahmadzadeh (2015): *Multi-objective self-reconfiguration planning of modular robots*.
5. Yalda Katebi (2013): *Motion planning and task allocation in multirobot systems*.
6. Mohammad Ali Movafaghpour (2012): *Mapping and motion planning of mobile robots in unknown environments*.
7. Davoud Sedighzadeh (2011): *Multi-Robot Multi-objective robot motion planning*.

Advisor

8. Amir Noormohammadi (ongoing, supervisor: Dr. Hamidreza Eskandari): *Optimization of online part feeding in assembly lines using the 'supermarket' concept*.
9. Javad Basiri (ongoing, University of Tehran, supervisor: Dr. Fattaneh Taghiyareh): *Minimization of project time and cost by improving team formation in elite networks through a new socio-inspired swarm intelligence algorithm*.
10. Nastaran Borjian (Nov. 2016, supervisor: Prof. Ehsanollah Kabir): *Feature fusion and decision fusion for polyphonic music retrieval*.
11. Ali Azamian (ongoing, supervisor: Prof. Ehsanollah Kabir): *Sparse Representation of musical signals using note-specific atoms*.
12. Hamed Fazlollahtabar (Fall 2014, Iran University of Science and Technology, supervisor: Prof. Mohammad Saidi-Mehrbad): *Determining optimal routes in multiple automated guided vehicle networks*.

- **Master of Science Theses**

- **Supervisor**

1. Omid Gorgani (2016): *Improving the 3D printing process by optimizing layering orientation through a multi objective mathematical model.*
2. Hossein Habibnejad (2016): *Design, Analysis, and fabrication of customized wrist and arm splints using additive manufacturing.*
3. Paria Nasri (2016): *An intelligent decision support system for pavement maintenance management.*
4. Erfan Ahmadian Namini (2015): *Designing dispatching rules for automatic guided vehicles (AGVs) in factory transportation.*
5. Soodeh Sadat Hosseini Tehrani (2015): *An expert system for designing assembly line feeders.*
6. Farhad Rajaei Naghsh (2014): *Virtual environment design for Web-based control of tele-robotic operations.*
7. Taher Hekmatfar (2014): *Distributed decentralized control architecture for communication and coordination of multi-agent systems in cooperative object manipulation.*
8. Ali Shokri (2014): *Self-Reconfiguration planning of modular robots for object transportation using stigmergy.*
9. Seyed Javad Mousavi (2014): *Regrasp planning for robotic hands by throwing and catching.*
10. Marjan Jannati (2013): *Sensing, interaction, and data fusion of multiple mobile robots in unknown environments.*
11. Shokraneh Khashkhashi Moghadam (2013): *Navigation among movable obstacles through a recursive method.*
12. Mehrab Ramak (2011): *Conceptual design of a police robot and manufacturing of a prototype.*
13. Sina Samadi (2011, Isfahan University of Technology, co-supervisor: Dr. Jamshid Parvizian): *Creating a corridor for path planning of concave (L-shaped) mobile robots.*
14. Hossein Kakahaji (2011, Mechatronics Engineering, Islamic Azad University, Science and Research branch): *A sampling-based replanning algorithm for online motion planning of a car-like mobile robot.*
15. Hassan Yousefi Halvaei (2013): *Workspace exploration and task allocation in multiple robots.*
16. Nazanin Mohammad Nejad (2013): *Multi objective path planning for flying robots.*
17. Mitra Royan (2013): *Object collection and shepherding by flocking mobile robots.*
18. Shiva Malekian (2012): *Avoiding deadlocks in multirobot motion planning using Petri nets.*
19. Alireza Maddahi (2012): *Solving the pursuit-evasion problem in multi-agent systems through the Linguistic Geometry approach.*
20. Hossein Akbaripour Yassar (2012): *A sampling-based method for path planning of manipulators with Kinect sensor.*
21. Amir Abbas Abouei Mehrizi (2011): *Path planning of robot manipulators using mathematical programming.*
22. Ali Mirdar Harijani (2011): *Planning of exploration and foraging for multiple robots in unknown environments.*
23. Davoud Jannat (2010): *Single and multiple car-like mobile robot motion planning using Fast Marching Method.*
24. Hiva Samadian (2010): *Multi robot motion planning using graph theory.*
25. Hossein Ahmadzadeh (2009): *Motion planning of multi-robot systems in dynamic environments using coordination graphs.*
26. Raheleh Morovati (2009): *Robot motion planning in the presence of movable objects*

27. Negar Khosravi (2009): *Control system design for planning, coordination and cooperation of intelligent agents.*
28. Hamid Amraei (2008): *Analysis of concurrent patterns in Statistical Process Control charts using neural networks.*
29. Golnaz Habibi (2007, co-supervisor: Dr. Mohammad Taghi Hamidi Beheshti): *Optimal path planning and control of mobile robots using linear matrix inequalities (LMIs).*
30. Maryam Tajeddini (2007): *Online motion planning for multiple circular mobile robots.*
31. Yalda Katebi (2007): *Online motion planning for mobile robots with moving obstacles and target.*

Advisor

32. Hamid Daliri Moghadam (2013, supervisor: Prof. Issa Nakhai Kamal Abadi): *Development of an integrated model for flexible job shop scheduling and facility layout.*
33. Zohreh Kaheh (2013, supervisor: Dr. Reza Baradaran Kazemzadeh): *Designing of a decision mechanism for supply chain partners to manage the procurement and support the partnership through negotiation in a distributed multi-agent system.*
34. Mohammad Ahmadi (2010, supervisor: Prof. Issa Nakhai Kamal Abadi): *Designing a decision support system for multimodal travel mode choice in Tehran by multi-criteria decision making.*
35. Zeinab Hadavi (2009, supervisor: Prof. Mohammad Mehdi Sepehri): *Routing in communication networks using the beehive algorithm.*
36. Samira Saedi (2008, Iran University of Science and Technology, supervisor: Dr. Farnaz Barzinpour): *Application of Artificial Immune Systems in robot motion planning problems.*

• **Bachelor of Science Senior Projects (at IUST)**

Supervisor

1. Mahshid Behzadi (2008): *Improvement of the Medial Axis method in mobile robot motion planning.*
2. Azadeh Hassan Nejad (2007): *Multirobot motion planning on graphs.*
3. Mahsa Damroodi (2007): *Optimal robot path planning by mathematical programming.*
4. Farzaneh Daneshzand (2007): *Motion Planning of Automated Guided Vehicles (AGVs).*
5. Shadi Emam (2006): *Pack aluminizing of 316HH steels surfaces.*
6. Maryam Mohajeri and Roza Mehdipour (2005): *Designing an expert system for preventive maintenance of vertical milling machines.*
7. Ali Naddaf (2005): *A new algorithm for motion planning of multiple robot systems.*
8. Hossein Ahmadzadeh (2005): *Robot motion planning using the Voronoi diagram.*
9. Behrouz Bakhtiari (2005): *Online robot motion planning in labyrinthine environments*
10. Arash Zareh (2005): *Reverse engineering of an ice-climbing gadget (ice screw) and its improvement.*
11. Majid Gholamrezaei (2004): *Water Jet Machining: technology and applications.*
12. Naghmeh Geroyan (2004): *Designing an expert system for automatically determining metal-cutting parameters.*
13. Sadegh Rouzbehi and Khadijeh Joda (2003): *Design and manufacture of a 2-dof manipulator.*
14. Elham Babaei and Shayesteh Assadi (2002, at University of Science and Culture): *Designing an expert system for analyzing statistical process control (SPC) charts in production lines.*

THESIS COMMITTEE MEMBER

Doctoral Dissertations

• At Tarbiat Modares University (as Internal Reviewer)

1. Hadi Parvaz (Final defense, July 2016, ME Dept., supervisor: Dr. Mohammad Javad Nategh): *Analysis and design of automatic locating system for parts with NURBS surfaces and development of an integrated platform for Computer Aided Fixture Design (CAFD).*
2. Asefeh Hasani-Goodarzi (Proposal defense, Feb. 2015, supervisor: Dr. Seyed Hessameddin Zegordi): *The location-allocation problem of cross docking centers in supply chain considering disruption risk.*
3. Mohammad Ali Bagheri (Final defense, June 2013, supervisor: Dr. Gholamali Montazer): *Odor recognition by application of multiple classifiers systems in electronic nose.*
4. Hadi Parvaz (Proposal defense, May 2013, ME Dept., supervisor: Dr. Mohammad Javad Nategh): *Analysis and design of an automatic assembly system for parts with NURBS surfaces and implementing a general platform for Computer Aided Fixture Design (CAFD).*
5. Hamid Farvareh (Final defense, May 2011, supervisor: Prof. Mohammad Mehdi Sepehri): *Development of solution methods for the bi-level transportation network design problem.*
6. Vahid Baradaran (Final defense, May 2010, supervisor: Dr. Mohammadreza Amin-Naseri): *Development of stop skipping problem for dynamic transportation urban planning (bus transportation).*
7. Saeedeh Gholami (Final defense, Apr. 2008, supervisor: Prof. Issa Nakhai Kamal Abadi): *Analysis of robot motion planning and part sequencing problems in flexible manufacturing cells.*
8. Ali Hossein Mirzaei Beni (Proposal defense, Feb. 2008, supervisor: Prof. Issa Nakhai Kamal Abadi): *Multi objective uncertain dynamic inventory routing problem.*
9. Hamed Qahri-Saremi (Proposal defense, Feb. 2007, supervisor: Prof. Amir Albadvi): *A model for marketing strategy extraction based on Intelligent AHP of market segmentation.*

• At Other Universities (as External Reviewer)

10. Majid Mardani Shahri (Proposal defense, 9 Oct. 2016, Sharif University of Technology, IE College, supervisor: Prof. Abdolhamid Esharaghnia Jahromi): *Determination of Optimal Intelligent Maintenance System based on Reliability.*
11. Shokraneh Khashkhashi Moghaddam (Proposal defense, 4 Oct. 2016, Sharif University of Technology, IE College, supervisor: Prof. Mahmoud Houshmand): *Layout Configuration Design in Reconfigurable Manufacturing Systems (RMS).*
12. Ali Ghahremani (Proposal defense, Nov. 2015, Islamic Azad University Tehran South branch, IE College, supervisor: Dr. Omid Fatahi Valilaei): *Cloud Flexible Manufacturing System (CFMS).*
13. Naeem Aghajani (Proposal defense, Oct. 2015, Islamic Azad University Qazvin branch, IE College, co-supervisors: Dr. Esmail Mehdizadeh and Prof. Reza Tavakoli-Moghaddam): *New mathematical modeling for a dynamic cellular manufacturing system with manpower and tools allocation.*
14. Saeed Heidari (Proposal defense, Sep. 2015, University of Tehran, ECE Dept., supervisor: Dr. Hadi Moradi): *Improving the Localization of RF Sources in outdoor by Modeling Obstacles.*
15. Hossein Akbaripour (Proposal defense, Sep. 2015, Sharif University of Technology, IE College, supervisor: Prof. Mahmoud Houshmand): *Global supply chain and service composition optimization in cloud manufacturing.*

16. Fatemeh Zahra Saberifar (Proposal defense, Jun. 2014, Amirkabir University of Technology, CS Dept., supervisor: Dr. Ali Mohades Khorasani): *Design of combinatorial filters in information spaces.*
17. Kaveh Pashaei (Final defense, May 2014, University of Tehran, ECE Dept., co-supervisors: Dr. Fattaneh Taghiyareh and Dr. Kambiz Badie): *Improvement of decision-making processes in multi agent systems based on a genetic framework with symbolic elements.*
18. Omid Fatahi Valilaei (Final defense, Jun. 2013, Sharif University of Technology, IE College, supervisor: Prof. Mahmoud Houshmand): *Cloud manufacturing and design systems: a design and manufacturing platform using cloud computing concepts.*

Master of Science Theses

• At Tarbiat Modares University (as Internal Reviewer)

1. Moeen Farrokhi (Feb. 2016, supervisor: Dr. Majid Sheikhmohammady): *A Decision Model for Identifying Optimal Locations of Oil and Gas Wells.*
2. Mohammad Amin Rahaei (Mar. 2015, supervisor: Dr. Hamidreza Eskandari): *Berth allocation planning for container terminals through simulation-based optimization.*
3. Moin Asadi Zonouz (Feb. 2015, supervisor: Dr. Mohammadreza Amin-Naseri): *Improving the clustering problem using the Unconscious metaheuristic algorithm.*
4. Hamed Molaei Azirani (Jan. 2015, supervisor: Prof. Mohammad Mehdi Sepehri): *Hospital services quality improvement by identifying patients' needs through using the Kinect sensor for gesture recognition.*
5. Leyla Hasanbeygi Dashtbayaz (Dec. 2013, supervisor: Prof. Issa Nakhai Kamal Abadi): *Manufacturing scheduling based on manipulator motion strategies in robotic cells and considering tool wear.*
6. Mohammad Shayestehfar (Dec. 2013, supervisor: Dr. Gholamali Montazer): *Intelligent identification of moving vehicles using enhanced fuzzy systems.*
7. Mohammad Sadegh Rezaei (Sep. 2013, supervisor: Dr. Gholamali Montazer): *Intelligent classification of learners in E-learning environment - Case study: electronic-learning students.*
8. Vahid Fathi (May 2013, supervisor: Dr. Gholamali Montazer): *Optimization of Learning Object Selection in an E-learning Environment Using Particle Swarm Optimization Algorithm.*
9. Mohammad Mehrzad (Feb. 2013, supervisor: Prof. Amir Albadvi): *Design of a context-aware system for E-learning: Case of Tarbiat Modares University.*
10. Amin Yazdekhasti (Sept. 2012, supervisor: Dr. Mohammadreza Amin-Naseri): *Solving the multi objective hub location problem with flow uncertainty.*
11. Behraz Farokhi (Mar. 2012, ECE Dept., supervisor: Prof. Ehsanollah Kabir): *Signal onset detection for solo Tar instrument.*
12. Mahdi Mohammadzadeh (Mar. 2012, supervisor: Prof. Issa Nakhai Kamal Abadi): *Strategic Design of Deployment and Support Supply Chain of Special Spraying Unmanned Aerial Vehicle Considering Risk.*
13. Kamyar Kargar Mohammadinejad (Feb. 2012, supervisor: Dr. Seyed Hessameddin Zegordi): *Design of a bi-objective hub network based on transportation cost and hub covering.*
14. Ehsan Mahmoudi (Jan. 2012, supervisor: Dr. Hamidreza Eskandari): *Mathematical modeling and simulation of the fleet sizing problem for offshore support ships - Case study of Khark operational zone.*
15. Majid Eskandarpour (Feb. 2011, supervisor: Dr. Seyed Hessameddin Zegordi): *Design of a multi-objective closed-loop reverse supply chain and solving by parallel variable neighborhood search.*

16. Amin Tohidi (June 2010, ME Dept., supervisor: Dr. Majid Mohammadi Moghaddam): *Design and manufacture of a biped actuated with shape memory alloys.*
17. Seyed Alireza Gohari (Sep. 2009, supervisor: Prof. Issa Nakhai Kamal Abadi): *Integration of production sequencing and truck and pallet transportation through Petri Net approach.*
18. Mohammad Malekzadeh (Jul. 2009, supervisor: Dr. Nasim Nahavandi): *Modeling and solving the multi-depot vehicle routing problem by intelligent methods.*
19. Fatemeh Ameri (May 2009, co-supervisors: Prof. Mohammad Mehdi Sepehri and Prof. Albert Caruana): *A framework for identifying and prioritizing factors affecting customers' online shopping behavior in Iran.*
20. Mina Ali (May 2009, co-supervisors: Prof. Mohammad Mehdi Sepehri and Prof. Peter Naude): *Information diffusion between patents and scientific articles for identifying future opportunities in marketing and producing product - A case study in nano discipline.*
21. Ali Tamadoni Jahromi (Apr. 2009, Co-supervisors: Prof. Mohammad Mehdi Sepehri and Prof. Albert Caruana): *Predicting customer churn in telecommunications service providers.*
22. Ehsam Maazollahi (Mar. 2009, supervisor: Prof. Issa Nakhai Kamal Abadi): *Locating warehouses and distribution centers in supply networks considering service compatibility.*
23. Mohammad Hossein Zareh (Dec. 2008, supervisor: Prof. Mohammad Mehdi Sepehri): *Modeling and solving the general multi-commodity transportation problem with fixed costs.*
24. Seyed Ali Aghamiri (Apr. 2007, supervisor: Dr. Mohammadreza Amin-Naseri): *Natural gas consumer satisfaction investigation and analysis in Tehran city.*
25. Amir Reaziat (Mar. 2007, supervisor: Dr. Mohammadreza Amin-Naseri): *Factors affecting the success of business-to-business international internet marketing (B2B IIM) in Iranian oil and gas industry.*
26. Mohamad Karim Roozbahani (Nov. 2006, supervisor: Dr. Mohammadreza Amin-Naseri): *Design and implementation of an expert system shell with fuzzy, object-oriented and probabilistic abilities (FOOPES).*

• **At Other Universities (as External Reviewer)**

27. Fariba Arabi Eskikand (Sep. 2016, Amirkabir University of Technology, Mathematics and Computer Science Dept., co-supervisors: Dr. Ali Mohades khorasani and Dr. Seyyed Ehsan Allah Banifatemi): *Robot Motion Planning Based on Minimalism Approach.*
28. Parisa Parhami (Sep. 2015, University of Tehran, ECE Dept., co-supervisors: Dr. Hadi Moradi and Dr. Masood Asadpour): *Proposing a method to improve self-reconfiguration planning of modular robots using configuration hubs.*
29. Khalil Taheri (Sep. 2015, University of Tehran, ECE Dept., co-supervisors: Dr. Hadi Moradi and Dr. Masood Asadpour): *Improving Graph search method for Self-Reconfiguration Planning of Modular robots.*
30. Pouyan Jahanbin (Jan. 2015, Sharif University of Technology, IE College, supervisor: Prof. Mahmoud Houshmand): *An object-oriented framework for integration of robot and CNC machines in flexible manufacturing systems.*
31. Keyvan Golestan Irani (Aug. 2011, University of Tehran, ECE Dept., co-supervisors: Dr. Masood Asadpour and Dr. Hadi Moradi): *Reconfiguration in modular robots using graph-based and random search methods.*
32. Amir Hossein Bakhtiary Davijani (Sep. 2010, University of Tehran, ECE Dept., supervisor: Dr. Hadi Moradi): *Hierarchical localization with images in aerial vehicles.*

33. Anahita Ahmadi (Oct. 2009, Bu-Ali Sina University, Hamadan, IE College, supervisor: Dr. Seyed Sepehr Ghazinoory): *Strategic Planning of IRISA (International System s Engineering & Automation Company) Company using SWOT and Resource-based approaches.*
34. Malek Fath Abadi (Oct. 2009, Bu-Ali Sina University, Hamadan, IE College, supervisor: Dr. Seyed Sepehr Ghazinoory): *Application of Theory of Constraints (TOC) in the National Innovation System of Iran.*

PROFESSIONAL SERVICE

• Editorial Work for Academic Journals

- Associate Editor, Journal of Industrial Engineering International (Springer): July 2013 – present.
- Member of Editorial Board, International Journal of Advanced Robotic Systems (Sage Pub.): Nov. 2011 – present.
- Guest Editor for the Special Issue “Robot Motion”, International Journal of Advanced Robotic Systems (Intech): Jan. 2012 – June 2013.
- Member of Editorial Board, MASAUM Journal of Computer Science (MJCS): May 2011 – Nov. 2012.
- Member of Editorial Board, MASAUM Journal of Engineering and Applied Sciences (MJEAS): May 2011 – Nov. 2012.

• Conference Program Co-Chair

- International Conference on Robotics and Mechatronics (ICROM) (organized by Robotics Society of Iran): Feb. 2013, Oct. 2014, Oct. 2015, Oct. 2016

• Conference Steering Committee Member

- International Conference on Robotics and Mechatronics (ICROM): 2013, 2014, 2015, 2016
- Iranian Industrial Automation Conference: 2009, 2011, 2013
- International Industrial Engineering Conference of Iran: 2017

• Conference Program Committee Member

- 2nd Iran Intelligent Transportation Systems (ITS) Congress: 2017.
- Iranian Conference on Intelligent Systems: 2014
- International Industrial Engineering Conference of Iran: 2005, 2008, 2012, 2014
- ArmRobotics Robotic contest (organized by the Union of Information Technology Enterprises), Yerevan, Armenia (member of Board of Juries): 2009, 2010, 2011
- Session chair at numerous conferences attended

• Reviewer for International Journals

- Advanced Robotics (Taylor & Francis): 2015
- Applied Mathematics and Computation (Elsevier): 2013
- Autonomous Robots (Springer): 2015
- Computers and Electronics in Agriculture (Elsevier): 2016
- Engineering Applications of Artificial Intelligence (Elsevier): 2010, 2015, 2016
- IEEE Robotics and Automation Letters (RA-L): 2016
- IET Computer Vision (The Institution of Engineering and Technology): 2015
- Information Sciences (Elsevier): 2010, 2011, 2013.
- International Journal of Advanced Robotic Systems (Intech): 2011, 2012, 2013, 2015
- International Journal of Automation and Computing (Springer): 2015
- International Journal of Industrial Engineering and Production Research (IUST, Iran): 2011, 2012, 2013, 2014

- Journal of Industrial Engineering (University of Tehran pub.): 2010
- Journal of Industrial Engineering International (Springer): 2013, 2014, 2015
- Journal of Intelligent and Robotic Systems (Springer): 2008, 2013, 2014, 2016
- Journal of Intelligent Manufacturing (Springer): 2015
- Journal of Optimization in Industrial Engineering (IAU, Iran): 2010, 2011, 2014, 2015
- Mathematical Problems in Engineering (Hindawi): 2014, 2016
- Neural Computing and Applications (Springer): 2016
- Robotica (Cambridge University Press): 2011, 2013, 2014, 2015
- Scientia Iranica (Elsevier): 2015
- Swarm and Evolutionary Computation (Elsevier): 2016

- **Reviewer for International Conferences**

- International Conference on Aerospace, Robotics, Biomechanics, Neuro-rehabilitation, Mechanical Engineering and Manufacturing Systems (ICMERA): 2015, 2016
- IEEE International Conference on Automation Science and Engineering (CASE): 2011
- IEEE International Conference on Industrial Technology (ICIT): 2010
- IEEE International Conference on Robotics and Automation (ICRA): 2011, 2013, 2015
- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS): 2013, 2016
- International Conference of Robotics and Mechatronics (ICROM): 2013, 2014, 2015
- International Conference on Applied Bionics and Biomechanics: 2010
- International Conference on Control, Instrumentation, and Automation (Iran): 2011
- International Industrial Engineering Conference of Iran: 2005 – 2015
- International Symposium of Computer Society of Iran on Artificial Intelligence and Signal Processing (AISP): 2011
- Iranian Conference on Electrical Engineering: 2011, 2012, 2013, 2014, 2016
- Iranian Industrial Automation Conference: 2009, 2011, 2013

- **Presented Workshops**

- *Introduction to Robot Motion Planning*, at the International Conference of Robotics and Mechatronics (ICROM), Tehran, Iran, Feb. 2013
- *Motion Planning and Coordination in Multirobot Systems*, at the 3rd Iranian Industrial Automation Conference, Tehran, Iran, Jan. 2013
- *Robot Motion Planning*, ArmRobotics contest, Yerevan, Armenia, Jan. 2009
- *Recent Advances in Motion Planning*, American University of Armenia (AUA), Yerevan, Armenia, Dec. 2011
- *Robot Motion Planning Problems and Methods*, at the 2nd Iranian Industrial Automation Conference, Tehran, Iran, Mar. 2011

- **Invited Talks**

- Keynote speech: *Modular Robotic Systems: Applications, Challenges, and Solution Approaches*, at the 2nd International Conference on New Research Achievements in Mechanical, Industrial, and Aerospace Engineering, Tehran, Iran, 30/Sep/2016
- Keynote speech: *Characteristics of and Approaches to Flocking in Swarm Robotics*, at the 11th International Conference on Aerospace, Robotics, Mechanical Engineering, Manufacturing Systems, Neuro-rehabilitation and Human Motricities (OPTIROB), Mangalia, Romania, 30/Jun/2016
- Keynote speech: *The Role of Motion Planning in Robotics*, at the 10th International Conference on Aerospace, Robotics, Mechanical Engineering, Manufacturing Systems, Neuro-rehabilitation and Human Motricities (OPTIROB), Mangalia, Romania, 26/Jun/2015
- Keynote speech: *Automation: Past, Present, and Future*, at the 2nd Iranian Industrial Automation Conference, Tehran, Iran, 22/Feb/2011

- Invited Talk: *Disruptive Technologies and Industrial Engineering Careers*, Iranian Institute of Industrial Engineering, Tehran, 9/Nov/2016.
- Invited Talk: *Artificial Intelligence and Robotics*, Armenian Association of Architects and Engineers, Tehran, Iran, 2/Sep/2016
- Invited Talks: *Goal Setting and Pursuing at Academia*, (for freshman university students), Armenian Association of University Graduates, Tehran, Iran, Oct. 2005, Oct. 2008, Oct. 2011, Nov. 2014
- Radio Talks: *Advanced Manufacturing Technologies*, Iran's State Radio, 5/Feb/2008, 6/Feb/2008, 19/Apr/2009, 13/Aug/2009
- Media Interview: *On the Economic Growth of Iran*, Iranian Students News Agency (ISNA), 14/Nov/2006
- Media Interview: *High-tech and Strategic Industries*, ISNA, 2/Mar/2008
- Media Interview: *Ways to Improve Productivity*, ISNA, 11/Jul/2008

• **Membership in Professional Societies**

- Iranian Institute of Industrial Engineering (IIIE), Tehran, Iran: Oct. 2014 – present
 - Member of Board of Directors: Feb. 2015 – present
 - Head of International Relations Committee: Jul. 2016 – present
- Robotics Society of Iran (RSI), Tehran, Iran: Oct. 2013 – present
- University Association for Science and Technology of Romania (UASTRO), Bucharest, Romania: Jun. 2015 – present
- Institute for Systems and Technologies of Information, Control and Communication (INSTICC), Portugal: May 2013 – present
- Armenian Association of Architects and Engineers, Tehran, Iran: May 2016 - present

TRAINING COURSES AND WORKSHOPS ATTENDED

- Computational Geometry with Focus on Robotics** Feb. 2012
 -A one-week Winter School organized by Laboratory of Algorithms and Computational Geometry, Faculty of Mathematics and Computer Science, Amirkabir University of Technology, Tehran, Iran. Instructors: Prof. Steven LaValle (University of Illinois at Urbana-Champaign) and Prof. Frank van der Stappen (Utrecht University, Netherlands).
- Open Problems and Challenges of Motion Planning** Sep. 2011
 -A one-day workshop at the IEEE International Conference on Intelligent and Robotic Systems (IROS), San Francisco, CA.
- Academic Management** Nov. 2008
 -A one-day intensive course taught by Prof. Ali Akbar Farhangi (Faculty of Management, University of Tehran) and organized by Tarbiat Modares University.
- Application Techniques and Installation of Architectural Panels** Sep. 2006
 -A one-week training course organized by Euro Panels Overseas, NV, Willebroek, Belgium.
- Project Management** Sep. 2004
 -A two-day workshop held at Iran University of Science and Technology. Topics included: Techniques for task planning, scheduling, control, and management of projects, Dealing with risks in projects, Types of projects and methods to deal with each, and Project timetabling.
- Marketing and Drafting Customer-friendly Proposals** Sep. 2004
 -A two-day workshop held at Iran University of Science and Technology. Topics Included: Negotiation and interview techniques, Communicational skills, Methods

to write customer-winning proposals, Contracts and their legal matters, and Marketing skills.

Reporting and Drafting in English Jun. 2003
– Intensive course held by Higher Education Research and Planning Institute, Ministry of Science, Research and Technology, Iran. Topics Included: English technical and non-technical writing, Designing influential and well-grounded documents and reports, Collecting, summarizing, and categorizing information, Formal and informal letter writing, techniques for proposal writing, defining objectives, Analytical reports and data interpretation and evaluation.

English Language Proficiency Course 1999 – 2003
– Simultaneous Interpretation Language Institute, Tehran, a 16-term package.

INDUSTRIAL EXPERIENCE

Iran Road Maintenance & Transportation Organization, Tehran, Iran 2016 – present
– Principle Investigator of the project "Investigation and planning of a comprehensive information technology roadmap for Road Management System (RMS) of Iran" (60000 \$).

Advanced Manufacturing Research Center (AMRC), Tehran, Iran 2007 – 2008
– Member of Board of Directors and Director of workshops and laboratories

Mahan Building Construction Co. Ltd., Tehran, Iran 2005 – 2008
– Consultant to the Board of Directors, and negotiator for production technology transfer projects from Belgium, Finland, France, and Armenia to Iran

Heris System Co., Tehran, Iran 1997
– Quality improvement expert

Zob-Rizan Damavand Co., Tehran, Iran 1994
– Production Planner

Miscellaneous Industrial Skills 1992 – 2004
– Accomplished various projects on system improvement, facility planning, project control, work and time study, manufacturing processes, etc. at university laboratories, workshops, and production companies
– Hands-on experience in gas/arc welding, modeling, casting, turning, milling, grinding, shaping, CNC G-code part programming, Siemens PLC ladder logic programming, robot programming, etc.

ACADEMIC SKILLS

- Mathematical modeling of various real-world problems and solving them through systematic and algorithmic approaches.
- Computer programming of complex algorithms for problem solving and analysis.
- Analyzing, interpreting, and reporting data and information.
- Assigning, organizing and managing working teams.
- Written and oral academic and technical presentation skills.
- Designing and developing academic curricula, syllabi, and course plans.
- Teaching engineering and mathematical concepts to undergraduate and graduate students.
- Conducting academic research in the fields of industrial, manufacturing, and robotics engineering.

- Supervising, advising, guiding, and motivating students in their research projects and theses.
- Organizing scientific conferences, managing review processes, leading technical sessions, etc.
- Technical reviewing of journal and conference papers, books, proposals, theses, reports, presentations, etc.

HONORS AND AWARDS

- Nominated for Distinguished Young Industrial Engineering Scientist Award by the Iranian Academy of Sciences, June 2015.
- Finalist for best paper award at the 4th International Conference on Evolutionary Computation Theory and Applications (ECTA), October 2012, Barcelona, Spain.
- Finalist at the 19th Iran's Book of the Season Award for authoring the book Introduction to Manufacturing Processes (in Persian), Farmanesh Pub., March 10, 2012 (included in the top 52 among 5564 books published in Winter 2012 in Iran).
- Best paper award for the paper "TOPSIS-Based Robust Parameter Tuning for Heuristic Algorithms using Design of Experiments Methodology" at the 1st International Quality Engineering Conference (QEC), December 2012, Tehran, Iran.
- Selection of the book "Manufacturing Technologies and Processes" as the obligatory textbook of the Manufacturing Processes course for all industrial engineering students of Payame Noor University (a distant learning university) across the nation (about 8000 students per year), Fall 2009 to present.
- Best paper award for the paper "Analysis of Motion Feasibility of Multiple Mobile Agents on Graphs" at the 4th International Conference on Information Technology, June 2009, Amman, Jordan.
- Research Visitor position, Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, IL, USA, Feb.-Nov. 2004.
- IEEE Travel and Registration Award, IEEE International Conference on Robotics and Automation (ICRA 2003), Taipei, Taiwan, September 2003.
- Ranked 2nd among the contestants of MCHC nationwide English language examination (equivalent to TOEFL in Iran), held by the Ministry of Science, Research, and Technology, March 2003.
- Official representative of Islamic Republic Iran at the Youth Forum of the 31st General Conference of UNESCO, Paris, France, October 2001.
- Distinguished lecturer at University of Science and Culture, Industrial Engineering Department, Tehran, June 2001.
- Ranked 15th among about 2500 applicants of industrial engineering graduate programme at the Iranian Graduate University Entrance Exam, September 1994.
- Ranked 1st among the graduates of the Industrial Engineering School, Iran University of Science and Technology, September 1994.
- Ranked 1st among the applicants of industrial engineering (industrial technology minor) programme at the Iranian University Entrance Exam (Concourse), September 1990.

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