VITAE
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I. Education:

- Ph.D., 1986 - Electrical Engineering, The University of Alabama
- M.S., 1980 - Electrical Engineering, State University of New York at Stony Brook
- B.S., 1979 - Electrical Engineering, State University of New York at Stony Brook

II. Primary Areas of Expertise (Research)

- Machine Learning, Approximate reasoning
- Soft Computing, Evolutionary Computations
- Stochastic Control and Estimation, Control
- Signal Processing, Microprocessor Applications
- Robotics

III. Professional Experience:

- 05/2015-present, Director, Autonomous Control and Information Technology (ACIT) Institute
- 04/2015-present, Director, Testing, Evaluation, and Control of Heterogeneous Large-Scale Systems of Autonomous Vehicles (TECHLAV)
- 10/2003- present, Duke Energy Eminent Professor, North Carolina A&TSU, Greensboro, North Carolina.
- 06/1999-present, Professor, Department of Electrical and Computer Engineering, North Carolina A&TSU, Greensboro, North Carolina.
- 06/1995-06/1999, Associate Professor, Department of Electrical Engineering, North Carolina A&TSU, Greensboro, North Carolina.
- 01/1989-05/1995, Assistant Professor, Department of Electrical Engineering, North Carolina A&TSU, Greensboro, North Carolina.
- 06/1989-08/1989, Summer Research Engineer, AT&T Bell Laboratories, Holmdel, New Jersey, Member of the Machine Intelligence.
- 07/1987-12/1988, Visiting Assistant Professor, Department of Electrical Engineering, The University of Alabama.
- 07/1986-07/1987, Postdoctoral Assistant, The University of Alabama, Tuscaloosa, Alabama.
- 07/1980-07/1986, Graduate Research and Teaching Assistant, The University of Alabama, Tuscaloosa, Alabama.
- 07/1979-07/1980, Teaching Assistant, State University of New York at Stony Brook

IV. Teaching Experience:

A. Undergraduate Courses Taught:

- ELEN-686 Special Projects: Power Electronics
- ELEN-427 Introduction To Microprocessors
- ELEN-327 Fundamentals of Logic Design
- ELEN-410 Linear Systems and Control
- ECEN-121 Colloquium
- ELEN-200 Electric Circuit Analysis
- ELEN-300 Electric Circuit Analysis and Synthesis
- ELEN-306 Circuit Laboratory
- ELEN-433 Digital Systems Laboratory
- ELEN-400 Digital Signal Analysis and Processing
- ELEN-475 Linear Systems and Control (University of Alabama)
- ELEN-477 Digital Control Systems (University of Alabama)
- ELEN-320 Electronics I (University of Alabama)
- ELEN-460 Electronics II (University of Alabama)

B. Graduate Courses Taught:

- ELEN-885– 02, Practical Application in Optimization
- ELEN-885, Design of Computer Control Systems
- ELEN-870, Adaptive Control Theory and Fuzzy Logic Application
- ELEN-674 Genetic Algorithms in Optimization and Machine Learning (formerly 660)
- ELEN-660 Genetic Algorithms in Optimization and Machine learning
- ELEN-668 Automatic Control Theory
- ELEN-760 Theory of Linear Systems
- ELEN-727 Switching and Finite Automata Theory
- ELEN-685 Special Topics
- ELEN-785-Masters Special Topics
- GEEN-601 Industrial Automation I

C. Courses Developed:

- ELEN-885 – 02, Practical Application in Optimization
- ELEN-885, Design of Computer Control Systems
- ELEN-885-01, Doctoral Special Topics
- ELEN-885-02, Doctoral Special Topics
- ELEN-870, Adaptive Control Theory and Fuzzy Logic Application
- ELEN-674, Genetic Algorithms in Optimization and Machine Learning
- ELEN-668, Automatic Control Theory
- ELEN-760, Theory of Linear Systems
- GEEN-601, Industrial Automation I

D. MCNC Tele-classes taught or sponsored:

- ELEN-660, Genetic Algorithms in Optimization and Machine Learning (taught with Dr. M. Mostafavi, UNC-C), Fall 1990
- CSCI-6050, UNC-C, Introduction to Neural Computation, Fall 1990 (sponsored)
- CSCI-6111, UNC-C, Evolution Programming, Fall 1992 (sponsored)
- ECE-659, BGSM, Computer vision, Fall 1993 (sponsored)
- ECE 676, BGSM, Statistical Pattern Recognition, Spring 1993 (sponsored)
- ECE676, NCSU, Performance Evaluation of Computers, Spring 1993 (sponsored)

V. Consulting, and Professional Workshops Conducted:

1. Associate Editor of the newly established IEEE Transactions on Intelligent Vehicles (T-IV), 2015
2. Reviewer: NSF-Integrative Graduate Education in Research Traineeship (IGERT), September 2000.
3. Conducted workshop on Intelligent Control: Fuzzy Logic, and Evolutionary Algorithms, with M. Jamshidi, and T. Ross at the International Symposium on Soft Computing for Industry ISSCI'98, and WAC ’98, May 10, Anchorage Alaska.
4. Conducted workshop on Intelligent Control: Fuzzy Logic, and Evolutionary Algorithms, with M. Jamshidi, at the International Symposium on Soft Computing for Industry ISSCI'96, and WAC ’96, Montpellier, France, May 27, 1996.
5. Conducted tutorial on Fuzzy Logic, Genetic Algorithms and Their Applications with M. Jamshidi, University of New Mexico, at the Fifth International Symposium on Robotics and Manufacturing, Maui, Hawaii, August 14-17, 1994.
6. Research Institute for Advanced Computer Science (RIACS) Council from 01/01/1998-12/12/2000.
7. Engineering Optimization Technology Design Methods (i., e., Genetic Algorithms) and its Applications, General Motor Corporation, Saginaw Division, August 5-9, 1991, Saginaw, Michigan.
8. Graduate Fellowship Evaluator for the National Defense Science and Engineering.
9. International Editorial Review Board (IERB) of the International Journal of Information Security and Privacy (IJISP), 09-12.
10. Organizing Committee member for Workshop on Understanding Climate Change from Data, University of Minnesota, 2011, 11-12.
11. Organizing Committee member for ALife13, Michigan State University, July 19-22, 2012, 11-12.
12. Paper reviewer for ALife13, Michigan State University, July 19-22, 2012, 11-12.
13. Associate Editor for the International Journal of Information Security and Privacy (IJISP), 11-12
14. Journal of Intelligent & Fuzzy Systems, 09-12.
15. Reviewer, IEEE Transaction on Fuzzy Sets and Systems, 09-11.
16. Reviewer, IEEE Transaction on Systems and Control, 09-11.
17. Associate Editor for the International Journal of Information Security and Privacy (IJISP), 10-11.
18. Associate Editor for the Journal of Intelligent Automation and Soft Computing, 09-11.
19. Reviewer of 4 papers of the Genetic and Evolutionary Computation Conference (GECCO-2009), 10-11.
20. Organizer of The Future of Energy in a Carbon-Restrained World Current Issues in the Utility Industry for student at NCAT for five weeks. Started on September 28, 2009 and ended on October 12, 2009 with student presentations. Three presentations were made by Progress Energy and Duke Energy experts. Seven groups of student presented their work in the last meeting which was judged by the industry representatives, 09-10.
21. Associate Editor for the International Journal of Information Security and Privacy (IJISP), 09-11.
22. Reviewer of the Genetic and Evolutionary Computation Conference (GECCO-2009), 09-10.
23. Organizer of The Future of Energy in a Carbon-Restrained World Current Issues in the Utility Industry for student at NCAT for five weeks. Started on September 10, 2008 and ended on October 15, 2008 with student presentations. Three presentations were made by Progress Energy and Duke Energy experts and one Dr. Singh. Four groups of student presented their work in the last meeting which was judged by the industry representatives, 08-09.

24. International Editorial Review Board (IERB) of the International Journal of Information Security and Privacy (IJISP), 08-09.
25. Organizing member of the Symposium on: Composite Materials, Design & Production Nanotechnology, Design & Engineering Alternate Energy & Fuel Cell Technology, Düsseldorf, Germany, 3-6 July, 2007, 08-09.
26. Reviewer, IEEE Transaction on Fuzzy Sets and Systems, 08-09.
27. Reviewer of 15 papers of the of the sixth International Symposium on Soft Computing for Industry, World Automation Congress '2008, Hawaii, July 2008, 08-09.
28. Organizing Committee Member for ISSCI '2008, and World Automation Congress '2008, Hawaii, July 2008, 08-09.

VI. Summary of Funded Awards

1. Homaifar, A., Karimoddini, A., Kelly, J., Seong, Y., "Testing, Evaluation and Control of Heterogeneous Large-scale Autonomous Vehicles (TECHLAV)," 04/2015-03/2020, $5,000,000, DOD DAF Air Force Research Laboratory (AFRL).
2. Homaifar, A., "Crash Imminent Safety (CrIS) UTC," 10/2013-09/2018, $406,000, USDOT RITA University Transportation Center (UTC) Program.
3. Homaifar, A., "Center for Collaborative Research: Understanding Climate Change: A Data Driven Approach," 08/2010-07/2016, $900,000, NSF/CCF.
4. Homaifar, A., Karimoddini, A., "Data Driven Techniques for Testing and Evaluation of Unmanned and Autonomous Systems," 06/2015-03/2016, $180,000, General Informatics Inc. (GI).
5. Homaifar, A., Karimoddini, A., "A Type-2 Fuzzy Inference System Development Toolbox," 12/2013-04/2014, $214,950, Scientific Research Corporation (SRC).
6. Homaifar, A., Karimoddini, A., "Inference Engine Using Type-2 Fuzzy Sets, Focus on type-reduction," 12/2013-04/2014, $36,000, Scientific Research Corporation (SRC).
7. Homaifar, A., Karimoddini, A., "Inference Engine Using Type-2 Fuzzy Sets, Feasibility Study and Concept building," 12/2013-03/2014, $75,000, Scientific Research Corporation (SRC).
8. Homaifar, A., "Design and Implementation of Assistive Robotic Residence Home (DIARRH)," 02/2011-01/2013, $155,982, Center for the Study of Evolution in Action.
9. Homaifar, A., Karimoddini, A., "Biologically Inspired Solutions to Computation," 01/2013-3/2014, $118,800, Center for the Study of Evolution in Action.
10. Homaifar, A., "The Development of the Satellite Image Base Retrieval Application (SIBRA) in Support of Structural Indexing of Satellite Images (SISI) Project," 08/2010-07/2011, $50,000, DOC-NGS-NOAA- Solar Terrestrial Physics Div.
11. Dozier, G., Homaifar, A., et.al. "The Center for the Study of Evolution in Action (BEACON)," 04/2009-03/2013, $2,500,000, NSF.
12. Homaifar, A., Esterline, A., "Learning and Adaptation for Tactical Behaviors," 09/2008-08/2010, $300,000, General Dynamics.
13. Homaifar, A., Esterline, A, "Hybrid Techniques for Fusing Data from Multiple Inertial Navigators," (Phase 2) 03/2008-02/2009, $67,000, U.S. NAVY.
14. Homaifar, A., "Integration of Wind Energy into the Future Sustainable Home," April 07, $80,000, NSF.
15. Homaifar, A., Esterline, A., "Clarkson Aerospace, Auction Based Coordination of UAVs," 10/2007-07/2009, $300,000, U.S. Air Force.

16. Bililign, S., Schimmel, K., Homaifar, A., et.al. "NOAA Interdisciplinary Scientific Environmental Technology (ISET) Cooperative Research and Education Center," 07/2006, 12,500,000, NOAA, EPP.
17. Homaifar, A., Esterline, A., "Learning, Adaptation, and Coordination in Multi-Agent Systems," Dec. 2005, $75,000, JHUARL.
18. Homaifar, A., Esterline, A., "Fuzzy Integral Techniques for Fusing Data from Multiple Inertial Navigators," Sept. 2005, $20,000, U.S. NAVY.
19. Homaifar, A., "Duke Energy-Summer educational Program," Sept. 2005, $10,000, Duke Energy.
20. Homaifar, A., Esterline, A., "Multi Objective Routing and Control Optimization for Satellite Linked Mobil Ad Hoc Networks," 11/2004, $90,000, Raytheon Company.
21. Homaifar, A., Esterline, A., "Learning and Adaptation for Tactical Behaviors," 08/2005, $150,000 per year for five years, General Dynamics.
22. Song, D., Dogan, N., Goliszek, Homaifar, A., et.al. "Biologically-Inspired Adaptive and Reconfigurable Systems: Modeling, Synthesis, and Simulation," 2004-2007, $1,000,000, NSF.
23. Homaifar, A., Esterline, A., "Bio Inspired Fuzzy Cognitive Map-Based Hierarchical Supervisory Mission Controls for Uninhibited Aero Vehicles," 01/2003, $50,000, NIA.
24. Homaifar, A., Esterline, A, "Bio Inspired Fuzzy Cognitive Map-Based Hierarchical Supervisory Mission Controls for Uninhibited Aero Vehicles," 04/2004, $45,000, NIA.
25. Homaifar, A., Esterline, A, "Real Time Model Predictive Control for Collaborative Control of Large-Scale Multi-Agent Systems," 04/2003, $100,000, U.S. Air force.
26. Homaifar, A., Kimiaghalam, B., "Real Time Model Predictive Control for Collaborative Control of Large-Scale Multi-Agent Systems," 05/2004, $100,000, U.S. Airforce.
27. Homaifar, A., Kimiaghalam, B.,"Optimal Trajectory Planning for Interplanetary Missions using Hybrid Evolutionary Algorithms," 03/2004, $370,920, NASA-Ames.
28. Homaifar, A., Esterline, A., "Multi Objective Routing and Control Optimization for Satellite Linked Mobil Ad Hoc Networks," 11/2004, $90,000, Raytheon Company.
29. Homaifar, A., Esterline, A., "Mathematical Formulation and Distributed Hybrid Mixed Integer Non-Linear Programming Solver for the Application of UAV," 06/2003, $74,177, RIACS.
30. Homaifar, A., Bikdash, M., Ellis, M., Song, D., Lebby, G., Fatehi, F., Singh, H., "Demonstrative program for the Application of Fuzzy-Controlled PEBBS in HVAC Systems," 08/1998-12/2008, $2,796,778, Funding Agency: in conjunction with Fred Lee at Virginia Tech as part of a pre-proposal for the Center for Power Electronics Systems to the National Science Foundation.
31. Homaifar, A., Sherrod, E., Lebby, G., Vainstein, F., Lala, P., Dozier, G. in collaboration with University of New Mexico and Highland University, "The Center for Autonomous Control Engineering," 1995-2001, $2,150,000, NASA-Ames Research Center.
32. Homaifar, A., Bikdash, M., in collaboration with Virginia Tech., "Nonlinear Active Control of Dynamical Systems Office of Naval Research through the Multidisciplinary University Research Initiative (MURI)," 1996-2001, $100, 000 per year, U.S. NAVY.
33. Homaifar, A., Bikdash, M., "The Center of Aerospace Research-NASA-CAR," Area coordinator of Control and Guidance group, 1996-2001, $143,000.00 per year, NASA.
34. Homaifar, A., Bikdash, M., Dunn, D., "The Center of Research Excellence in Aerospace," 1992-1996, $310,000 per year, Area coordinator of Control and Guidance group NASA.
35. Homaifar, A., Ashokkumar, CR., "On the Previewed Control Actions for Aircraft Flying Qualities," 06/1996-07/1999, $389,683, NASA Dryden Flight Research Center.
36. Homaifar, A., Bikdash, M., Fatehi, F., "Artificial Potential Field Based Motion Planning/Navigation in Two and Three Dimensional Dynamic Environments," 08/1997-12/1999, $355,270,

NASA Dryden Flight Research Center.

37. Homaifar, A., Bikdash, M., "Fuzzy-Logic Control for Axisymmetric Compression Inlets," 01/1997-08/1997, $43,499 over six months, the Boeing Company.
38. Homaifar, A., Bikdash, M., Song, D., Pai, P., Schultz, M., "Auto furling of Large-Diameter Wind Turbines Using Fuzzy Logic," 08/1997-12/1999, $240,000, National Renewable Energy Laboratories.
39. Homaifar, A., Martin, H., Foster, J., Lebby, G., Kim, J., "Laboratory for Communications, Signal Processing Expert Systems, And ASIC VLSI Design," 10/1989-09/1994, $2,500,000, NSF.
40. Homaifar, A., "A New Approach in the Design of Fuzzy Controllers," 01/1992-12/1993, $40,000, Honeywell Systems and Research Center.
41. Homaifar, A., "AT&T Research Fellowship in Adaptive Learning Applications," 1992-1993, $15,000, AT&T Bell Laboratory.
42. Homaifar, A., "Faculty Program/Incentives for Excellence project for Young Investigators Award," 1992, $60,000, Digital Equipment Corporation grant.
43. Homaifar, A., Rastani, M., "On-Orbit Payload Calibration Study for Externally Attached Payloads on Space Station Freedom (SSF)," 1990-1992, $150,000, NASA Langley Research Center.
44. University Faculty Development Grant Award, to attend the Eastern Communications Forum on 05/1989, $1,000.

VII. Publications

A. Publications in Refereed Journals:

1. Gorji, S.G., Sayemuzzaman, M., Homaifar, A., Jha, M.K., Liess, S., "Trend analysis using non-stationary time series clustering based on the finite element method." Nonlinear Process Geophys. Vol. 21, 605-615 (2014).
2. Buaba, R., Homaifar, A., Hendrix, W., Son, S.W., Liao, W., Choudhary, A. "Randomized Algorithm for Approximate Nearest Neighbor Search in High Dimensions," Journal of Pattern Recognition Research, vol. 1, pp.111-122, 2014.
3. Buaba, R., Gebril M., Homaifar A., Kihn, E., Zhizhin, M.: Satellite image retrieval using low memory locality sensitive hashing in Euclidean space. Earth Science Informatics, vol. 4, pp. 17–28. (2011).
4. Fetanat, G. Homaifar, A., Knapp, K., "Objective Tropical Cyclone Intensity Estimation using Analogs of Spatial Features in Satellite Data," Weather & Forecasting, Dec. 2013, Vol. 28 Issue 6, p1446-1459.
5. Gebril, M., Kihn, E., Said, E.H., Homaifar, A., 2011: Detecting environmental change using self-organizing map techniques applied to the ERA-40 database. Data Science Journal, 10:1-12.
6. Buaba, R., Homaifar, A., and Kihn, E., "Optimal Load Factor for Approximate Nearest Neighbor Search under Exact Euclidean Locality Sensitive Hashing", International Journal of Computer Applications 69(21): 22-31, May 2013. Published by Foundation of Computer Science, New York, USA.
7. Opoku, D., Homaifar, A., and Tunstel, E. (2013). The A-r-Star (Ar*) Pathfinder. International Journal of Computer Applications; vol. (67), pp. 0975-8887.
8. Lacewell, C., Homaifar, A. and Y.-L. Lin, "Tracing the origins and propagation of pre-tropical storm Debby (2006) mesoscale convective systems using pattern recognition and image fusion," Meteorology & Atmospheric Physics, vol. 119, no. 1/2, pp. 43–58, Jan. 2013.

9. Dugda, M.T., Workineh, A. T., Homaifar, A. and Kim, J.H. (2012). ”Receiver Function Inversion Using Genetic Algorithms”, Bulletin of the Seismological Society of America, Vol. 102, No. 5, pp. 2245–2251, October 2012.
10. Workineh, A., and A. Homaifar, “Robust Bidding in LCS using Loan and Bid History,” Journal of Complex Systems, Vol. 19, No. 3, pp. 287-303, 2011.
11. Buaba, R., M. Gebril, A. Homaifar, E. Kihn, and M. Zhizhin. 2011. Satellite image retrieval using low memory locality sensitive hashing in Euclidean space. Earth Science Informatics, vol. 4, pp. 17–28, 2011.
12. Gebril, M., Kihn, E., Haj Said, E. and Homaifar, A., “Detecting Environmental Change using Self-Organizing Map Techniques Applied to the ERA-40 database,” (in press), the Data Science Journal, 2011.
13. Elmatboly O., and Homaifar A., “Overcoming GMR Saturation for High Current Estimation,” Journal of Electromagnetic Analysis and Applications, 2011.
14. Elmatboly O., and Homaifar A., “Novel Sensing of Capacitive Currents along Critical Transmission Line Spans,” Journal of Sensors, Hindawi Publishing Corporation, 2011.
15. Collins, E.G., and Homaifar, A., “HBCUs in Control: Control Programs at Historically Black Colleges and Universities,” IEEE Control Systems Magazine, Vol. 27, Issue No. 4, pp. 106-112, August 2007.
16. Ajorlou, A., Homaifar, A., Esterline, A., Moore, J. G., and Bamberger, R. J., “Market-Based Coordination of UAVs for Time-Constrained Remote Data Collection and Relay,” International Journal of Applied Science, Engineering and Technology (IJASET), Vol. 4, Issue No. 1, pp. 19-24, 2007.
17. Hussain, M., Kimiaghalam, B., Ahmadzadeh, A., Homaifar, A. and Sayyarodsari, B., "Multi Robot Scheduling Using Evolutionary Algorithms," (accepted in press) the International Journal of Intelligent & Fuzzy Systems, 2003.
18. Ahmadzadeh, A., Sayyar-Roudsari, B., & Homaifar, A., “Hybrid Projected Variable Metric-Gradient Algorithm for Mixed Integer Nonlinear Optimization Problems,” submitted to European Journal of Operational Research.
19. Homaifar, A., Hawari, H., Esterline, A. C., Iran-Nejad, A., and Tunstel, E., “Application of the Biofunctional Theory of Knowledge to Decision Making Using Evolutionary Algorithms and Fuzzy Reasoning,” Submitted to International Journal of Fuzzy sets and control, 2003.
20. Homaifar, A., Singh, H., Baqai, I., Harold, S., Patel, N., and Rozati, A., “Effective of Air Volume System on Energy Savings and Thermal Comfort and Application of Adjustable Speed Drive in HVAC,” submitted to the journal of American Society of Civil Engineering.
21. Alighanbari, M., Homaifar, A., and Sayarrodsari, B., “Robust adaptive filtering using evolutionary algorithm-based parameter estimation,” Submitted to the IEEE Transactions on Systems, Man, and Cybernetics.
22. Kimiaghalam, B., Homaifar, A., Bikdash, M., Hunt, B., "Feedforward Control Law for a Shipboard Crane with Maryland Rigging System," Journal Of Vibration And Control, special issue on Active Control of Nonlinear Dynamical Systems, Volume 8, No.2, pp. 159-188, Feb. 2002.
23. Shen, Y., and Homaifar, A., "Vibration Control of Flexible Structures with PZT Sensors and Actuators," the Journal of Vibration and Control, 7: pp. 417-451, 2001.
24. Homaifar, A., Bikdash, M., and Clifton, C., “Feedback Implementation of Optimal Control Laws,” in the Special Issue on Formal Methods for Fuzzy Modeling and Control of the Journal of Fuzzy sets and Systems, 121, pp. 39-57, 2001.
25. Homaifar, A., Iran-Nejad, A., Gopalan, V., and Dismuke, L., "Non-Linear Method for Evaluation of Intelligence based on Bio functional Theory Using Genetic Algorithm and Fuzzy

Logic", *Journal of Mind and Behavior, Vol. 21 No. 1 Winter, PP. 137-147, 2000*.

26. Homaifar, A., Battle, D., Tunstle, E., and Dozier, G., "Genetic Programming Design of Fuzzy Logic Controllers for Mobile Robot Path Tracking," the International Journal of Knowledge-Based Intelligent Engineering Systems, Vol. 4, N0. 1, pp. 33-52, January 1999.

27. Iran-Nejad, A., and Homaifar, A., "The Nature of Distributed Learning and Remembering", *Journal of Mind and Behavior, Vol. 21 No. 1 Winter, PP. 153-183, 2000*.

28. Bikdash, M., Beck, Curtis, and Homaifar, A., "Fuzzy-Logic Control of Axisymmetric Compression Inlets," Accepted to the AIAA Journal of Control, Guidance, and Dynamics, September 2000.

29. Bikdash, M., Homaifar, A., and Sartor, K., "Fuzzy Guidance of the Shuttle Orbiter During Atmospheric Reentry," the IFAC Journal on Control Engineering Practice, 1999 (7), pp. 295-303.

30. Bikdash, M., Kunchithapadam, V., Ragunathan, K and Homaifar, A., "Comparison of Quasi Bang-Bang and Sliding-Mode Controls for a DC Shunt Motor with Time Delay", Journal of Nonlinear Dynamics, 23, 2000, pp. 87-102.

31. Dozier, G. V., Bowen, J., and Homaifar, A., "Dynamic Constraint Satisfaction and Hybrid Evolutionary Search,*" IEEE Transactions on Evolutionary Computation*," Vol. 2, No. 1, April 1998, pp.23-33.

32. Dozier, G. V., Homaifar, A., Bryson S., and Bikdash, M., (1998) "Artificial Potential Field Based Motion Planning/Navigation, Dynamic Constrained Optimization, and Simple Genetic Hill-Climbing," the International Journal of Simulation, September 1998, pp.001-015.

33. Sayyarrodsari, B., Homaifar, A., "The Role of Hierarchy in The Design Of Fuzzy Logic Controllers," *IEEE Transactions on Systems, Man, and Cybernetics*, Vol. 27 Part B, No. 1, February 1997, pp. 108-118.

34. Homaifar, A, Bikdash. M., and Gopalan, V.J., "Design Using Genetic Algorithms of Hierarchical Hybrid Fuzzy-PID Controllers of Two-Link Robotic Arms," Journal *of Robotic Systems Vol. 14, No. 6, June 1997, pp. 449-463.*

35. Homaifar, A., Sayyarrodsari, B., Nagle, J., and Bikdash, M., "Hierarchical Learning-Based Design of A Hybrid Fuzzy PID Controller", the *International Journal of Intelligent Automation and Soft Computing, April 1997, pp. 23-36.*

36. Bryson, S., Homaifar, A., Lebby, G., and Bikdash, M., "Job Scheduling Using Genetic Matrix Crossover Operator with 2-Opt Inversion," the *International Journal of Intelligent Automation and Soft Computing, April 1997, pp. 63-76*.

37. Dozier, G. V., Bowen, J., Homaifar, A., and Esterline, A., "Solving Randomly Generated Static and Dynamic Fuzzy Constraint Networks Using Micro evolutionary Hill-Climbing", *The International Journal of Intelligent Automation and Soft Computing, April 1997, pp. 51-62.*

38. Homaifar, A., and McCormick, V. E., "Simultaneous Design of Membership Functions and Rule Sets for Fuzzy Controllers Using Genetic Algorithms", IEEE Transactions on Fuzzy Systems, Vol. 3, No. 2, May 1995, pp. 129-139.

39. Gao, W., Y. Wang, and Homaifar, A., "Discrete-Time Variable Structure Control Systems", IEEE Transactions on Industrial Electronics, Vol. 42, No. 2, April 1995, pp.117-122.

40. Homaifar, A., Lai, S., and McCormick, V. E., "System Optimization of Turbofan Engines Design using Genetic Algorithms", Journal of Applied Mathematical Modeling Simulation and Computation for Engineering and Environmental Systems, Vol. 18, No. 2, February 1994, pp.72-83.

41. Homaifar, A., Q. Xi, and Lai, S., "Nonlinear Constrained Optimization via Genetic Algorithms", International Journal of Simulation, Vol. 6, No. 4, April 1994, pp.242-254.

42. Homaifar, A., Sayyarrodsari, B., and Hogans, J., "Fuzzy Controller for Robot Arm Trajectory", Journal of Information Sciences, Vol.2, No.2, September 1994, pp. 69-83.

43. Salami, M. R., Homaifar, A., Zhao, S., "System Optimization of Failure and Constitutive Modeling for Concrete Using Genetic Algorithm", Journal of Transportation Research Record, Publication in 1994.

44. Hogans, J., Homaifar, A., and Sayyarrodsari, B., "Fuzzy Inference for Variable Structure Control", Journal of Intelligent and Fuzzy Systems, Vol. 2, No. 3, pp. 229-242, 1994.

45. Ali, S., Homaifar, A., " An Efficient Technique For Generating Minimum Test Sets For General Tree Logic Circuits" International Journal of Electronics, Vol. 74, No. 6, pp. 951-969, 1993.

46. Homaifar, A., Guan, S., Liepins, G., "Schema Analysis of a New Approach to the Traveling Salesman Problem by Genetic Algorithms", Journal of Complex System, Vol. 6, No. 6, December 1992, pp. 533-552.

B. Books and Book Chapters:

47. Gorji, S.M., Moradi, K.M., Homaifar, A., & Liess, S., (2015). Change Detection in Climate Time Series Based on Bounded-Variation Clustering. In Machine Learning and Data Mining Approaches to Climate Science (pp. 185-194). Springer International Publishing.

48. Lacewell, C. W., Homaifar, A., "Identifying Developing Cloud Clusters using Predictive Features," Machine Learning and Data Mining Approaches to Climate Science (pp. 217-225). Springer 2015.

49. Kimiaghalam, B., Homaifar, A., and Esterline A.C., "A State chart Framework for Agent Roles that Captures Expertise and Learns Improved Behavior," published in Lecture Notes in Computer Science, Formal Approaches to Agent-Based Systems, Springer Berlin , Heidelberg, Vol. 2699, 2002, 2006.

50. Esterline, A., Rorie, T., and Homaifar, A., "A Process-Algebraic Agent Abstraction," In Rouff, C. A. et al. (eds.), Agent Technology from a Formal Perspective, Springer, pp. 99-137, 2006.

51. Esterline, A.C., BouSaba, C., Homaifar, A., and Pioro, B., "Hierarchies, Holons, and Agent Coordination," in Springer-Verlag as a Chapter in Volume 3825 of LNCS/LNAI (ed. Michael G Hinchey et al.), Papers Based on Presentations at the 2nd. Workshop on Radical Agent Concepts (WRAC II), Greenbelt, MD, Sept. 20–22, 2005.

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Future Supersonic and Hypersonic Vehicles, TSI Press Series, Vol. 1, 1994, pp. 33-38.

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274. Homaifar, A., and McCormick, V. E., "Parallel Design of Membership Functions and Rule Sets for Fuzzy Controllers Using Genetic Algorithms", The ICEE, 93, May 16-19, 1993, pp.648-657.

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276. Hogans, J., Homaifar, A., "Analysis of Brain Scan Images Using Genetic Algorithms", The 25th IEEE Southeastern Symposium on System Theory, Tuscaloosa, Al, 1993, pp.218-222.

277. Subramanian, S., Thiagarajan, B., and Homaifar, A., "A Novel Approach to Synthesis Of Threshold Functions", The 25th IEEE Southeastern Symposium on System Theory, Tuscaloosa, Al, 1993, pp. 200-204.

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281. Homaifar, A., and Joulapour, M., "Comparison of Scheduling Algorithms for Efficient Parallel Processing of Real-Time Linear Control Systems", The IEEE Proceedings of the Southeastern Symposium on System Theory, and Third Annual Symposium on CSA, Greensboro, NC, March 1-3, 1992, pp. 120-124.

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International Conference in Control and Modeling, Tehran, Iran, July 1990, pp. 130-134.

284. Ashtijou, M., and Homaifar, A., "Quadratic Digital Filter Realization Using Multiple Look-up Table Method", The Proceedings of the Twenty-First Annual Pittsburgh Conference on Modeling and Simulation, Pittsburgh, May 1990, pp. 2141-2145.

285. Best, L., and Homaifar, A., "Genetic Search Based Learning in Computer Vision System", Proceedings of First Annual Symposium on Communications, Signal Processing Expert Systems and ASIC VLSI Design, Greensboro, North Carolina, March 22-23, 1990, pp.116-118.

286. Homaifar, A., "Genetic Algorithms Foundations And Examples", Proceedings of First Annual Symposium on Communications, Signal Processing Expert Systems and ASIC VLSI Design, Greensboro, North Carolina, March 22-23, 1990, pp.112-115.

287. Homaifar, A., Qi, X., "An Overview of Genetic Algorithms Deception and Examples", Proceedings of Second Annual Symposium on CSA, Greensboro, North Carolina, March 21-22, 1991.

288. Homaifar, A., and McCormick, V. E., "Maximizing of Lift to Drag Ratio for A Variable Angle Cone in Hypersonic Flow Using Genetic Algorithms", Proceedings of Second Annual Symposium on CSA, Greensboro, North Carolina, March 21-22, 1991, pp. 9-12.

289. Jackson, R., and Homaifar, A., "Production Level Cost Minimization By Genetic Algorithms", Proceedings of Second Annual Symposium on CSA, Greensboro, North Carolina, March 21-22, 1991, pp.13-16.

290. Best, L., and Homaifar, A., "Learning The Comparator And JK Filp-Flop Using The Messy Classifier System", Proceedings of Second Annual Symposium on CSA, Greensboro, North Carolina, March 21-22, 1991, pp. 67-70.

291. Homaifar, A., and Guan, S., "Training Weights of Neural Networks By Genetic Algorithms (GAs) And Messy GAs", IASTED, International Conference on Expert Systems and Neural Networks, Honolulu, Hawaii, August 1990, pp. 74-77.

292. McCormick, V. E., Homaifar, A., and Ashtijou, M., "Turbofan Engine Design Using Genetic Algorithms", The Proceedings of the Twenty-Second Annual Pittsburgh Conference on Modeling and Simulation, Pittsburgh, May 1990, pp.1827-1833.

293. Carroll, C. C., Homaifar, A., and Barua, S., "Efficient Parallel Architecture for Highly Coupled-Real-Time Linear System Applications", Proceedings of the IEEE Southeast Con, Columbia, South Carolina, April 1989, pp. 649-654.

294. Homaifar, A., Goldberg, D. E., and Carroll, C. C., "Boolean Function Learning with A Classifier System", Proceedings of the Applications of Artificial Intelligence VI at the International Society of Optical Engineering and the Computer Society of the IEEE, Orlando, FL, April 1988, pp.264-272.

295. Homaifar, A., Bailey, J. E., and Lueg, R. E., "Helicopter GPS-Based Automatic Crosswind Feedback", The IEEE Proceedings of the Southeastern Symposium Theory, Clemson, SC., March 1987, pp. 470-476.

VIII. Invited Speaker Presentations:

1. Homaifar, A., “Innovative Approach to the Identification of Cloud Clusters Developing into Tropical Cyclones,” poster presented at The Third International Workshop on Climate Informatics, 2013.

2. Homaifar, A., “Innovative Approach to the Identification of Cloud Clusters Developing into Tropical Cyclones,” poster presented at The 2nd Annual Graduate Research Poster Contest, 2013.

3. Homaifar, A., “Identification of Cloud Clusters Developing into Tropical Cyclones,” poster presented at the 3rd Workshop on Understanding Climate Change from Data, 2013.

4. Homaifar, A., "Multi-label classification of the protein functions of the Saccharomyces cerevisiae organism based on K-Nearest Neighbor (KNN)", Presented Poster in Research poster competition, North Carolina A&T State University, 2013.
5. Homaifar, A., "Hierarchical Multi-Label Gene Function Prediction using Adaptive Mutation in Crowding Niching", Presented Poster in Research poster competition, North Carolina A&T State University, 2013.
6. Homaifar, A., "Markov Network Brains for Multiplexer Problems", Presentation to SimIS Inc. Group, May 2013.
7. Homaifar, A., "Tropical Cyclone Intensity Estimation from Satellite Images, "Poster presentation, Second Annual COE Graduate Research Poster Competition, NCAT, 2013.
8. Homaifar, A., "Objective Tropical Cyclone Intensity Estimation from SatelliteImages using Data Mining Techniques", Climate Informatics 2013. Fetanat, G., Homaifar A., and Knapp, K., "Objective Tropical Cyclone Intensity Estimation from Satellite Images using Data Mining," Third Workshop on Understanding Climate Change from Data, Northwestern University, 2013
9. Homaifar, A., "Hierarchical Multi-Label Gene Function Prediction using Adaptive Mutation in Crowding Niching", Presentation to SimIS Inc. Group, May 2013.
10. Homaifar, A., "Hierarchical Multi-Label Gene Function Prediction using Adaptive Mutation in Crowding Niching", Presented Poster in Research poster competition, North Carolina A&T State University, 2013.
11. Homaifar, A., "Hierarchical Multi Label Classification Using GA as a Global Training Method", Presented Poster in BEACON Congress, Michigan State University, Aug 2013.
12. Homaifar, A., "Research Study, I: Hierarchical Multi-Label Gene Function Classification, II: Chaotic Time Series Forecasting", Presented Poster in BEACON NSF Visit, Michigan State University, Sep 2013.
13. Homaifar, A., "Tropical cyclone intensity estimation using temporal analysis of satellite data", Climate Informatics 2012.
14. Homaifar, A., "Tropical cyclone intensity estimation using temporal and image analysis of satellite data," AGU Fall Meeting 2012
15. Homaifar, A., "Tropical cyclone intensity estimation using temporal analysis of satellite data," Second Workshop on Understanding Climate Change from Data, University of Minnesota, 2012. Fetanat, G., Njoku, P., Altaher, M., Lamberth, M., Obeidat, S., Homaifar, A., and Knapp, K., "Tropical Cyclone Intensity Estimation from Satellite Data," First Workshop on Understanding Climate Change from Data, University of Minnesota, 2011.
16. Homaifar, A., "Stationarity Testing of Tropical Cyclone Intensity,"First Workshop on Understanding Climate Change from Data, University of Miinnesota, 2011.
17. Homaifar, A., "Similarity quantification of climatic images and tropical cyclone tracking and intensity estimation," in the department of ECE at the University of Texas at San Antonio as part of the ECE Seminar, October 2012.
18. Homaifar, A., "Intelligent Navigation of a Robot in a Dynamic Home Environment using Laser Range Finder," Poster, 13th Annual Science & Engineering Technology Conference / Defense Tech Exposition, Charleston SC, April 2012.
19. Homaifar, A., "Intelligent Navigation of a Robot in a Dynamic Home Environment using Laser Range Finder," Poster, 1st Annual COE Graduate Student Research Poster Competition, NC A&T SU, April 2012.
20. Homaifar, A., "Fast Locality Sensitive Hashing Algorithm for Approximate Nearest Neighbor Search-A Practical Data Mining Approach". Poster presentation at The Second International Workshop on Climate Informatics, September, 20-21, 2012, National Center for Atmospheric

Research, Boulder Colorado, United States of America.

21. Homaifar, A., "Fast Locality Sensitive Hashing Algorithm for Approximate Nearest Neighbor Search-A Practical Data Mining Approach". Poster presentation at The Second Workshop on Understanding Climate Change from Data, the Annual Meeting of National Science Foundation in Computing, August, 6-7, 2012, University of Minnesota, United States of America.
22. Homaifar, A., "Design and Implementation of Assistive Robotic Residence Home (DIARRH)," Poster, COE Healthcare Day, 2012, NC A&T SU, February 10.
23. Homaifar, A., "Intelligent Navigation of a Robot in a Dynamic Home Environment using Laser Range Finder," Poster, 13th Annual Science & Engineering Technology Conference / Defense Tech Exposition, Charleston SC, April 2012.
24. Homaifar, A., "Intelligent Navigation of a Robot in a Dynamic Home Environment using Laser Range Finder," Poster, 1st Annual COE Graduate Student Research Poster Competition, NC A&T SU, April 2012.
25. Homaifar, A., "Tropical cyclone intensity estimation using temporal analysis and spatial features in satellite data," Poster presentation, First Annual COE Graduate Research Poster Competition, NCAT, 2012.
26. Homaifar, A., "Evolutionary Learning, Navigation and Target Identification for Assistive Robotic Application", Poster presentation at the BEACON CONGRESS, August 2011.
27. Homaifar, A., "A New Bidding Strategy in LCS Using Loan and Bid History," presentation at the research update of BEACON CONGRESS, August 2011.
28. Homaifar, A., Satellite Data," Workshop on Understanding Climate Change from Data, University of Minnesota, 2011.
29. Homaifar, A., "Tracing the Origins of Pre-Tropical Storm Debby Using Satellite Imagery," Workshop on Understanding Climate Change from Data, University of Minnesota, 2011.
30. Homaifar, A., "Meteorological Satellite Image Retrieval & Indexing," Workshop on Understanding Climate Change from Data, University of Minnesota, 2011.
31. Homaifar, A., "Stationarity Testing of Tropical Cyclone Intensity," Workshop on Understanding Climate Change from Data, University of Minnesota, 2011.
32. Homaifar, A., "Similarity Estimation of Satellite Images," Workshop on Understanding Climate Change from Data, University of Minnesota, 2011.
33. Homaifar, A., "Climate Data Preprocessing," Workshop on Understanding Climate Change from Data, University of Minnesota, 2011.
34. Homaifar, A., "Climate Data Preprocessing," Workshop on Understanding Climate Change from Data, University of Minnesota, 2011.
35. Homaifar, A., "Evolutionary Learning, Navigation and Target Identification for Assistive Robotic Application", Poster, 3rd BEACON Annual Congress, MSU, MI, August 2011.
36. Homaifar, A., participated and presented an overview of the current research focus at NCAT, Workshop on Understanding Climate Change from Data, University of Minnesota, 2011.
37. Homaifar, A., "Fast Locality Sensitive Hashing Algorithm for Approximate Nearest Neighbor Search-A Practical Data Mining Approach". Poster presentation at The First Workshop on Understanding Climate Change from Data, the Annual Meeting of National Science Foundation in Computing, August, 6-7, 2011, University of Minnesota, United States of America.
38. Homaifar, A., "Fast Locality Sensitive Hashing Algorithm for Approximate Nearest Neighbor Search-A Practical Data Mining Approach". Poster presentation at 1st Annual COE Graduate Student Research Poster Competition, April 26, 2012, (Greensboro, NC, United States, 2011).

39. Homaifar, A., “Design and Implementation of Assistive Robotic Residence Home (DIARRH),” Poster, COE Healthcare Day, NC A&T SU, February 2012.
40. Homaifar, A., “Evolutionary Learning, Navigation and Target Identification for Assistive Robotic Application”, Poster, 3rd BEACON Annual Congress, MSU, MI, August 2011.
41. Homaifar, A., gave a talk “Sensor Fusion,” at the USAF Minority Leaders Program annual meeting in Dayton, OH, April. 19 – 21, 2010.
42. Homaifar, A., "Using Wavelet for image retrieving of satellite images," NOAA EPP Education and Science Forum, Howard University, Washington D.C, 2009.
43. Homaifar, A., participated and presented the thrust III overview in the NOAA-ISET CSC evaluation meeting in April. 2009.
44. Homaifar, A., discussed “Virtual Sensors and Climate Change,” as an invited speaker at the NC Sensor workshop on February 2, 2009, Chapel Hill NC. In this meeting researcher from government, industry and academia from across the state and nation presented sensor inventories, sensor platforms, and analytic techniques relating to meteorology and hydrology.
45. Homaifar, A., “Creating Virtual Sensors using Learning Based Super Resolution and Data Fusion,” attended and presented at the IEEE Aerospace Conference, Montana, USA, March 7-14, 09.
46. Homaifar, A., along with others from ISET visited the National Climatic Data Center (NCDC) on Jan. 23, 2009 for student summer internship. Khristopher Blue will work as an intern at NCDC with NOAA scientist Russel S. Vose on image reduction and analysis.
47. Homaifar, A., “Learning and Adaptation for Tactical Behaviors,” RCTA Internal Program Review, Fort Indiantown Gap, PA, April 27-28, 2009.
48. Homaifar, A., presented a talk “Sensor Fusion”, at the USAF Minority Leaders Program annual meeting in Atlanta, GA, Feb. 16 – 19, 2009.
49. Homaifar, A., “Auction Based Coordination of UAVs” the USAF Minority Leaders Program Annual Meeting, New Orleans, LA, Feb. 2008.
50. Homaifar, A., “Learning and Adaptation for Tactical Behaviors,” RCTA Internal Program Review, Fort Indiantown Gap, PA, April 27-28, 2007.
51. Homaifar, A. “Auction Based Coordination of UAVs,” the Minority Leaders Review Conference, Panama City, Panama, March 6-8, 2007.
52. Esterline, A., and Homaifar, A., “Learning and Adaptation for Tactical Behaviors,” RCTA Internal Program Review, Fort Indiantown Gap, PA, April 27-28, 2005.
53. Esterline, A., and Homaifar, A., “Learning and Adaptation for Tactical Behaviors,” Collaborative Technology Alliance Symposium, Adelphi, MD, April 2006.
54. Olayiwola, A., Prince, C., Brown, T., Homaifar, A., Zolghadri, M., “Computer Based Power Electronics Lab,” 9th. Annual Undergraduate Research Conference of NC-LSAMP, March 2005.
55. Elmatboly, O., Homaifar, A., Zolghadri, M., “High Current Measurements Using a Discrete Giant Magneto Resistive Sensor,” 9th. Annual Undergraduate Research Conference of NC-LSAMP, March 2005.
56. Homaifar, A., "Panel Discussion on Intelligent Control", The Second Annual Joint Conference on Information Sciences, September 29, 1995.
57. Homaifar, A., "Robot Arm Trajectory Control via Fuzzy Controller", E&A'94 Symposium, March 21 - 22, 1994, Prairie View, Texas.
58. Homaifar, A., "Fuzzy Inference For Variable Structure Control," The North American Fuzzy Information Processing Society Conference, 1993.

59. Homaifar, A., "An Overview of Genetic Algorithms and its Applications", Eastman Kodak, Rochester New York, 3, 1992.

60. Homaifar, A., "Evolution Strategy Algorithms Applications in Aerospace", NASA Langley Research Center, Hampton Virginia, March 18-19, 1992.

61. Homaifar, A., "Analysis and Design of A General GA for Deceptive Problem", US Army Research Office, Mathematical and Computer Science Division, Research Triangle Park 3/ 27-28, 1991.

62. Homaifar, A., "Genetic Algorithm and PGA Application in Solving a Special Class of NP-complete Problem", Bowman Gray School of Medicine, Winston-Salem, NC, 2/20/91.

IX. Submitted for Publication or Presentation:

1. Moradi, K. M., Gorji, S. M., Homaifar A., "Application of a novel partially connected artificial neural network with evolvable topology in time series prediction," Applied Soft Computing Journal, (2015), revision submitted.

2. Lacewell, C. W., Homaifar, A., "SCOT: Selective Clustering based Oversampling Technique," Data Mining and Knowledge Discovery, submitted.

3. Opoku D., Homaifar, A., Tunstel E. W., RFID-Augmentation for Improving Long-term Pose Accuracy of an Indoor Navigating Robot, Conference paper, Submitted to 2014 IEEE Intelligent Vehicles Symposium, January 2014.

4. Moradi, K. M., Homaifar, A., D. KC, "CAM-HMC: Crowding Niching-Adaptive Mutation for Hierarchical Multi-Label Gene Function Classification", IEEE Journal of Biomedical and Health Informatics, Special Issue Bioinformatics in Clinical Environments, July 31, 2014, submitted.

5. Moradi, K. M., Gorji, S. M., Homaifar. A., D. KC, "A Novel Evolvable Artificial Neural Network with the Application to Chaotic Time-Series Forecasting", GECCO 2014, Vancouver, BC, Canada, July 12-16, 2014.

6. Buaba, R., Homaifar, A., Kihn, E., "Approximate Nearest Neighbor Search-A New Perspective to Locality Sensitive Hashing," ACM Transaction on Journal of Experimental Algorithmics, 2012.

X. Workshop/Seminar Conducted or Attended:

1. Organizing Committee member for Workshop on Understanding Climate Change from Data, University of Minnesota, 2011, 11-12.

2. Organizing Committee member for ALife13, Michigan State University, July 19-22, 2012, 11-12.

3. Organizing Committee member for ALife13, Michigan State University, July 19-22, 2012

4. Chair of Research Efficiency Committee (Spring 2012) to improve overall research productivity among faculty.

5. I organized The Future of Energy in a Carbon-Restrained World Current Issues in the Utility Industry for students at N.C. A&T for five weeks. Started on September 10, 2008 and ended on October 15, 2008 with student presentations. Three presentations were made by Progress Energy and Duke Energy experts and one Dr. Singh. Four groups of students presented their work in the last meeting, judged by industry representatives, 2009-2010.

6. I organized The Future of Energy in a Carbon-Restrained World Current Issues in the Utility Industry for student at N.C. A&T for five weeks. Started on September 28, 2009 and ended on October 12, 2009 with student presentations. Three presentations were made by Progress Energy and Duke Energy experts. Seven groups of students presented their work in the last meeting, judged by the industry representatives, 2008-2009.

7. Organizing member of the Symposium on: Composite Materials, Design & Production Nanotechnology, Design & Engineering Alternate Energy & Fuel Cell Technology, Düsseldorf, Germany, 3-6 July, 2008-2009.
8. Organizing Committee Member for ISSCI '2008, and World Automation Congress ’2008, Hawaii, July 2008-2009.
9. Section chair for Third Workshop on Understanding Climate Change from Data, 2011 & 2012.
10. Chair of Faculty recruitment. I was in charge of responding to external responses; arranging time for faculty interview; collecting feedback; and in part negotiation, 2010.
11. Committee member of GCDC, to come up with initial policies and approval of courses, 2008-2010.
12. Organized Area Coordination for Control and Power Systems, 2010.
13. Attended a workshop on Modeling and Control Design of DC/DC Converters, Virginia Polytechnic Institute and State University, VA May 20-24, 2002, Blacksburg.
14. Conducted workshop on Intelligent Control: Fuzzy Logic, and Evolutionary Algorithms, the sixth IEEE Annual Computer System Information (SCI) Conference, Isfahan Technology University, February 17-22, 2001 Isfahan Iran.
15. Conducted workshop on Intelligent Control: Fuzzy Logic, and Evolutionary Algorithms, with M. Jamshidi, and T. Ross at the International Symposium on Soft Computing for Industry ISSCI'2000, and WAC ’2000, June 10-17, Maui, Hawaii.
16. Attended a workshop on the Role of Soft-Computing Techniques in Earth Sciences at the International Symposium on Soft Computing for Industry 98, and WAC ’98, May 10, Anchorage Alaska.
17. Participated in Lifespring Workshop for leadership, Raleigh, NC, March 19-25, 1997.
18. Participated in Lifespring Workshop for leadership, Raleigh, NC, January 24-28, 1997.
19. Participated in Lifespring Workshop for leadership, Washington DC, April 18-20, 1997.
20. Attended the workshop on “Remote Sensing and GIS: Principles and Applications”, at the NASA University Research Centers, Technical Conference on Education, Aeronautics, Space, Autonomy, Earth and Environment, Albuquerque, New Mexico, February 16-19, 1997.
21. Homaifar, A. and Bikdash, M., Presented an invited paper entitled “Tutorial on Fuzzy Systems and Control”, Virginia Tech, Blacksburg, VA, December 3, 1996.
22. Attended the workshop on Total Quality Management at the E&A'94 Symposium, Prairie View, Texas, March 21 - 22, 1994.
23. Attended the SUCCEED Teaching Effectiveness Workshop, North Carolina A&T State University, Greensboro, North Carolina, January 23, 1993.
24. Attended the workshop on Robust Control at the International Conference on Decision and Control, Tucson, Arizona, December 12-19 1992.
25. Organized a workshop on Variable Structure Control (Professor Wei-Bing Gao, North Carolina A&T State University, December 8-10, 1992.
26. Attended the Network Training workshop (November 19-20, 1992), North Carolina A&T State University.
27. Attended the workshop on Distributed Parameter Modeling and control of Flexible Aerospace Systems, Williamsburg, Virginia, June 8, 10 1992.
28. Attended the short course on Distributed Parameter Modeling, Parameters Estimation and Control, Williamsburg, Virginia, June 10, 1992.
29. Attended the OSSA Attached Payloads Investigations Workshop, Columbia,

Maryland, April 3-5, 1990.

30. Attended the workshop on "Effective Teaching", conducted by Dr. Edwin Fenton, from Carnage Melon University, NC A&T State University, Greensboro, North Carolina, January 13, 1990.
31. Attended the workshop on Robot Sensing and Intelligence, Huntsville, Alabama, September 18, 1989.

XI. Technical Reports:

1. Homaifar, A., Karimoddini, A., Kelly, J., Seong, Y., "Testing, Evaluation and Control of Heterogeneous Large-scale Autonomous Vehicles (TECHLAV)," DOD DAF Air Force Research Laboratory (AFRL), quarter 2 report, July 2015.
2. Homaifar, A., Karimoddini, A., Kelly, J., Seong, Y., "Testing, Evaluation and Control of Heterogeneous Large-scale Autonomous Vehicles (TECHLAV)," DOD DAF Air Force Research Laboratory (AFRL) quarter 3 report, October 2015.
3. Homaifar, A., "Crash Imminent Safety UTC," The Ohio State University, Department of Transportation (DOT), annual report, September 2015.
4. Homaifar, A., Bikdash, M., Fatehi, F., and Patel, N., "NSF/CPES Annual Report, "Volumes I and II, March 2002.
5. Homaifar, A., Bikdash, M., Fatehi, F., and Patel, N., "NSF/CPES Annual Report, "Volumes I and II, March 2001.
6. Homaifar, A., Bikdash, M., Fatehi, F., and Patel, N., "NSF/CPES Annual Report, "Volumes I and II, March 2000.
7. Homaifar, A., and Esterline, A., C., "NASA ACE Annual Report," April 2002.
8. Homaifar, A., and Bikdash, M., "NASA CAR Annual Report," June 2002.
9. Homaifar, A., and Bikdash, M., sixth Semi-Annual MURI Report, Sept. 15-16, 2001.
10. Homaifar A., and Ashokkumar C.R., "Supplemental Control for Flight Cruise with turbulence in discrete Time Windows", NASA-Dryden, April 2001.
11. Homaifar, A., and Fatehi, F. "Artificial Potential Field Based Motion Planning/Navigation in Two and Three Dimensional Environment", NASA-Dryden. April 2001.
12. Homaifar, A., and Bikdash, M., "NASA CAR Annual Report," June 2000.
13. Homaifar, A., Bikdash, M., Fatehi, F., and Patel, N., "NSF/CPES Annual Report, "Volumes I and II, March 1999.
14. Homaifar, A., Bikdash, M., and Esterline, A., C., "NASA ACE Annual Report," April 1998.
15. Homaifar A., and Ashokkumar C.R., "Supplemental Control for Flight Cruise with Turbulence in Discrete Time Windows", NASA-Dryden. February 1998.
16. Homaifar, A., and Bikdash, M., "MURI Annual Report," April 1998.
17. Homaifar, A., And Fatehi, F. "Artificial Potential Field Based Motion Planning/Navigation in Two and Three Dimensional Environment", NASA-Dryden. April 1998.
18. Bikdash, M., and Homaifar, A., "Fuzzy-Linguistic Control of Axisymmetric Compression Inlets," Final Report Submitted to the Boeing Corporation, Sep. 30, 1998.
19. Homaifar A., Bikdash, M., and Ashokkumar CR., "Control And Guidance of Hypersonic Vehicles," Final 5-year Report for the Guidance and Control Group in the NASA Center of Research Excellence (CORE), 1997.

20. Homaifar, A., and Bikdash, M., "NASA CAR Annual Report," June 1997.
21. Homaifar, A., and Bikdash, M., and Dozier, G. V., "Autonomous Control Engineering: Annual Report/Renewal Proposal," NASA ACE Center At North Carolina A&T State University, March 14, 1997.
22. Bikdash, M., and Homaifar, A., Fuzzy-Linguistic Control of Axisymmetric Compression Inlets: First Quarterly Report Submitted to the Boeing Corporation, April 14, 1997.
23. Homaifar A., and Ashokkumar C.R., "Supplemental Control for flight cruise with turbulence in Discrete Time Windows", NASA-Dryden, 1997.
24. Homaifar A., Bikdash, Sherrod, E., Vainstein, F., Lala, P., Dozier, G., and Lebby, G., "Autonomous Control Engineering", Annual Report, University of New Mexico, Albuquerque, February 1996.
25. Homaifar A., Dunn, D. O., and Ashokkumar, CR., "Control and Guidance of Hypersonic Vehicle", NASA Center of Research Excellence, NC A&T State University, Annual Report, November 1995.
26. Homaifar A., Dunn, D. O., and CR. Ashokkumar, "Control and Guidance of Hypersonic Vehicle", NASA Center of Research Excellence, NC A&T State University, Annual Report, December 1994.
27. Homaifar, A., Lai, H.Y., Dunn, D. O., and Song, Y. D., "Control and Guidance of Hypersonic Vehicle", NASA Center of Research Excellence, NC A&T State University, Annual Report, October 1993.
28. Homaifar A., Lai, H.Y., Dunn, D. O., and Song, Y. D., "Control and Guidance of Hypersonic Vehicle", NASA Center of Research Excellence, NC A&T State University, Annual Report, October 1992.
29. Martin, H. L, Kelly, J., Lebby, G. L., Homaifar A., and J. H. Kim, "Laboratory for Communications, Signal Processing Expert Systems, And ASIC VLSI Design", Technical Report, NSF-8913432, 1993
30. Homaifar A., "A New Approach in The Design of Fuzzy Controllers" by Honeywell Systems and Research Center, $40,000, Dec. 1993.
31. Homaifar A., "AT&T Research Fellowship in Adaptive Learning Applications", A T&T Bell Laboratory, 1993.
32. Homaifar A., and Rastani, M., "Space Station Freedom Attached Payload Subsystems Analysis for The Payload Pointing Systems, and Contamination Monitoring Unit", NASA-Goddard Space Flight Center-442013, April 17, 1991.
33. Homaifar A., "Learning and Identifying Concept Description from Noisy Examples". Digital Equipment Corporation 111 Powdermill Road Maynard, Massachusetts, December 1990.
34. Carroll, C. C., Homaifar A., and, Ananthram, K., "An Intelligent Allocation Algorithm for Parallel Processing", The University of Alabama BER Report, Tuscaloosa, AL 1988.
35. Homaifar A., Carroll, C. C., and Barua, S., "Effective Parallel Architecture for Highly Coupled Real-Time Linear System", The University of Alabama BER Report, Tuscaloosa, AL 1988.
36. Homaifar A., Bailey, J.E., and Krishnakumar, K., "Global Positioning Satellite-Based Automatic Landing System And Wind Estimated Feedback for The AH-64 Helicopter", The University of Alabama BER Report, December 1986.
37. Homaifar A., Bailey, J.E., and Krishnakumar, K., "GPS-Based Automatic Landing System for The AH-64 Helicopter", The University of Alabama BER Report, September 1985.

XII. Professional Activities:

A. Paper Reviewer and Editorship:

1. Associate Editor of the newly established IEEE Transactions on Intelligent Vehicles (T-IV), 2015 -

2. Associate Editor for the Journal of Intelligent Automation and Soft Computing International 1996 – 2008
3. Editorial Review Board (IERB) of the **International Journal of Information Security and Privacy (IJISP)**.

B. Reviewer for:

1. Paper reviewer for ALife13, Michigan State University, July 19-22, 2012.
2. Reviewer, IEEE Transaction on Fuzzy Sets and Systems, 2010-2011.
3. Reviewer, IEEE Transaction on Systems and Control, 2010-2011.
4. Reviewer of 4 papers of the Genetic and Evolutionary Computation Conference (GECCO, 2008-2010)
5. Reviewer of 15 papers of the of the sixth International Symposium on Soft Computing for Industry, World Automation Congress , Hawaii, 2008-2010.
6. Reviewer, IEEE Transaction on Fuzzy Sets and Systems, 2009-2010.
7. Reviewer, IEEE Transaction on Systems and Control, 2009-2010.
8. Reviewer, IEEE Transaction on Fuzzy Sets and Systems, 2008-2009.
9. IEEE Transactions on Fuzzy Systems.
10. Reviewer for IEEE TRANSACTIONS ON Evolutionary Algorithms.
11. Reviewer of the IEEE Fuzzy 2000, San Antonio, Texas, May 7-10, 2000.
12. Reviewer of the of the Third International Symposium on Soft Computing for Industry, - ISSCI '98, and World Automation Congress ’2000, Maui, Hawaii, June 11-16, 2000.
13. Reviewer of the of the Third International Symposium on Soft Computing for Industry, - ISSCI '98, and World Automation Congress ’98, Anchorage, Alaska, May 10-14, 1998.
14. IEEE Transactions on Man, Machines, & Cybernetics.
15. Journal of Intelligent & Fuzzy Systems.
16. IEEE Transactions on Neural Networks.
17. Reviewer of IEEE Fuzzy ‘96.
18. Reviewer of the Program of the “5 Fuzzy Days, Fuzzy Logic, Neural Networks, Evolutionary Algorithms”, Conference, April 28-30, 1997, University of Dortmund, Germany.
19. Reviewer of the NASA University Research Centers’ Technical Conference on Education, Aeronautics, Space, Autonomy, Earth and Environment, February 16-19, 1997, Albuquerque, New Mexico.
20. Reviewer of the International Conference on Computational Intelligence, “5 Fuzzy Days, Fuzzy Logic, Neural Networks, Evolutionary Algorithms”, April 28-30, 1997, University of Dortmund, Germany.
21. Reviewer of the Journal of Robotic Systems, Special Issue on Neuro-Fuzzy Intelligent Robotic Systems.
22. Reviewer of the International Conference on Computational Intelligence, “5 Fuzzy Days, Fuzzy Logic, Neural Networks, Evolutionary Algorithms”, April 28-30, 1997, University of Dortmund, Germany.
23. Reviewer of the of the Second International Symposium on Soft Computing for Industry, - ISSCI '96, and World Automation Congress ’96, Montpellier, France, May 28-30, 1996.
24. Papers for ICEE, 93.

25. Papers for the 24th Southeastern Symposium on System Theory, and The Third Annual Symposium on Communications, Signal Processing Expert Systems, and ASIC VLSI Design.
26. Papers for the First and Second Annual Symposium on Communications, Signal Processing Expert Systems, and ASIC VLSI Design (CSA), 1991, 1990.

C. Member of Conference Program Committee:

1. Organizing member of the Symposium on: Composite Materials, Design & Production Nanotechnology, Design & Engineering Alternate Energy & Fuel Cell Technology, Düsseldorf, Germany, 3-6 July, 2007.
2. Organizing Committee Member for ISSCI 06, ISSCI '2008, and World Automation Congress '2008, Hawaii, July 2008.
3. General Chair of the 4th International Symposium on Soft Computing for Industry with applications of financial engineering, June 9-13, 2002, Orlando, Florida, USA.
4. IEEE, SMC, 2000, Nashville, Tennessee.
5. Co-Chair of the Third International Symposium on Soft Computing for Industry, - ISSCI '2000, Maui, Hawaii.
6. Co-Chair of the Second International Symposium on Soft Computing for Industry, - ISSCI '98, Anchorage, Alaska.
7. Co-Chair of the NASA University Research Centers' Technical Conference on Education, Aeronautics, Space, Autonomy, Earth and Environment, February 16-19, 1997, Albuquerque, New Mexico.
8. Organizing Committee member, and Treasurer, First International Forum on Discontinuous Deformation Analysis (DDA), Berkeley, California, June 12-14, 1996.
9. Organizing Committee Chairman, First Industry/University Symposium on High Speed Civil Transport Vehicle, 1994.

D. Program Committee Member:

1. Program Committee member for the International conference on Computational Intelligence, Dortmund Germany, 5 Fuzzy Days, in Dortmund, 1999.
2. Program Committee member for the International conference on Computational Intelligence, Dortmund Germany, 5 Fuzzy Days, in Dortmund, 1996.
3. Program Committee member for the International Symposium on Soft Computing for Industry, ISSCI '96.
4. The 24th Southeastern Symposium on System Theory and The Third Annual Symposium on Communications, Signal Processing Expert Systems, And ASIC VLSI Design (CSA), 1992.
5. The Second Annual Symposium on Communications, Signal Processing Expert Systems, and ASIC VLSI Design (CSA), 1991.
6. The First Annual Symposium on Communications, Signal Processing Expert Systems, and ASIC VLSI Design (CSA), 1990.

E. Chairman of Conference Sessions:

1. Session Chair on "Electronic and Robotic Systems," the 10th IEEE International Conference on Fuzzy Systems. The University of Melbourne, Australia, December 2001.

2. Co-Chair of the session on "Adaptive Identification and Estimation," IEEE ACC, May 8-10, 2002
3. Chairman of the session on Evolutionary Programming, of the World Automation Conference, (WAC'98), May 10-14, 1998, Anchorage Alaska.
4. Chairman of the plenary session of the Second International Symposium on Soft Computing for Industry (ISSCI '98), on Rule Extraction with Clustering Algorithms, May 10-14, 1998, Anchorage Alaska.
5. Chairman of the session on Intelligent Systems and Agents of the NASA University Research Centers' Technical Conference on Education, Aeronautics, Space, Autonomy, Earth and Environment, February 16-19, 1997, Albuquerque, New Mexico.
6. Chairman of the session on Intelligent Control Systems of the NASA University Research Centers' Technical Conference on Education, Aeronautics, Space, Autonomy, Earth and Environment, February 16-19, 1997, Albuquerque, New Mexico.
7. Chairman of the session on Evolutionary Fuzzy Logic Applications at the International Symposium on Soft Computing for Industry ISSCI '96, Montpellier, France.
8. Chairman of the session on Fuzzy Control IX, IEEE Fuzzy 96, September 8-11, 1996, New Orleans.
9. Chairman of the International Symposium on Soft Computing for Industry ISSCI 1996
10. Chairman of the ACM Symposium on Applied Computing, Fuzzy Application, 1995.
11. Chairman of the IEEE World Conference on Computational Intelligence, 1994
12. The North American Fuzzy Information Processing Society Conference, 1993
13. The 24th Southeastern Symposium on System Theory and The Third Annual Symposium on Communications, Signal Processing Expert Systems, and ASIC VLSI Design (CSA), 1992
14. The Second Annual Symposium on Communications, Signal Processing Expert Systems, and ASIC VLSI Design (CSA), 1991
15. The First Annual Symposium on Communications, Signal Processing Expert Systems, and ASIC VLSI Design (CSA), 1990

F. Scientific and Professional Societies Member:

1. Member of Institute of Electrical and Electronics Engineering (IEEE)
2. Member of the IEEE Control Society
3. Member of the IEEE Fuzzy Logic Society
4. Member of the IEEE Neural Network Society
5. Member of the IEEE Circuits and Systems Society
6. Member of the Sigma Xi Scientific Honor Society
7. Member of the Tau Beta Pi Engineering Honor Society
8. Member of the Eta Kapa Nu Electrical Engineering Honor Society

XIII. Honors and Awards:

1. Researcher of the year award in the College of engineering for 2002-2003.
2. Hagler II, A. E., Sensor Technology within Homeland Security, selected for one of the three best papers, Raytheon Paper Competition, 07-08.
3. BouSaba, C., Esterline, A., Homaifar, A., "A Framework for Learning Coordinated Tactical Behavior," 2nd out of 40 posters under the Graduate Category
4. Ayele, E., Homaifar, A., and Esterline, A., "Learning Tactical Behaviors - Terrain Reasoner Weight Adapter (TRWA),"3rd out of 40 posters under the Graduate Category

5. Johnson, S., Murphy, D., First Place Engineering Oral Presentation- HBCU-UP National Research Conference Feb. 2006

6. Johnson, S., Murphy, D., First Place Engineering Oral Presentation, March 06.

7. Alighanbari, M., Homaifar, A., and Sayarrodsari, B., selected as the top five student paper at IEEE SMC 05 (Int. Conf. on Systems, Man and Cybernetics), Hawaii, October 2005.

8. Adams, J., and Woolridge, E., Placed Second in the oral presentation category at the L-SAMP 2005 Conference in Fayetteville, NC.

9. Selected as best student paper:

   - Hussain, M., Kimiaghalam, B., Ahmadzadeh, A., Homaifar, A. and Sayyarrodsari, B., "Multi Robot Scheduling Using Evolutionary Algorithms," Proceeding of the World Automation Congress, Orlando, Florida, June 9-13, 2002.

10. Selected as best session presentation:

    - Shen, Y., and Homaifar, A., "Active control of flexible structure using genetic algorithms and LQG/LTR approaches," the American Control Conference, June 2-4, 1999, San Diego, pp. 4398-4402.

    - Kimiaghalam, B., Homaifar, A., and Bikdash, M., "Pendulation Suppression of a Shipboard Crane Using Fuzzy Controllers", the IEEE American Control Conference, June 2-4, 1999, San Diego, pp. 586-590.

11. Finalists for Best Paper Awards:

    - Kimiaghalam, B., Homaifar, A., and Bikdash, M., "Hybrid Fuzzy-PD Control for A Dock Mounted Pantry Crane", *Proceedings of the NASA URC Technical Conference (URC-TC'98),* Editors: Tommy L. Coleman, Bettie White, and Steven Goodman, TSI Press, Huntsville, Alabama, February 22-25, 1998, Vol. II, pp. 247-251.

    - Shen, Y., Homaifar, A., Bikdash, M., Naser, A., "Real-Time Active Vibration Control Using Peizoelectric Actuators in Plate Structures", *Proceedings of the NASA URC Technical Conference (URC-TC'98), Editors:* Tommy L. Coleman, Bettie White, and Steven Goodman, TSI Press, Huntsville, Alabama, February 22-25, 1998, Vol. II, pp. 342-347.

12. Selected as the Outstanding Researcher of the Year in the College of Engineering, 1995-1996.

13. Selected as the Department of Electrical Engineering Outstanding Researcher of the year, 1995-1996.

14. Best Paper Award, "Feedback Implementation of Zermelo's Optimal Control by Sugeno Approximation", by Clifton, C., Homaifar, A., and Bikdash, M., NASA University Research Centers, Technical Conference on Advances in Education, Aeronautics, Space, Autonomy, Earth and Environment, Albuquerque, New Mexico, Feb. 19-21, 1997.

15. Best Paper Award, "Aircraft Pitch Control with fixed-order LQ compensators", by Green, James, Ashokkumar, CR., and Homaifar, A., NASA University Research Centers, Technical Conference on Advances in Education, Aeronautics, Space, Autonomy, Earth and Environment, Albuquerque, New Mexico, Feb. 19-21, 1997.

16. Selected as the Department of Electrical Engineering Outstanding Researcher of the year, 1994-1995.

17. Very Important Parent Award (VIP) for participation in the Multicultural Day at Summerfield School, 1994-1996.

18. Outstanding Freshman Advisor in the School of Engineering, North Carolina A&T State University, 1993-1994.

19. One of the two nominees for outstanding Researcher in the Department of Electrical Engineering, 1993-1994.

20. ASCE Carolina Conference Appreciation Award, NC A&TSU, 1993.
21. Nominated for C. Holmes MacDonald OUTSTANDING TEACHING AWARD for young Electrical Engineering Professor, 1991.
22. Nominated for the Presidential Young Investigator Awards, 1990.
23. Outstanding Dissertation Award-College of Engineering, The University of Alabama, Tuscaloosa AL, 1987.

XIV. COMMUNITY SERVICE:

1. Member of the Grimsley's Advisory Committee
2. Member of the Grimsley's Science Olympiad Committee
3. Volunteer for Math Superstar at Kernodle Middle School
4. Member of the Kernodle Middle School Parent Student Association
5. Member of the Persian Community Council
6. Volunteer for Math Superstar at Jesse Wharton Elementary School
7. Helped raised over $12,000 for Tsunami Victims
8. Helped raised over $23,000 for Katrina Victims
9. Active member of the Grimsley High School Science Olympiad Fund Raising Committee (help to collect $35,000.00).
10. Member of the Youth for Aids Relief in South Africa (help to collect $22,000.00).
11. Treasurer and Organizing Committee member, Iranian-American Relief Committee of North Carolina (1997-present).
12. Helped raise $25,000 in the relief effort for the devastating May 10, 1997 earthquake in Iran that killed thousands of people.
13. Vice President of the Persian Community Center in Greensboro, 1994-present.
14. Science Fair Judge at Summerfield School, 1993 - present
15. Volunteered for 1992 Annual Alumni Phonathon.
16. Science Fair Judge at Laughlin School, 1992.
17. Vice President of the Persian Club (1993 - present).
18. Member of the North Carolina Center for Advancement of Classical Persian Music (1992 - present).
19. Member of the Guilford Green Community for protecting environment (1990 - present).
20. Member of the PTA committee at Grimsley Senior High School, 1998 –present.
21. Member of the PTA at Laughlin School, 1990-1994.
22. Member of the PTA at Summerfield School, 1995-present.
23. Member of the Leadership committee at Northwest Middle School, 1997 -1998.