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# Mohammad-R. Akbarzadeh-T., Professor,

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#### **Education:**

Doctor of Philosophy, 1998, Electrical Engineering, University of New Mexico (USA), Dissertation topic is *Fuzzy Control and Evolutionary Optimization of Complex Systems*. GPA 3 82

• Received the College of Engineering's "Outstanding Graduate Student Award." Masters of Science, 1992, Robotics and Control Systems, University of New Mexico (USA), GPA 3.6.

Bachelors of Science, 1989, Electrical Engineering, University of New Mexico (USA), GPA 3.31.

#### **Research Interests:**

Complex Systems, Computational Intelligence (Fuzzy Logic, Neural Networks, Genetic Algorithms, Reinforcement Learning), Pattern Recognition, Distributed Artificial Intelligence, Systems of Systems, Multiagent Systems, Intelligent Control, Mobile and Manipulator Robotics, Biomedical Engineering.

#### **Experience:**

December 99-Present: Professor, Departments of Electrical Engineering and Computer Engineering, and Director of Center for Applied Research on Intelligent Systems and Soft Computing, Ferdowsi University of Mashhad.

- Received the University's Outstanding Faculty of the Year Award twice in 2002 and 2008, was also nominated for this award in 2004 by the College of Engineering, received *Outstanding Faculty Award in Support of Student Scientific Activities* in 2004. Was also nominated by the university for UNESCO's Young Investigator Award in 2001.
- Designed and taught three new courses on "Soft Computing" (a graduate level course), "Multiagent Systems" (a graduate level course) and "Intelligent Systems" (an undergraduate course) and "Technical English" (an undergraduate EE course).
- Taught "Fuzzy Control," "Robotics" (two graduate level course), and "Modern Control" (an undergraduate course).
- Have advised over 40 completed M.S. thesis and two doctoral dissertations in the broad area of intelligent control/modeling. Currently advise fifteen masters and seven PhD students.
- Served as the IEEE Faculty Advisor for the newly established student branch from 2000-2008.
- Founded the university's Center for Applied Research on Intelligent Systems and Soft Computing" in 2009.
- Initiated the first student chapter in Iran for Iranian Association of Electrical and Electronic Engineers in 2004.

January 2007 – January 2009: Consulting Professor, Department of Aeronautical and Astronomical Engineering, Purdue University, USA.

January 2006 – January 2007: Visiting Scholar, Berkeley Initiative on Soft Computing (BISC), University of California at Berkeley, USA.

September 2004- Present: Professor, Departments of Biomedical Engineering and Artificial Intelligence, Azad University of Mashhad.

- Taught three graduate level courses on "Fuzzy Control" "Soft Computing," and "Multi-agent Systems."
- Currently advise 6 M.S. Thesis in the areas of "Time Delay Systems for Multiagent Traffic Control," "Network Traffic Routing," "Emboli Detection by Artificial Fuzzy Immune Systems," "Intelligent ECG-based Heart VF Fault Detection," "Evolutionary Seeded Region Growing for MRI Segmentation," "Fuzzy Probabilities and Hierarchical Fuzzy Systems for Aphasia Classification,"

*June 2001-2003:* Research Assistant Professor, NASA Center for Autonomous Control Engineering.

• Under a NASA grant, working on distributed multi-agent cooperation and Virtual Laboratory software for simulating such distributed processing environment.

*May* 96 – *September* 2000: Research Engineer, NASA Center for Autonomous Control Engineering, University of New Mexico.

- Performed research in the areas of intelligent control, flexible robotics, water desalination process, and genetic algorithms.
- Supervised and assisted other doctoral, masters, and undergraduate students in various research projects.
- Assisted in writing research and educational proposals to NASA, Waste-management and Education Consortium (WERC), National Science Foundation (NSF), and Department of Energy (DOE).
- Initiated a new research project, "SoftLab," and lead a team of eight (8) graduate and undergraduate students to produce a software environment for research and development in soft computing and intelligent control. An evaluation version of this software was released in August of 1998, and is a basis for a continual research grant to date. Worked with the CoMeT (Computational Mechanics Toolkit) to provide a unifying framework for both modeling and control of systems. A doctoral student recently completed her dissertation following this research.

August 97- August 99: Adjunct Assistant Professor, Department of Electrical and Computer Engineering, University of New Mexico.

- Taught the instrumentation laboratory (sophomore level), the digital and analog electronics laboratory (junior level) and the Signals and Communication Systems (junior level).
- Supervised four teaching assistants.
- Obtained necessary funding to upgrade the laboratories with state of the art computing facilities.

June 86 - September 2000: Engineer I, Language Learning Center, University of New Mexico.

- Designed custom electronic equipment such as special purpose audio-amplifiers, TV modulators, camera security system, and automatic video switchboards.
- Supervised a student employee with design and repair of audio/video/computer and other electronic instruments.

May 1998-August 1998: Consultant, Motorola Inc., Albuquerque, New Mexico.

• Investigated application of genetic algorithm and fuzzy logic techniques for process optimization

*January 90 - May 96*: Research and Teaching Assistant, Department of Electrical and Computer Engineering, University of New Mexico. Was the Department's nominee for the University's best teaching assistant of the year award in 1996.

- Performed various funded research such as robot applications in hazardous waste handling and intelligent control of water desalination plants.
- Conducted several successful research proposals.
- Taught undergraduate electrical engineering courses such as sophomore level circuit analysis I & II, and junior level digital-analog electronics labs.

August 86 - March 88: Computer Consultant, Department of Freshman Engineering, University of New Mexico.

August 85 - December 89: Grader, Department of Mathematics and Statistics.

#### Awards:

- Fall 2010: Excellent Leadership Award, Islamic Development Bank
- Fall 2009: Excellent Performance Award, Islamic Development Bank.
- Spring 2008: Outstanding Faculty of the Year Award, Ferdowsi University of Mashhad.
- Spring and Fall 2006: IDB Merit Scholarship for High Technology.
- Fall 2005: *Best Faculty Advisor Award in Solid Mechanics*, Iranian Society of Mechanical Engineers.
- Spring 2004: Outstanding Faculty Award in Support of Student Scientific Activities, Ferdowsi University of Mashhad.
- Spring 2002: Outstanding Faculty of the Year Award, Ferdowsi University of Mashhad.
- Fall 2001: IEEE Senior Membership Award
- Spring 1998: Outstanding Graduate Student Award, Department of EECE, University of New Mexico.
- Spring 1998: Best poster paper award in Joint Conference on the Environment, 1998.
- Summer 1994: Best paper Award (Honorable Mention) in Robotics and Automation Category, ISRAM'94.
- Spring, 1989: Service Award, Mathematical Honor Society (Kappa Mu Epsilon).
- Spring, 1988: National Meritorious Award in Mathematical Contest in Modeling.
- Fall, 1987: Ranked in the top one third in the nation. Putnam Intercollegiate Mathematical Competition.
- Spring, 1986: Ranked third in the Freshman Mathematics Competition, UNM.
- 1986-Fall, 1988: *Honor Roll*, College of Engineering.
- 1987-Spring, 1989: General Honors Program.

# **Professional Activities:**

- 2009-2011: Council Member, International Fuzzy Systems Association (IFSA)
- 2009: Founding director, Center for Applied Research on Intelligent Systems and Soft Computing, FUM.
- 2008-Present: Member of Regents, Eqbal-Lahoori Institute of Higher Education.
- 2007-present: Founding President, Intelligent Systems Scientific Society of Iran.
- 2006-present: Founding Member, Bahar Institute of Higher Education
- 2003-Present: Founding Chairman of CIS Permanent Committee, Conference on Intelligent Systems.
- 2005-present: Member of Editorial Advisory Board, Journal of Engineering, Islamic Azad University-Mashhad Branch.
- 2002-2005: Member of governing council, Iranian Association of Electrical and Electronic Engineers, Khorasan Division.
- 1986 1988: President of the Mathematical Honor Society (KME). As president of the society, initiated the "Lobo Puzzle Contest" which was published weekly in the Daily Lobo. This effort was directed to foster appreciation of mathematics among general student body and community.
- 1987 1988: Honors Council, Golden Key National Honor Society. Was part of a team which organized the "hanging of the greens" at the university president house.
- 1987 1988: Treasurer of Junior Service Honor Society (Las Campanas). That year, the society had a huge budget surplus even after large donations to other non-profit organizations! Organizing "a car wash day" and "student ushering" at Popejoy Hall were two

of the innovative methods to create revenue for the society. Helped organize an effort to support the 1987 Winter Special Olympics.

#### **Conference Technical Committees:**

- 2011: Technical Chairman, 2011 Conference on Chaos, Fractals and Complex Systems (CFCS2011)
- 2011: Technical Track Chair (Intelligent Systems), 2011 International eConference on Computer and Knowledge Engineering (ICCKE2011)
- 2011: Chairman, National Workshop on Soft Computing (WSC2011), Mashhad, Iran.
- 2009: Member of Technical Committee, Third Joint Congress on Fuzzy and Intelligent Systems, Yazd, Iran.
- 2008: Member of Technical Committee, 2008 IEEE World Congress on Computational Intelligence, Hong Kong.
- 2007: Technical Chair of the First Joint Congress on Fuzzy and Intelligent System, 2007.
- 2006: Member of Technical Committee, IEEE Conference on Systems, Man and Cybernetics, Hawaii.
- 2005: Chairman, 2005 Mini-Symposium on Intelligent and Biomedical Systems. Tehran , Iran.
- 2004: Co-chair, Mini-symposium on Satisficing Multi-agent and Cyber-learning Systems, as part of World Automation Congress, Spain.
- 2004: Publications Chair, Twelfth Iranian Conference on Electrical Engineer, Mashhad, Iran.
- 2003: Chairman, 2003 Conference on Intelligent Systems, Mashhad, Iran.
- 2003: Member of Technical Committee, IEEE Conference on Decision and Control, Hawaii.
- 2003, 2008: Member of Technical Committee, Iranian Conference on Electrical Engineering.
- 2000: Member of Technical Committee, World Automation Congress, Maui, Hawaii.
- 1999: Member of Technical Committee, Genetic and Evolutionary Computation Conference, Orlando, Florida.
- 1999: Organizing Chair, 1999 ACE-PURSUE Student Conference, (APSC'99) Albuquerque, New Mexico.
- 1998: Organized and Chaired a session on Industrial Water Desalination Technology in World Automation Congress (WAC'98), Anchorage, Alaska.
- 1997: Organized and Co-chaired two sessions on *Evolutionary Computing* and *Fuzzy Logic* in IEEE International Conference on Robotics and Automation (ICRA'97).
- 1997: Organized and Chaired a session on Neural Networks and Control Systems in 1997 NASA University Research Centers-Technical Conference (URC-TC'97).
- 1996: Chaired two sessions on *Flexible Manipulators* and *Intelligent Manufacturing Systems* in 1996 World Automation Congress (WAC'96).

# **Journal Reviewer Board:**

- Journal of Engineering, Tabriz University
- Journal of Engineering, Ferdowsi University of Mashhad

### **Research Proposals:**

Have written or assisted in writing several winning proposals including,

- 2006 *Human-Machine Interaction in a Swarm Architecture for Urban Traffic*, was awarded \$50k by Honda (Honda Initative Award), in collaboration with Purdue University, USA.
- 1999 A Virtual Modeling and Simulation Laboratory for Autonomous Rovers, Was awarded over \$1M by NASA for three years.

- 1996 Experimental Testbeds for Intelligent Robot Controllers Based on Soft Computing Approaches with Applications to Waste Management. Was awarded 167,326.00 dollars by Waste Education and Research Consortium in 1996 for a two year period.
- 1996 Experimental Testbed for a Single Stage Desalination Process. Was awarded \$4000.00 by University of New Mexico Research Allocation Committee.
- 1995 Experimental Testbeds for Fuzzy Logic, Neural Networks and Genetic Algorithms. Was awarded 2,700.00 dollars by State of New Mexico's Commission on Higher Education.

### **Member:**

- Intelligent Systems Scientific Society of Iran, Founding President (2007-present)
- Iranian Fuzzy Systems Association, Member of Executive Council (2009-present)
- New York Academy of Science, Member (2005-2006)
- Institute of Electrical and Electronics Engineers (IEEE), Senior Member
- Iranian Association of Electrical and Electronic Engineers, (IAEEE), Member of Executive Council-Khorasan Branch
- Electrical Engineering Honor Society (Eta Kappa Nu), Life Member
- Golden Key National Honor Society, Life Member
- Junior Service Honor Society (Las Campanas), Life Member
- Mathematics Honor Society (Kappa Mu Epsilon), Life Member

# **Workshops:**

- 1. 2011: *Inspired from Physics: Introducing a New Paradigm for Distributed Optimization*, Ferdowsi University of Mashhad.
- 2. 2007: Fuzzy Control for Precise Control, Graduate Workshop on Fuzzy Sysems, Cosponsored by Center of Excellence on Fuzzy Systems, Kerman, and Sistan & Baluchestan Univ., Zahedan, Iran.
- 3. 2003: *Multiagent Systems and Distributed Artificial Intelligence*, Sponsored by the 2003 Conference on Intelligent Systems, Mashhad, Iran.
- 4. 2002: *Fuzzy Logic based Control System*, Sponsored by National Workshop on Fuzzy Mathematics, Mashhad, Iran.
- 5. 2002: *IEEE and Job Creation*, Sponsored by the First Meeting of Job Creation, Ferdowsi University of Mashhad.
- 6. 2002: *Soft Computing and Intelligent Systems in 21<sup>st</sup> Century*, Sponsored by Iranian Association of Electrical and Electronic Engineers, Mashhad, Iran.

### **Doctoral Committee Member:**

1. Amir Abolfazl Suratgar, "Modeling and Stability Analysis of a Class of Linear and Nonlinear Linguistic Fuzzy Systems," Advisor: Dr. Seyed Kamaloldin Nikravesh.

#### **Invited Lectures:**

- 1. 2009: Inspired from Physics, *Introducing a New Paradigm for Distributed Optimization*, Keynote Lecture at the Third Joint Congress on Fuzzy and Intelligent systems, Yazd, Iran.
- 2. 2008: Fuzzy Granulation for Evolutionary Design, Keynote Lecture at the Second Joint Congress on Fuzzy and Intelligent Systems, Tehran, Iran.
- 3. 2007: *Robotics and Artificial Intelligence: Two Pieces of Same Puzzle*, Research & Innovation Week, Azad University of Quchan.

- 4. 2007: Fuzzy Granulation for Better Evolution, College of Engineering, Ferdowsi Univ. of Mashhad.
- 5. 2006: A Window to Artificial Societal Evolution, BISC Seminar, UC Berkeley, USA.
- 6. 2005: *Intelligent Agents: Possibilities and Applications*, University of Wollongong in Dubai, Dubai, UAE.
- 7. 2004: *An Uncertainty Based Taxonomy of Multi-agent Systems*, keynote lecture, Conference on Intelligent Systems, Kerman, Iran.
- 8. 2004: *Evolving Complexities*, keynote lecture, Conference on Fuzzy Systems, Tehran, Iran.
- 9. 2004: *Artificial Intelligence and Linguistics*, keynote lecture, Conference on Semantics and Pragmatics, Mashhad, Iran.
- 10. 2003: *Natural Thinking*, keynote, sponsored by 2003 Conference on Computer Engineering, Mashhad, Iran.
- 11. 2003: *Biological Thinking*, Keynote speech, Symposium on Biomedical Engineering, Azad University.
- 12. 2002: *Control Engineering Education*, in a Seminar on Control Engineering: Needs and Ways, sponsored by University of Tehran, Tehran, Iran.
- 13. 2001: Fuzzy Systems and Probabilistic Systems, the Saga Continues, in a seminar on Complexity and Fuzzy Logic, sponsored by Khajeh-Nassiroldin Toosi Technical University, Tehran, Iran.
- 14. 2001: *Genetic Algorithms and Its Applications*, sponsored by Ferdowsi University of Mashhad, Mashhad, Iran.
- 15. 2000: Fuzzy Logic and Soft Computing, in 22<sup>nd</sup> National Mathematics Competition, sponsored by Khajeh-Nassiroldin Toosi Technical University, Tehran, Iran.
- 16. 1999: *Soft Computing and Robotic Applications*, sponsored by College of Engineering, Ferdowsi University of Mashhad.

### **Patents:**

A. kiani-B., M. H. Malek, and M.-R. Akbarzadeh-T., "Sensorless Motor Speed Control Using Kalman Estimators" Patented in Iran's Patent Office.

# **Refereed Journal Publications:**

- 1. M.-R. Akbarzadeh-T. & M. Jamshidi, "Evolutionary Fuzzy Control of a Flexible Link," *International Journal of Intelligent Automation and Soft Computing*, Vol. 3, No. 1, pp.77-88, 1997.
- 2. M.-R. Akbarzadeh-T., M. Jamshidi, E. Tunstel, & K. K. Kumbla, *Soft Computing for Autonomous Robotic Systems*, Journal of Computers and Electrical Engineering 26 (2000), 5-32.
- 3. Aly El-Osery, J. Burge, M. Jamshidi, A. Saba, M. Fathi, and M.-R. Akbarzadeh-T., "V-Lab: A Virtual Laboratory for Autonomous Agents SLA-Based Learning Controllers," IEEE Transactions on Systems, Man and Cybernetics Part B: Cybernetics, Vol. 32, No. 6, pp.791-803, December 2002.
- M. Jamshidi, S. Sheikh-Bahaei, J. Kitzinger, P. Sridhar, S. Beatty, S. Xia, Y. Wang, T. Song, U. Dole, J. Liu, E. Tunstel, Jr, M. Akbarzadeh, A. El-Osery, M. Fathi, X. Hu, and B. P. Zeigler. "A Distributed Intelligent Discrete-Event Environment for Autonomous Agents Simulation," *International Journal of Intelligent Automation and Soft Computing*, Vol. 9, No. 3, pp.181-214, 2003.

- 5. M. Torabi, M.-R. Akbarzadeh-T., M. Khademi, "Cooperative Co-evolving Neural Networks for RoboSoccer Simulation," *International Journal of Engineering*, pp.207-218, Vol. 18, No. 2, May 2005.
- 6. M. Saadatmand, M.-R. Akbarzadeh-T., and M. Khademi, "A Hybrid Constructive-Optimizing Neural Network for Traveling Salesman Problem," *Journal of Engineering*, University of Tehran, October 2005.
- 7. M.-H. Yaghmaee-M., D. Malek, and M.-R. Akbarzadeh-T., "Design of an Artificial Evolutionary Fuzzy Immune System for Network Security," (In Farsi) Iranian Journal of Computer Science, pp. 1-12, No. 3A, Vol. 3, Fall 2005.
- 8. M.-B. Naghibi-S., M.-R. Akbarzadeh-T., H. Javidi, H. Rajabi-M., "Application of Q-learning with Temperature Variation for Bidding Strategies in Market Based Power Systems," *Journal of Energy Conversion and Management*, Vol. 47, Issue 11/12, pp.1529-1538, July 2006.
- 9. A. Nazemi, S. M. Hosseini, and M.-R. Akbarzadeh-T., "Soft Computing-based Nonlinear Fusion Algorithm for Describing Non-Darcy Flow in Porous Media," *IAHR Journal of Hydraulic Research*, 2006.
- 10. A. Soltani, M.-R. Akbarzadeh-T., and M. Naghibzadeh, "Helping Ants for Adaptive Network Routing," *Journal of Franklin Institute*, No. 343, Issue 4/5, pp. 389-403, July 2006.
- 11. M.-B. Naghibi-S., M.-R. Akbarzadeh-T., H. Javidi, H. Rajabi-M., "Q-Adjusted Annealing for Q-learning of Market-Based Multi Source Power Systems," *IEE Proceedings of Generation, Transmission & Distribution*, Vol. 153, Issue 6, pp. 653-660, November 2006.
- 12. M.-R. Akbarzadeh and R. Shahnazi, "Direct Adaptive Fuzzy PI Sliding Mode Control of Systems with Unknown but Bounded Disturbances," *Iranian Journal of Fuzzy Systems*, Vol. 3, No. 2, pp.33-51, 2006.
- 13. F. M. Kazemi, S. Samadi, H. Pourreza, M.-R. Akbarzadeh-T., "Vehicle Recognition Based on Fourier, Wavelet and Curvelet Transforms a Comparative Study," International Journal of Computer Science and Network Security, Vol. 7, No. 2, February 2007.
- 14. A. Soltani, M.-R. Akbarzadeh-T., and M. Naghibzadeh, "Introducing Updating Ants for Neighboring Node's Routing Tables in AntNet," Journal of Electrical Engineering and Computer Engineering, Vol. 5, No. 1, Spring 2007 (in Farsi)
- 15. M. Saadatmand, M. Khademi, M.-R. Akbarzadeh-T., and H. Abrishami Moghaddam, "A Novel Constructive Optimizer Neural Networks for the Traveling Salesman Problem," *IEEE Transactions on Systems, Man and Cybernetics*, Part B, Vol. 37, Issue 4, pp 754-770, August 2007.
- 16. A. Khorsand and M.-R. Akbarzadeh-T., "Multi-objective Meta Level Soft Computing-based Evolutionary Structural Design," *Journal of the Franklin Institute*, Vol. 344, Issue 5, pp595-612, August 2007.
- 17. M.-R. Akbarzadeh-T. and M. Moshtagh-K, "A Hierarchical Fuzzy Rule Based Approach to Aphasia Diagnosis," *Journal of Biomedical Informatics*, Vol. 40, Issue 5, pp.465-475, October 2007.
- 18. M. Mohebbi, F. Shahidi, M.-R. Akbarzadeh-T., M. Mousavi, and H. B. Ghoddusi, "Evaluation of Kinetics, Shrinkage, and Rehydration in Shrimp Drying Process," (in Persian) Journal of Agricultural Sciences and Technology, Ferdowsi University of Mashhad, Vol. 20, No. 5, pp.305-315, 2006-2007.
- 19. M. Mohebbi, M.-R. Akbarzadeh-T., and A. Milanifard, "Microorganism DNA Pattern Search in a Multi-agent Genomic Engine Framework," World Applied Sciences Journal 2 (6): 582-586, 2007.
- 20. R. Shahnazi and M.-R. Akbarzadeh-T., "PI Adaptive Fuzzy Control with large and Fast Disturbance Rejection for a Class of Uncertain Nonlinear Systems," IEEE Transactions on Fuzzy Systems, Vol. 16, No. 1, pp.187-197, February 2008.

- 21. Y. Babazadeh, S. M. Mousavi, M. R. Akbarzadeh, "Multidimensional Dynamic Modeling of Milk Ultrafiltration Using Neuro-Fuzzy Method and a Hybrid Physical Model," Iranian Journal of Chemical Engineering, Vol. 5, No. 2 (Spring), pp.3-22, 2008.
- 22. M. Mohebbi, J. Barouei, M.-R. Akbarzadeh-T., A. R. Rowhanimanesh, M. B. Habibi-Najafi, and M. Yavarmanesh, "Modeling and Optimization of Viscosity in Enzyme-Modified Cheese by Fuzzy Logic and Genetic Algorithm," Journal of Computers and Electronics in Agriculture, Vol. 62, Issue 2, pp. 260-265, July 2008.
- 23. A. Bagheri, M.-R. Akbarzadeh-T., and M.-H. Saraee, "Finding Shortest Path with Learning Algorithms," International Journal of Artificial Intelligence, pp.86-95, Vol. 1, Number A08, Autumn 2008.
- 24. M.-R. Akbarzadeh-T., M. Davarynejad, and N. Pariz, "Adaptive Fuzzy Fitness Granulation for Evolutionary Optimization," International Journal of Approximate Reasoning, pp. 523-538, Vol. 49 (2008).
- 25. M. Amin Rigi, A. Milani Fard, M.-R. Akbarzadeh-T., "Finding Optimal Grid Dimension for Partitioning Linguistic Variables of Fuzzy Concepts," International Journal of Mathematics and Computer Science, 3(2008), no. 2, pp. 141-150.
- 26. M. Mohebbi, M.-R. Akbarzadeh-T., F. Shahidi, M. Moussavi, and H.-B, Ghoddusi, "Computer Vision Systems (CVS) for Moisture Content Estimation in Dehydrated Shrimp," Journal of Computers and Electronics in Agriculture, 2009.
- 27. M. Moshtagh-Khorasani, M.-R. Akbarzadeh-T., N. Jahangiri, M. Khoobdel, "An Intelligent System Based on Fuzzy Probabilities for Medical Diagnosis A Study in Aphasia Diagnosis," Journal of Research in Medical Science, March & April 2009, Vol. 14, No. 2.
- 28. A. Khajehkaramodin, H. Haji-Kazemi, A. Rowhanimanesh, and M.-R. Akbarzadeh-T., "Semi-Active Control of Structures Using Neuro-Inverse Model of MR Dampers," Scientia Iranica: International Journal of Science and Technology, Vol. 16, No. 3, Pages 256-263, June 2009.
- 29. M. Saadatmand-Tarzjan, M. Malboubi, M. Khademi, and M.-R. Akbarzadeh-T., "Vision-based Mobile Robot with a Combinational Navigation Paradigm Using a New Color Detection Algorithm," (in Persian) Journal of Electrical Engineering (University of Tabriz), pp. 37-48, Vol. 39, No. 2, Autumn and Winter 2009.
- 30. M. Rezaei-Pajand, M.-R. Akbarzadeh-T., and A. Nikdel, "Direct Adaptive Neurocontrol of Structures under Earth Vibration," Journal of Computing in Civil Engineering, 2009.
- 31. M. Saadatmand-T., M. Malboubi, M. Khademi, and M.-R. Akbarzadeh-T., "Vision-based Mobile Robot with a Combinatorial Navigation Paradigm Using a New Color Detection Algorithm," Tabriz Journal of Engineering, Vol, 39, No.2, pp.37-48, 2009.
- 32. M. Vafaei-J. and M.-R. Akbarzadeh-T., "From Local Search to Global Conclusions: Migrating Spin Glass-based Distributed Portfolio Selection," IEEE Transactions on Evolutionary Computations, Vol. 14, No. 4, pp.591-601, August, 2010.
- 33. Sengstacken, A. J., DeLaurentis, D. A., Akbarzadeh-T., M. R., "Optimization of Shared Autonomy Vehicle Control Architectures for Swarm Operations," IEEE Transactions on Systems, Man, and Cybernetics, accepted for publication, Vol. 40, No. 4, August 2010.
- 34. M. Sotudeh-Chafi, M.-R. Akbarzadeh-T., and M. Moavenian, "A Novel Soft Computing Approach to Component Fault Detection and Isolation of CNC X-axis Drive System," International Journal of Intelligent Automation and Soft Computing, Vol. 16, No. 2, pp.177-191, 2010.
- 35. M. Mohebbi, M.-R. Akbarzadeh-T., F. Shahidi, and S. M. Zabihi, "Modeling and Optimization of Mass Transfer during Osmosis Dehydration of Carrot Slices by Neural Networks and Genetic Algorithms," International Journal of Food Engineering, vol.7, No.2, 2011.

- 36. M. Bahrepour, M.-R. Akbarzadeh-T., M. Yaghoobi, and M.-B. Naghibi-S., "An Adaptive Ordered Fuzzy Time Series with Application to FOREX," Expert Systems with Applications, Pages 475-485, Vol. 38, 2011.
- 37. M. Zavar, S. Rahati, M.-R. Akbarzadeh-T., and H. Ghasemifard, "Evolutionary Model Selection in a Wavelet-based Support Vector Machine for Automated Seizure Detection," Expert Systems with Applications, pp. 10751-10758, Vol. 38, No. 9, 2011.
- 38. A. Rowhanimanesh and M.-R. Akbarzadeh-T., "Perception-based Heuristic Granular Search: Exploiting Uncertainty for Analysis of Certain Functions," Scientia Iranica: Transactions D: Electrical and Computer Engineering, 2011.
- 39. M. Danesh, M. Naghibzadeh, M.-R. Akbarzadeh-T., M. Danesh, B. Minaei, and H. Shirgahi, "Data Clustering Based on an Efficient Hybrid of K-Harmonic Means, PSO, and GA," Transactions on CCIIV, LNCS 6660, pp.125-140, 2011.
- 40. M. Rezaei-Pajand, M.-R. Akbarzadeh-T., and A. Nikdel, "Reducing Frame Lateral Deflection by Active Control," Journal of Civil Engineering, Ferdowsi University of Mashhad, Vol.22, No.2, pp.1-16, 2011.
- 41. A. Rezaei, Alireza Akbarzadeh-Totonchi and Mohammad-R. Akbarzadeh-T., "An Investigation on Stiffness of a 3-PSP Spatial Parallel Mechanism with 1 Flexible Moving Platform Using Invariant Form.," Journal of Mechanism and Machine Theory, pp. 195-216, Vol. 51, No. 5, 2012.
- 42. S. Mohsen Zabihi and M.-R. Akbarzadeh-T., "Generalized Fuzzy C-Means Clustering with Improved Fuzzy Partitions and Shadowed Sets," International Scholarly Research Network, ISRN Artificial Intelligence, Vol. 2012.
- 43. M. Vafaei-Jahan, M.-R. Akbarzadeh-T., "Extremal Optimization vs. Learning Automata: Strategies for Spin Selection in Portfolio Selection Problems," Journal of Applied Soft Computing, pp. 3276-3284, Vol. 12, 2012.

### **Book Publications:**

- 44. R. Knight and M.-R. Akbarzadeh-T., "Using Fuzzy Logic to Automatically Configure a Digital Filter," Chapter 11, pp.232-262, in *Fuzzy Logic and Control: Software and Hardware Applications*, M. Jamshidi, N. Vadiee, and T. Ross, Ed., Prentice Hall, 1992.
- 45. M.-R. Akbarzadeh-T., K. Kumbla, M. Jamshidi, and R. D. Colbaugh, "Intelligent Control of Flexible and Redundant Manipulators," Chapter 7, pp.115-136, in *Waste-Management: From Risk to Remediation*, by R. Bhada, et. al., ECM Press Publishers, Albuquerque, New Mexico, 1994.
- 46. M.-R. Akbarzadeh-T. and A.-H. Meghdadi, "Evolutionary Fuzzy Systems," by M. Jamshidi and Zilouchian, Chapter 19, pp.409-436, in *Intelligent Control Systems using Soft Computing Methodologies*, pp.409-437, CRC Press, Boca Raton, Florida, 2001.
- 47. M. Jamshidi, S. Sheikh-Bahaei, J. Kitzinger, P. Sridhar, S. Xia, Y. Wang, J. Liu, E. Tunstel, Jr, M. Akbarzadeh, A. El-Osery, M. Fathi, X. Hu, and B. P. Zeigler. "A Distributed Intelligent Discrete-Event Environment for Autonomous Agents Simulation," Chapter 11, pp. 241-274, *Applied System Simulation: Methodologies and Applications*, Kluwer Academic Publishers, 2003.
- 48. M.-R. Akbarzadeh and A.-H. Meghdadi, "Fuzzy Modeling of Nonlinear Stochastic Systems by Learning from Examples," pp. 85-105, *Forging New Frontiers: Fuzzy Pioneers II*, as part of the Spring Series on Studies in Fuzziness and Soft Computing, Editors: M. Nikravesh, J. Kacprzyk, and L. A. Zadeh, Springer, New York, 2008.
- 49. A. Rowhanimanesh, A. Khajehkaramodin, and M.-R. Akbarzadeh-T., "Evolutionary Constrained Design of Seismically Excited Buildings: Sensor Placement," in *Applications of*

- *Soft Computing*, AISC 58, by J. Mehnen et al. (Eds.), pp.159-169, Springer-Verlag, Berlin Heidelberg, 2009.
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