# CURRICULUM VITAE

**Dr. Abdollah (Ebbie) Homaifar**

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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 Research Expertise

- Machine Learning, Approximate Reasoning
- Testing and Evaluation
- Soft Computing, Evolutionary Computations
- Stochastic Control and Estimation, Control
- Signal Processing, & Robotics

## III. Professional Experience

- 02/202018-present, NASA Langley Distinguished Chair Professor
- 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) Center
- 10/2003-present, Duke Energy Eminent Professor, North Carolina A&T, Greensboro, North Carolina
- 06/1999-present, Professor, Department of Electrical and Computer Engineering, North Carolina A&T, Greensboro, North Carolina
- 06/1995-06/1999, Associate Professor, Department of Electrical Engineering, North Carolina A&T, Greensboro, North Carolina
- 01/1989-05/1995, Assistant Professor, Department of Electrical Engineering, North Carolina A&T, Greensboro, North Carolina
- 06/1989-08/1989, Summer Research Engineer, AT&T Bell Laboratories, Holmdel, New Jersey, Member of the Machine Intelligence Department
- 07/1987-12/1988, Visiting Assistant Professor, Department of Electrical Engineering, The University of Alabama

## IV. Teaching Experience

### *A. Undergraduate Courses Taught*

- Genetic Algorithms in Optimization and Machine Learning
- Special Projects: Power Electronics
- Introduction to Microprocessors
- Fundamentals of Logic Design
- Linear Systems and Control
- Electric Circuit Analysis
- Electric Circuit Analysis and Synthesis Circuit Laboratory Digital Systems Laboratory
- Digital Signal Analysis and Processing

### *B. Graduate Courses Taught*

- Data Streaming and application in Autonomous vehicles
- Practical Application in Optimization
- Design of Computer Control Systems
- Adaptive Control Theory and Fuzzy Logic Application
- Genetic Algorithms in Optimization and Machine Learning
- Automatic Control Theory
- Theory of Linear Systems
- Switching and Finite Automata Theory
- Special Topics,
- Masters Special Topics
- Industrial Automation I
- Doctoral Special Topics

### *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. North Carolina Tele-Classes Taught or Sponsored*

- ELEN-660, Genetic Algorithms in Optimization and Machine Learning (taught with Dr. M. Mostafavi, UNC-Charlotte), Fall 1990
- CSC-6050, UNC-Charlotte, Introduction to Neural Computation, fall 1990 (sponsored)
- CSC-6111, UNC-Charlotte, 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. Reviewer: NSF-Integrative Graduate Education in Research Traineeship (IGERT), September 2000
2. 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 ISI, and WAC ’98, May 10, Anchorage, Alaska
3. Conducted workshop on Intelligent Control: Fuzzy Logic, and Evolutionary Algorithms, with M. Jamshidi, at the International Symposium on Soft Computing for Industry ISI 96, and WAC ’96, Montpellier, France, May 1996
4. 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 1994
5. Research Institute for Advanced Computer Science (RIACS) Council from 01/01/1998-12/12/2000
6. Engineering Optimization Technology Design Methods (Genetic Algorithms) and its Applications, General Motor Corporation, Saginaw Division, August 5-9, 1991, Saginaw, Michigan
7. Graduate Fellowship Evaluator for the National Defense Science and Engineering
8. International Editorial Review Board (IERB) of the International Journal of Information Security and Privacy (IJISP), 09-12
9. Organizing Committee member for Alabamaife13, Michigan State University, July 2012, 11-12
10. Paper reviewer for Alabamaife13, Michigan State University, July 2012, 11-12
11. Associate Editor for the International Journal of Information Security and Privacy (IJISP), 11-12
12. Journal of Intelligent & Fuzzy Systems, 09-12
13. Reviewer, IEEE Transaction on Fuzzy Sets and Systems, 09-11
14. Reviewer, IEEE Transaction on Systems and Control, 09-11
15. Associate Editor for the International Journal of Information Security and Privacy (IJISP), 10-11
16. Associate Editor for the Journal of Intelligent Automation and Soft Computing, 09-11
17. Reviewer of 4 papers of the Genetic and Evolutionary Computation Conference (GECCO-2009), 10-11
18. Organizing Committee member for Workshop on Understanding Climate Change from Data, University of Minnesota, 11-12, 2011
19. Organizer of The Future of Energy in a Carbon-Restrained World Current Issues in the Utility Industry for student at North Carolina 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 student presented their work in the last meeting which was judged by the industry representatives, 09-10

20. Associate Editor for the International Journal of Information Security and Privacy (IJISP), 09-11
21. Reviewer of 4 papers of the Genetic and Evolutionary Computation Conference (GECCO-2009), 09-10
22. Organizer of The Future of Energy in a Carbon-Restrained World Current Issues in the Utility Industry for student at North Carolina 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 student presented their work in the last meeting which was judged by the industry representatives, 08-09
23. International Editorial Review Board (IERB) of the International Journal of Information Security and Privacy (IJISP), 08-09
24. 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
25. Reviewer, IEEE Transaction on Fuzzy Sets and Systems, 08-09
26. 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
27. Organizing Committee Member for ISI2008, and World Automation Congress 2008, Hawaii, July 2008, 08-09

## VI. Summary of Funding Awards

### A. *Current Research Funding*

1. A. Homaifar (PI), D. Delaurentis, M. Costello A. Karimoddini, K. Vamvoudakis, I. Hwang, D. Sun, S. Coogan, J. Kelly (NC A&T), Co-Lead: J. Goppert “Secure and Safe Assured Autonomy,” NASA University Leadership Initiative, $7,938,730.00, 08/15/2020/ to 08/14/2024.
2. A. Homaifar (PI), A. Karimoddini “Developing a Context-Aware Decision-Making and Automatic Tasking for Autonomous Vehicles,” Army Research Laboratory, $280,000, 08/15/2020 to 08/14/2022. Department of Defense Research and Education Program for Historically Black Colleges and Universities and Minority-Serving Institutions (HBCU/MSI), Army Research Laboratory.
3. A. Karimoddini (PI), A. Homaifar (Co-PI), W. Fan (UNCC), T. Chase (NCSU), NC Transportation Center of Excellence on Connected and Autonomous Vehicle Technology (NC-CAV), NCDOT, $1,000,000, 2020-2022. A multidisciplinary and Multi-Institutional effort,
4. D. Limbrick (PI), A. Homaifar (Co-PI), A. Karimoddini, Real-time Fault Diagnosis for Self-Driving Vehicles, $1,000,000, NSF, 8/1/2020 to 7/31/2023. A multidisciplinary and Multi-Institutional effort.
5. A. Homaifar, Developing a Data-driven Intelligent Tool for Unmanned Systems and On-demand Mobility, $250,000 per year, 1/1/2019 to 12/31/2023, a grant from National Institute of Aerospace and NASA Langley Research Center.
6. A. Homaifar, Multi-domain Autonomous Vehicle Control and Teaming, $200k per year, for five years, 1/1/2019 to 12/31/2024, Lockheed Martin Corporation.

7. A. Homaifar, (PI), A. Karimoddini, (Co-PI), “Data-Driven Intelligent Prediction Tool” (DIPT), 09/2016-08/2020, $5,300,000, Department of the Army- Project description: This contract investigates engineering, technical, analytical tools for testing and evaluation for modeling complex non-linear systems (systems of systems) with uncertainties by using data-driven techniques. One of the prerequisite for this funding was to have a demonstrated technology readiness level of 3 (TRL-3).
8. A. Homaifar, M. Karimoddini, Jamshidi, J. Kelly, Y. Seong and N. Vadee, “Testing, Evaluation and Control of Heterogeneous Large-scale Autonomous Vehicles (TECHLAV),” 04/2015-03/2021, $6,000,000 DOD DAF Air Force Research Laboratory (AFRL), The aim of this project is to conduct a collaborative and integrated research on two fundamental grand challenges: (1) Teaming and Cooperative Control of Large Scale Autonomous Systems of Vehicles (LSASVs) integrated with human operators. (2) Testing, Evaluation, Validation, and Verification of LSASV.

**B.** ***Prior Research Funding (Past Five Years)***

9. A. Karimoddini, A. Homaifar, “Reliable and Flexible Teaming of Heterogeneous Autonomous Vehicles,” $499,353 Army Research Office
10. U. Ozguner, A. Homaifar, et al, “Crash Imminent Safety (CIS) UTC,” 10/2013-09/2018. The NCAT funding was $586,000, USDOT RITA University Transportation Center (UTC) Program-A multi-institutional project led by Dr. Ozguner from Ohio State, which included University of Wisconsin Madison, The University of Massachusetts at Amherst and IUPU at Indianapolis The goal of the CrIS UTC is to improve ground transportation safety through interdisciplinary research and development in the interplay of autonomous and intelligent vehicle systems, human factors, and injury biomechanics. The main challenge of this project is achieving driving autonomy in urban environment with road constraints and interactions between vehicles and humans while maintaining road safety.
11. V. Kumar, A. Homaifar, et al, “Center for Collaborative Research: Understanding Climate Change: A Data Driven Approach,” 08/2010-07/2016, NSF/CCF. The NCAT funding was $900,000. A multi-institutional project led by Dr. Kumar from University of Minnesota, which included University of North Carolina, Northwestern University, and the Northeastern University at Boston. The goal of this project is to take advantage of various data sources to develop computational method to improve understanding of the Earth system and the mechanisms contributing to the adverse consequences of climate change. The key challenges are that 1) the Earth system is very complex and 2) the amount of observations are very large
12. A. Homaifar, Karimoddini,” Data Driven Techniques for Testing and Evaluation of Unmanned and Autonomous Systems,” 06/2015-03/2016, $180,000, General Informatics, Inc.
13. A. Homaifar, Karimoddini, “A Type-2 Fuzzy Inference System Development Toolbox,” 12/2013-04/2014, $214,950, Scientific Research Corporation.
14. A. Homaifar, Karimoddini, “Inference Engine Using Type-2 Fuzzy Sets, Focus on type-reduction,” 12/2013-04/2014, $36,000, Scientific Research Corporation.
15. A. Homaifar, Karimoddini, “Inference Engine Using Type-2 Fuzzy Sets, Feasibility Study and Concept Building,” 12/2013-03/2014, $75,000, Scientific Research Corporation.
16. A. Homaifar, “Design and Implementation of Assistive Robotic Residence Home (DIARRH),” 02/2011-01/2013, $155,982, Center for the Study of Evolution in Action.
17. A. Homaifar, Karimoddini, “Biologically Inspired Solutions to Computation,” 01/2013-3/2014,

$118,800, Center for the Study of Evolution in Action.

18. G. Dozier, A. Homaifar, et al. “The Center for the Study of Evolution in Action (BEACON),” 04/2009-03/2013, NSF. The NCAT funding was $2,500,000.

### C. *Other Notable Research*

19. A. Homaifar, Esterline, “Learning and Adaptation for Tactical Behaviors,” 09/2008-08/2010, $300,000, General Dynamics
20. A. Homaifar, Esterline, “Hybrid Techniques for Fusing Data from Multiple Inertial Navigators,” (Phase 2) 03/2008-02/2009, $67,000, U.S. Navy
21. A. Homaifar, “Integration of Wind Energy into the Future Sustainable Home,” April 07, $80,000, NSF
22. A. Homaifar, Esterline, “Clarkson Aerospace, Auction Based Coordination of UAVs,” 10/2007-07/2009, $300,000, U.S. Air Force
23. S. Bililign, K. Schimmel A. Homaifar, et.al. “NOAA Interdisciplinary Scientific Environmental Technology (ISET) Cooperative Research and Education Center,” 07/2006, 12,500,000, NOAA, EPP
24. A. Homaifar, Esterline, “Learning, Adaptation, and Coordination in Multi-Agent Systems,” Dec. 2005, $75,000, JHUARL
25. A. Homaifar, Esterline, “Fuzzy Integral Techniques for Fusing Data from Multiple Inertial Navigators,” Sept. 2005, $20,000, U.S. Navy
26. A. Homaifar, “Duke Energy-Summer Educational Program,” Sept. 2005, $10,000, Duke Energy
27. A. Homaifar, “Multi Objective Routing and Control Optimization for Satellite Linked Mobil Ad Hoc Networks,” 11/2004, $90,000, Raytheon Company
28. A. Homaifar, Esterline, “Learning and Adaptation for Tactical Behaviors,” 08/2005, $150,000 per year for five years, General Dynamics
29. D. Song, N. Dogan, A. Goliszek, A. Homaifar, et.al. “Biologically-Inspired Adaptive and Reconfigurable Systems: Modeling, Synthesis, and Simulation,” 2004-2007, $1,000,000, NSF
30. A. Homaifar, Esterline, “Bio Inspired Fuzzy Cognitive Map-Based Hierarchical Supervisory Mission Controls for Uninhibited Aero Vehicles,” 01/2003, $50,000, NIA
31. A. Homaifar, Esterline, “Bio Inspired Fuzzy Cognitive Map-Based Hierarchical Supervisory Mission Controls for Uninhibited Aero Vehicles,” 04/2004, $45,000, NIA
32. A. Homaifar, Esterline, “Real Time Model Predictive Control for Collaborative Control of Large-Scale Multi-Agent Systems,” 04/2003, $100,000, U.S. Air Force
33. A. Homaifar, B. Kimiaghalam, “Real Time Model Predictive Control for Collaborative Control of Large-Scale Multi-Agent Systems,” 05/2004, $100,000, U.S. Air Force
34. A. Homaifar, B. Kimiaghalam, “Optimal Trajectory Planning for Interplanetary Missions using Hybrid Evolutionary Algorithms,” 03/2004, $370,920, NASA-Ames
35. A. Homaifar, Esterline, “Multi Objective Routing and Control Optimization for Satellite Linked Mobil Ad Hoc Networks,” 11/2004, $90,000, Raytheon Company
36. A. Homaifar, Esterline, “Mathematical Formulation and Distributed Hybrid Mixed Integer

Non-Linear Programming Solver for the Application of UAV," 06/2003, $74,177, RIACS

37. A. Homaifar, M. M. Bikdash. Ellis, D. Song, G. Lebby, F. Fatehi, H. Singh, "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
38. A. Homaifar, E. Sherrod, G. Lebby, F. Vainstein, P. Lala and G. Dozier 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
39. A. Homaifar, M. Bikdash, 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
40. A. Homaifar, M. Bikdash, "The Center of Aerospace Research-NASA-CAR," Area coordinator of Control and Guidance group, 1996-2001, $143,000.00 per year, NASA
41. A. Homaifar, M. Bikdash, D. Dunn, "The Center of Research Excellence in Aerospace," 1992-1996, $310,000 per year, Area coordinator of Control and Guidance group NASA
42. A. Homaifar, CR. Ashokkumar, "On the Previewed Control Actions for Aircraft Flying Qualities," 06/1996-07/1999, $389,683, NASA Dryden Flight Research Center
43. A. Homaifar, M. Bikdash, F. Fatehi, "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
44. A. Homaifar, M. Bikdash, "Fuzzy-Logic Control for Axisymmetric Compression Inlets," 01/1997-08/1997, $43,499 over six months, the Boeing Company
45. A. Homaifar, M. Bikdash, D. Song, P. Pai, M. Schultz, "Auto Furling of Large-Diameter Wind Turbines Using Fuzzy Logic," 08/1997-12/1999, $240,000, National Renewable Energy Laboratories
46. A. Homaifar, H. Martin, J. Foster, G. Lebby, J. Kim, "Laboratory for Communications, Signal Processing Expert Systems, and ASIC VLSI Design," 10/1989-09/1994, $2,500,000, NSF
47. A. Homaifar, "A New Approach in the Design of Fuzzy Controllers," 01/1992-12/1993, $40,000, Honeywell Systems and Research Center
48. A. Homaifar, "AT&T Research Fellowship in Adaptive Learning Applications," 1992-1993, $15,000, AT&T Bell Laboratory
49. A. Homaifar, "Faculty Program/Incentives for Excellence project for Young Investigators Award," 1992, $60,000, Digital Equipment Corporation Grant
50. A. Homaifar, M. Rastani, "On-Orbit Payload Calibration Study for Externally Attached Payloads on Space Station Freedom (SSF)," 1990-1992, $150,000, NASA Langley Research Center
51. University Faculty Development Grant Award, to attend the Eastern Communications Forum on 05/1989, $1,000

## VII. Research Support and Outreach

ACIT Institute is currently supporting 20 graduates and 22 undergraduate students from various departments in the College of Engineering. A weekly seminar series is organized

and made available to the public with the purpose to share ideas on the various projects that the Institute is supporting. Throughout the year, we host students from various Guilford County middle and high schools. The goal of these visits is to introduce the students to different academic majors available, and steps they can take to plan for college. We also support FIRST Tech Challenge, a robotic program in Guilford County, to educate rookie coaches on the fundamental information necessary to be successful in their first season.

## VIII. Publications

### *A. Publications in Journals* *(In order of most recent publication date)*

1. S. Nazmi, X, Yan, A. Homaifar, and E. Doucette Evolving multi-label classification rules by exploiting high-order label correlations. Neurocomputing, 417, 176-186. (2020).
2. A. Girma, N. Bahadori, M. Sarkar, T. Tadewos, M. Behniapoor, M. Mahmoud, A. Karimoddini, and A. Homaifar, “IoT-enabled Autonomous System Collaboration for Disaster-Area Management”, IEEE/CAA Journal of Automatic Sinica. (2020).
3. A. Homaifar, A. Karimoddini, M. Heiges, M. A. Khan, B. A. Erol, S. Nazmi, “A Software Tool for Evaluating Unmanned Autonomous Systems.” ITEA Journal of Test and Evaluation,41(3), pp. 188-195, (Oct. 2020).
4. G. Awogbami, A Homaifar, “A Reliability-Based Multisensor Data Fusion with Application in Target Classification,” Sensors, MDPI, 2-16, Vol 20(8), (April 2020).
5. X. Yan, S. Nazmi, B. Erol, A. Homaifar, B. Gebru, and E. Tunstel, “An Efficient Unsupervised Feature Selection Procedure Through Feature Clustering”, The Journal of Pattern Recognition Letter, (2020).
6. A. Homaifar, Karimoddini, BA. Erol, M. Khan, E. Tunstel, RL. Roberts, RF. Young, K. Snyder, RS. Swanson, M. Jamshidi, Y. Seong and E. Doucette, “Operationalizing Autonomy: A Transition from Innovation Space to Real-world Operations” IEEE Systems, Man, and Cybernetics Magazine, 5(4), pp. 23-32, (October 2019).
7. M. Sarkar, A. Homaifar, BA. Erol, M. Behniapoor, and E. Tunstel, “PIE: A Tool for Data-driven Autonomous UAV Flight Testing”. Journal of Intelligent & Robotic Systems (2019) 1-18.
8. X. Yan, M. Razeghi-Jahromi, BA. Erol, A. Homaifar, Girma, and E. Tunstel, “A Novel Streaming Clustering Algorithm based on Fitness Proportionate Sharing”, IEEE Access 7 (2019): 184985-185000.
9. K. Majd, M. Razeghi-Jahromi, and A. Homaifar, “A Stable Analytical Solution Method for Car-like Robot Trajectory Tracking and Optimization”, IEEE/CAA Journal of Automatic Sinica 7.1 (2019): 39-47.
10. N. Namvar, A. Homaifar, A. Karimoddini, and B. Maham, “Heterogeneous UAV Cells: An Effective Resource Allocation Scheme for Maximum Coverage Performance”, IEEE Access Journal, (2019).
11. N. Agana, A. Homaifar, EMD-Based Predictive Deep Belief Network for Time Series Prediction": An Application to Drought Forecasting, Journal of Hydrology, (2018).

12. M. Kordmahalleh , G. Sefidmazgi, S. Harrison, A. Homaifar, “Identifying time-delayed gene regulatory networks via an evolvable hierarchical recurrent neural network,” Journal of Biodata Mining, Vol 10 Issue 1, Pages 29, DOI: 10.1186/s13040-017-0146-4, August (2017).
13. SB. Amsalu, A. Homaifar, and A. Esterline, “A Simplified Matrix Formulation for Sensitivity Analysis of Hidden Markov Models. Algorithms,” 10(3), pages 97-118, (2017).
14. M. Razeghi-Jahromi, S. Nazmi, and A. Homaifar, “Two-step Markov Update Algorithm for Accuracy-based Learning Classifier Systems,” Journal of Complex Systems, Vol. 26, issue 3, (2017).
15. J. Larvie, G. Sefidmazgi, A. Homaifar, Harrison, A. Karimoddini, and A. Guiseppi-Elie, “Stable Gene Regulatory Network Modeling from Steady-State Data,” Journal of Bioengineering 3(2), pages 12-27, (2016).
16. K. Alotaibi, H. M. Moghassem, T. Jinsheng, and A. Homaifar, "Using Spy Node to Identify Cyber-Attack in Power Systems as a Novel Approach," in Electric Information Technology proceeding of the IEEE, pages 581 – 586, (2015).
17. G. Sefidmazgi, M. Kordmahalleh, A. Homaifar, “Identification of Switched Models in Non-Stationary Time Series Based on Coordinate-Descent and Genetic Algorithm,” Conference Companion on Genetic and Evolutionary Computation Companion, ACM, Spain, (2015).
18. C. Lacewell, and A. Homaifar, “Identifying Developing Cloud Clusters using Predictive Features,” Machine Learning and Data Mining Approaches to Climate Science, Springer Book Chapter, (2015).
19. J. Larvie, G. Sefidmazgi, A. Homaifar, "Inferring Stable Gene Regulatory Networks from Steady-State Data," Northeast Bioengineering Conference, NY, IEEE, (2015).
20. G. Sefidmazgi, A. Homaifar, S. Liess, “Change detection in climate time series based on bounded-variation clustering." Machine Learning and Data Mining Approaches to Climate Science, Book Chapter, (Spring 2015).
21. G. Sefidmazgi, M, M. Kordmahalleh, A. Homaifar, Karimoddini, “Switched Linear System Identification Based on Bounded-Switching Clustering” American Control Conference, IEEE Chicago, (Accepted), 2015.
22. Seifemichael B. Amsalu, A. Homaifar, Fatemeh Afghah, S. Ramyar, and Arda Kurt, “Driver Behavior Modeling Near Intersections Using Support Vector Machines Based on Statistical Feature Extraction” Intelligent Vehicles Symposium (IV), (Accepted in Press), 2015.
23. N. Agana, G. Sefidmazgi, A. Homaifar, “Analysis of Extreme Precipitation Events,” Fourth International Workshop on Climate Informatics, NCAR, Colorado, (2014).
24. R. Buaba, A. Homaifar, 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, pages 111-122, (2014).
25. G. Sefidmazgi, M. Kordmahalleh, A. Homaifar, and A. Karimoddini, “A Finite Element Based Method for Identification of Switched Linear Systems,” in American Control Conference, IEEE, Oregon, (2014).

26. G. Sefidmazgi, M. Sayemuzzaman, A. Homaifar, M. Jha, S. Liess, “Trend Analysis Using Non-Stationary Time Series Clustering Based on the Finite Element Method,” Nonlinear Process Geophysics, Vol. 21, pages 605-615, (2014).

27. D. Opoku, A. Homaifar, and E. Tunstel, “RFID-Augmentation for Improving Long-term Pose Accuracy of an Indoor Navigating Robot,” the 2014 IEEE International Conference on Systems, Man, and Cybernetics (SMC2014), pages 796-801,(2014).

28. M. Kordmahalleh, G. Sefidmazgi, Homaifar, A, KC, A. Guiseppi-Elie. “Time-Series Forecasting with Evolvable Partially Connected Artificial Neural Network,” Conference Companion on Genetic and Evolutionary Computation Companion, Canada, ACM (2014).

29. M. Kordmahalleh, G. Sefidmazgi, A. Homaifar, Karimoddini, A. Guisseppi-Elie, Graves, “Delayed and Hidden Variables Interactions in Gene Regulatory Networks,” 14th International Conference on Bioinformatics and Bioengineering, IEEE, Florida, (2014).

30. G. Sefidmazgi, M. Kordmahalleh, A. Homaifar, S. Liess, “Change Detection in Linear Trend of Temperature over US 1900-2012,” Fourth International Workshop on Climate Informatics, NCAR Colorado, (2014).

31. G. Sefidmazgi, M. Sayemuzzaman, and A. Homaifar, “Non-stationary Time Series Clustering with Application to Climate Systems,” in Third Annual World Conference on Soft Computing, San Antonio, vol. 312, pages 55–63, Book Chapter, (2014).

32. G. Sefidmazgi, M. Sayemuzzaman, A. Homaifar, and Jha, S. Liess, Trend Analysis Using Non-Stationary Time Series Clustering Based on the Finite Element Method,” Nonlinear Processes in Geophysics, pages 21{3} (2014).

33. G. Fetanat, A. Homaifar, K. Knapp, “Objective Tropical Cyclone Intensity Estimation using Analogs of Spatial Features in Satellite Data,” Weather & Forecasting, Vol. 28 Issue 6, pages 1446-1459, (December 2013).

34. R. Buaba, A. Homaifar, and E. Kihn, “Optimal Load Factor for Approximate Nearest Neighbor Search under Exact Euclidean Locality Sensitive Hashing,” International Journal of Computer Applications, Published by Foundation of Computer Science, New York, pages 69(21):22-31, (May 2013).

35. C. Lacewell, A. Homaifar, 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, pages 43–58, (January 2013).

36. D. Opoku, A. Homaifar, and E. Tunstel, “The A-r-Star (Ar*) Pathfinder,” International Journal of Computer Applications; Vol. 67, pages 0975-8887, (2013).

37. M. Dugda, T. Workineh, A. T, A. Homaifar, and JH Kim, (2012), “Receiver Function Inversion Using Genetic Algorithms,” Bulletin of the Seismological Society of America, Vol. 102, No. 5, pages 2245–2251, (October 2012).

38. R. Buaba, Gebril M, A. Homaifar, E. Kihn, M. Zhizhin, “Satellite Image Retrieval Using Low Memory Locality Sensitive Hashing in Euclidean Space,” Earth Science Informatics, Vol. 4, pages 17–28, (2011).

39. O. Elmatboly and A. Homaifar, “Novel Sensing of Capacitive Currents Along Critical Transmission Line Spans,” Journal of Sensors, Hindawi Publishing Corporation, (2011).

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272. J. Baghdadchi, A. Homaifar, and A. Iran-Nejad, "A Bio-functional Approach to Decision Making,” Proceedings of the NASA University Research Centers, Technical Advances in Education, Aeronautics, Space, Autonomy, Earth and Environment, Editors: M. Jamshidi, R. Lumia, E. Tunstel, Jr, B. White, J. Malone, and P. Sakimoto, NASA ACE Center Series, Vol. 1, pages 87-92, 1997.

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278. C. Pierre, A. Ahmed, A. Homaifar, and G. Lebby, "Application of Genetic Algorithms to Optimize Power Flow on A Radial Transmission Line Using Reactive Compensation," Proceedings of the NASA University Research Centers, Technical Advances in Education, Aeronautics, Space, Autonomy, Earth and Environment, Editors: M. Jamshidi, R. Lumia, E. Tunstle, Jr, B. White, J. Malone, and P. Sakimoto, NASA ACE Center Series, Vol. 1, pages 587-591, 1997.

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280. CR. Ashokkumar, A. Homaifar, and R. Yedavalli, "Dominant Pole Assignment in Linear Uncertain Systems," Paper AIAA 96-3907, AIAA Guidance, Navigation, and Control Conference, San Diego, California, July 1996.

281. S. Bryson, A. Homaifar, EJ Gardner, and G. Lebby, "Classical Genetic Algorithms for Job Scheduling," Proceedings of the World Automation Congress, Soft Computing with Industrial Applications, Recent Trends in Research and Development, Editors: M. M. Jamshidi. Fathi, and F. Pierrot, TSI Press Series, Vol.5, Montpellier, pages 101-106, France, May 1996.

282. A. Homaifar, VJ Gopalan, and M. Bikdash, "Design of Hybrid Fuzzy PID Controller Using Genetic Algorithm," Proceedings of the World Automation Congress, Soft Computing with Industrial Applications, Recent Trends in Research and Development, Editors: M. M. Jamshidi. Fathi, and F. Pierrot, TSI Press Series, vol.5, Montpellier, France, pages 325-330, May 1996.

283. C. Clifton, A. Homaifar, and M. Bikdash, "Approximating Hybrid-Fuzzy PID Controllers by Sugeno Controllers, " Proceedings of the First National Student's Conference, The National Alliance of NASA University Research Centers at Minority Institutions, Editors: E.O. Daso, and S. Mebanee, TRI Press, pages 366-369, April 1996.

284. Foxx, Ann-Cheri, and A. Homaifar, "A Mechanism for Crossover Control in Genetic Algorithms, Proceedings of the First National Student's Conference, The National Alliance of NASA University Research Centers at Minority Institutions, Editors: E. O. Daso, and S. Mebanee, TSI Press, pages 358-361, April 1996.

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Alliance of NASA University Research Centers at Minority Institutions, Editors: Daso, E.O, and Mebanee S, TSI Press, pages 374-376, April 1996.

286. J. Nagle, A. Homaifar, A. A. Naser, and M. Bikdash, "Modeling and Control of a Thin Plate," Proceedings of the First National Student's Conference, The National Alliance of NASA University Research Centers at Minority Institutions, Editors: Daso, E.O, and Mebanee S, TRI Press, pages 362-365 April 1996.

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289. S. Soliday, A. Homaifar, and G. Lebby, "Genetic Algorithm Approach to The Search for Golomb Rulers," Proceedings of the Sixth International Conference on Genetic Algorithms, University of Pittsburgh, pages 196-201, July 1995.

290. A. Homaifar, VJ Gopalan, R. Dabney and R. Salami, "Fuzzy Controllers for The Autonomous Rendezvous and Docking Problem," Proceedings of the 1995 ACM Symposium on Applied Computing, pages 532-536, February 1995.

291. Bowe, D. K, A. Homaifar, and Y. Song D, "Spacecraft Spin Axis Attitude Determination via Genetic Algorithm," IEEE International Conference on Automatic Control, Baltimore, Maryland, pages 2877-2881, July 1994.

292. B. Sayyar-Roudsari, A. Homaifar, and W. Snyder "A Theoretical Justification for Nonlinear Control Property of a Class of Fuzzy Logic Controllers," The IEEE World Conference on Computational Intelligence, Orlando, Florida, pages 382-387, July 1994.

293. J. Baghdadchi, and A. Homaifar, "A Minimization Algorithm for Single and Multiple Output Boolean Functions". Editors A. Homaifar, and J. Kelly, First Industry/University Symposium on Research for Future Supersonic and Hypersonic Vehicles, TSI Press Series, Vol. 1, 1994.

294. M. Delgado, A. Homaifar, and J. Baghdadchi, "Fault Detection in Aircraft Engine Using Eigenstructure Approach". Editors A. Homaifar, and J. Kelly, First Industry/University Symposium on Research for Future Supersonic and Hypersonic Vehicles, TSI Press Series, Vol. 1, pages 554-559, 1994.

295. A. Homaifar, B. Sayyar-Roudsari, and J. Nagle. C, "Continuous Output tracking of A Class of Nonlinear Systems by Fuzzy Controller". Editors M. Jamshidi, C.C. Nguyen, R. Lumia and Y. Yuh, Intelligent Automation and Soft Computing, Trends in Research, Development, and Applications, TSI Press Series, Vol. 1, pages 485-490, 1994.

296. J. Nagle and A. Homaifar, "Fuzzy Control of VSTOL Aircraft Longitudinal Axis" Editors A. Homaifar, and J. Kelly, First Industry/University Symposium on Research for Future Supersonic and Hypersonic Vehicles, TSI Press Series, Vol. 1, pages 51-57, 1994.

297. "Simulation of a Fuzzy Logic Controller." Editors A. Homaifar, and J. Kelly, First Industry/University Symposium on Research for Future Supersonic and Hypersonic Vehicles, TSI Press Series, Vol. 1, pages 118-123, 1994.

298. R.G. Warren, A. Homaifar and D. Dunn, "An Approach to Fuzzy Logic Control of a Hypersonic Vehicle." Editors A. Homaifar, and J. Kelly, First Industry/University Symposium on Research for Future Supersonic and Hypersonic Vehicles, TSI Press Series, Vol. 1, pages 33-38, 1994..

299. B. Sayyarrodsari, A. Homaifar and J. Hogans, "Fuzzy Controller for Robot Arm Trajectory." The Second International Conference on Fuzzy Theory and Technology, Control and Decision, Durham, North Carolina, pages 157-159, October 1993

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

302. A. Homaifar, S. Guan, G. Liepins, "A New Approach on the Traveling Salesman Problem by Genetic Algorithms," in S. Forrest, Genetic Algorithms: Proceedings of the Fifth International Conference (GA93, Morgan Kaufmann), pages 460-466, 1993..

303. K. Ricanek, II, A. Homaifar, and G. Lebby, "Genetic Algorithm Composes Music," The 25th IEEE Southeastern Symposium on System Theory, Tuscaloosa, Alabama, pages 223-227, 1993

304. Y. Song D, A. Homaifar, and H.Y. Lai, "Continuous Output Tracking Control of a Class of Nonlinear Systems," IEEE International Conference on Decision and Control, pages 213-2134, 1993.

305. S. Subramanian, B.Thiagarajan, and A. Homaifar, "A Novel Approach to Synthesis of Threshold Functions," The 25th IEEE Southeastern Symposium on System Theory, Tuscaloosa, Alabama, pages 200-204, 1993.

306. Y. Song, A. Homaifar, and S. Lai, "Robust Motion Tracking Control of Robotic Arms Based on Generalized Energy Accumulation Principle," IEEE Conference on Decision and Control, December 16-18, 1992, Tucson, Arizona, pages 1417-1424.

307. Y. Song, A. Homaifar, S. Lai, "System Stability and Performance Analysis Based on Generalized Energy Accumulation: Part II - Applications," IEEE Conference on Decision and Control, Tucson, Arizona, pages 3452-3457, December 1992.

308. A. Homaifar, S. Lai, and V. McCormick, "Design of Fuzzy Controllers Using Genetic Algorithms," The Second International Conference on Automation, Taipei, Taiwan, R.O.C. July 1992.

309. A. Homaifar and V. McCormick, "Full Design of Fuzzy Controllers Using Genetic Algorithms," Proceedings of the Neural and Stochastic Methods in Image and Signal Processing at the International Society of Optical Applied Science and Engineering, San Diego, California, pages 393-404, July 1992.

310. A. Homaifar, J. Turner, and S. Ali "Genetic Algorithms and The N-Queen Problem," The IEEE Proceedings of the Southeast Conference, Birmingham, Alabama, pages 262-267, April 12-15, 1992.

311. A. Homaifar, V. McCormick, " A New Approach for The Design and Implementation of Fuzzy Controllers," The IEEE Proceedings of the Southeastern Symposium on System

Theory, and Third Annual symposium on CSA, Greensboro, North Carolina, pages 313-317, March 1992.

312. A. Homaifar, and M. Joulapour, "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, North Carolina, pages 120-124, March 1992.

313. A. Homaifar, X. Qi, and J. Foster, "Analysis and Design of a General GA Deceptive Problem," The Fourth International Conference on Genetic Algorithms, University of California at San Diego, pages 196-203, July 13-16, 1991.

314. L. Best, and A. Homaifar, "Learning The Comparator and JK Flip-Flop Using the Messy Classifier System," Proceedings of Second Annual Symposium on CSA, Greensboro, North Carolina, pages 67-70, March 1991.

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

316. A. Homaifar, and V. McCormick, "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, pages 9-12, March 1991.

317. R. Jackson and A. Homaifar, "Production Level Cost Minimization by Genetic Algorithms," Proceedings of Second Annual Symposium on CSA, Greensboro, North Carolina, pages 13-16, March 1991.

318. A. Homaifar and X. Qi, "Analysis of Genetic Algorithms Deception by Hadamard Transform," IASTED International Symposium Machine Learning and Neural Networks, New York, October 1990.

319. A. Homaifar, S. Guan, and M. Ashtijou, "Comparison of GAs, And Messy GAs with Backpropagation Performance for A Neural Network Optimization," Proceedings of the Sixth Annual AAAI Conference in Aerospace Applications of Artificial Intelligence Conference, Dayton Ohio, pages 358-366, October 1990.

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

321. A. Homaifar, R. Abu-Zitar, and G. Homaifar, "The Genetic Algorithms as an Alternative Method for Optimizing the Brachistochrone Problem," IASTED, Proceedings of International Conference in Control and Modeling, Tehran, Iran, pages 130-134, July 1990.

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

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

324. L. Best and A. Homaifar, "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, pages 116-118, March 1990.

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

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

327. A. Homaifar, 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, Florida, pages 264-272, April 1988.

328. A. Homaifar, J. Bailey, and R. Lueg, "Helicopter GPS-Based Automatic Crosswind Feedback," The IEEE Proceedings of the Southeastern Symposium Theory, Clemson, South Carolina, pages 470-476, March 1987.

## IX. Speaking Engagements and Symposium Talks:

1. Homaifar, Duke University talk – Symposium on Photonics Science and Technology ("Data Management from sensing to mining"), March 14-15, 2016.
2. Homaifar, Interview with Ms. Jasmine Spencer from Fox 8 news to discuss research projects and record a video of the lab activities, October 9, 2015.
3. Homaifar, "Technical discussion with Technical Monitor and group on Testing, Evaluation, and Control of Heterogeneous Large-Scale Systems of Autonomous Vehicles TECHLAV Center," of the Center of Excellence (CoE) Technical Exchange Meeting, Rome, New York, September 22, 2015.
4. Columbus, Ohio an overview of Autonomous Control and Information Technology Institute, (ACIT) Activities. CrIS UTC Annual Meeting 2015 in Ohio State University, September 2015.
5. Homaifar, Interviewed by the legendary WFMT-TV anchor, Sandra Hughes (Greensboro News & Record, 'Triad Perspectives', North Carolina A&T, September 2015.
6. Homaifar, An overview of Testing, Evaluation, and Control of Heterogeneous Large-Scale Systems of Autonomous Vehicles (TECHLAV) center, Centers of Excellence Kickoff Meeting, Arlington Virginia, August 7, 2015.
7. Homaifar, An Overview of Testing, Evaluation, and Control of Heterogeneous Large-Scale Systems of Autonomous Vehicles TECHLAV Center Pre-Kickoff, North Carolina A&T, July 7, 2015.
8. N.C. A&T State University, Greensboro – Winning a DoD Center of Excellence: Process and Protocol, the DoD Technical Assistance Training venue and 'Award of Appreciation' by the Office of Diversity Management and Equal Opportunity, June 2015.
9. A. Homaifar, Karimoddini, and Jamshidi, organized a technical panel session on TECHLAV: Testing, Evaluation and Control of Heterogeneous Large-scale Autonomous systems of Vehicles at the 10th IEEE International Conference on System of Systems

Engineering, San Antonio, TX. From the TECHLAV researchers, Drs. Jamshidi, Homaifar, and A. Karimoddini, and from the TECHLAV advisory board, Drs. Barry L. Burks, Paul Hershey, Edward Tunstel discussed different aspects of testing, evaluation, control of large-scale autonomous systems of vehicles, May 2015.

10. A. Homaifar, Gene Regulatory Networks with Hidden-Delayed Parameters, Departmental Seminar Series, Department of Chemical & Bio-molecular Engineering at Clemson, South Carolina, November 2014.
11. A. Homaifar, Analysis of non-stationary time series for wind power grids, University of Massachusetts at Amherst, October 2014.
12. A. Homaifar, Multiple linear trend analysis for non-stationary climatic time series, Fourth International Workshop on Climate Informatics, NCAR Boulder Colorado, September 2014.
13. A. Homaifar, "Research Study, I: Hierarchical Multi-Label Gene Function Classification, II: Chaotic Time Series Forecasting," Presented Poster in BEACON NSF Visit, Michigan State University, September 2013.
14. A. Homaifar, "Hierarchical Multi Label Classification Using GA as a Global Training Method," Presented Poster in BEACON Congress, Michigan State University, August 2013
15. A. Homaifar, "Markov Network Brains for Multiplexer Problems," Presentation to Sim IS Inc. Group, May 2013.
16. A. Homaifar, "Hierarchical Multi-Label Gene Function Prediction Using Adaptive Mutation in Crowding Niching," Presentation to Sim IS Inc. Group, May 2013.
17. A. Homaifar, "Innovative Approach to the Identification of Cloud Clusters Developing into Tropical Cyclones," poster presented at The Third International Workshop on Climate Informatics, 2013.
18. A. Homaifar, "Innovative Approach to the Identification of Cloud Clusters Developing into Tropical Cyclones," poster presented at The 2nd Annual Graduate Research Poster Contest, 2013.
19. A. Homaifar, "Identification of Cloud Clusters Developing into Tropical Cyclones," poster presented at the 3rd Workshop on Understanding Climate Change from Data, 2013
20. A. Homaifar, "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.
21. A. Homaifar, "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.
22. A. Homaifar, "Objective Tropical Cyclone Intensity Estimation from Satellite Images Using Data Mining Techniques," Climate Informatics 2013. G. Fetanat, A. Homaifar, and K. Knapp, "Objective Tropical Cyclone Intensity Estimation from Satellite Images using Data Mining," Third Workshop on Understanding Climate Change from Data, Northwestern University, 2013.
23. A. Homaifar, "Tropical Cyclone Intensity Estimation from Satellite Images, "Poster presentation, Second Annual COE Graduate Research Poster Competition, North Carolina A&T, 2013.

24. A. Homaifar, “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.

25. A. Homaifar, “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, National Center for Atmospheric Research, Boulder, Colorado, September 2012.

26. A. Homaifar, “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, University of Minnesota, August 2012.

27. A. Homaifar, “Tropical Cyclone Intensity Estimation Using Temporal Analysis of Satellite Data,” Climate Informatics 2012.

28. A. Homaifar, “Tropical Cyclone Intensity Estimation Using Temporal Analysis of Satellite Data,” AGU Fall Meeting 2012.

29. A. Homaifar, “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, South Carolina, April 2012.

30. A. Homaifar, “Intelligent Navigation of a Robot in a Dynamic Home Environment using Laser Range Finder,” Poster, 1st Annual COE Graduate Student Research Poster Competition, North Carolina A&T, April 2012.

31. A. Homaifar, “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, Greensboro, North Carolina, 2011, April 2012.

32. A. Homaifar, “Design and Implementation of Assistive Robotic Residence Home (DIARRH),” Poster, COE Healthcare Day, North Carolina A&T, February 2012.

33. A. Homaifar, “Design and Implementation of Assistive Robotic Residence Home (DIARRH),” Poster, COE Healthcare Day, North Carolina A&T, 2012.

34. A. Homaifar, “Tropical Cyclone Intensity Estimation sing Temporal Analysis and Spatial Features in Satellite Data,” Poster presentation, First Annual COE Graduate Research Poster Competition, North Carolina A&T, 2012.

35. A. Homaifar, “Tropical Cyclone Intensity Estimation Using Temporal Analysis of Satellite Data,” Second Workshop on Understanding Climate Change from Data, University of Minnesota, 2012.

36. A. Homaifar, “A New Bidding Strategy in LCS Using Loan and Bid History,” presentation at the research update of BEACON CONGRESS, August 2011.

37. A. Homaifar, “Evolutionary Learning, Navigation and Target Identification for Assistive Robotic Application,” Poster, 3rd BEACON Annual Congress, MSU, MI, August 2011.

38. A. Homaifar, “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, University of Minnesota, August 2011.

39. A. Homaifar, “Climate Data Preprocessing,” Workshop on Understanding Climate Change from Data, University of Minnesota, 2011.
40. A. Homaifar, “Meteorological Satellite Image Retrieval & Indexing,” Workshop on Understanding Climate Change from Data, University of Minnesota, 2011.
41. A. Homaifar, Participated and presented an overview of the current research focus at North Carolina A&T, Workshop on Understanding Climate Change from Data, University of Minnesota, 2011.
42. A. Homaifar, Satellite Data,” Workshop on Understanding Climate Change from Data, University of Minnesota, 2011.
43. A. Homaifar, “Similarity Estimation of Satellite Images,” Workshop on Understanding Climate Change from Data, University of Minnesota, 2011.
44. A. Homaifar, “Stationarity Testing of Tropical Cyclone Intensity,” Workshop on Understanding Climate Change from Data, University of Minnesota, 2011.
45. A. Homaifar, “Tracing the Origins of Pre-Tropical Storm Debby Using Satellite Imagery,” Workshop on Understanding Climate Change from Data, University of Minnesota, 2011..
46. G. Fetanat, P. Njoku, M. Altaher, M. Lamberth, S. Obeidat, A. Homaifar, and K. Knapp, “Tropical Cyclone Intensity Estimation from Satellite Data,” First Workshop on Understanding Climate Change from Data, University of Minnesota, 2011
47. A. Homaifar, gave a talk “Sensor Fusion,” at the USAF Minority Leaders Program annual meeting in Dayton, Ohio, April 2010.
48. A. Homaifar, "Using Wavelet for image retrieving of satellite images," NOAA EPP Education and Science Forum, Howard University, Washington DC, 2009.
49. A. Homaifar, “Learning and Adaptation for Tactical Behaviors,” RCTA Internal Program Review, Fort Indiantown Gap, Pennsylvania April 2009.
50. A. Homaifar, Participated and presented the thrust III overview in the NOAA-ISET South Carolina evaluation meeting, April 2009.
51. A. Homaifar, “Creating Virtual Sensors using Learning Based Super Resolution and Data Fusion,” attended and presented at the IEEE Aerospace Conference, Montana, March 2009.
52. A. Homaifar, Discussed “Virtual Sensors and Climate Change,” as an invited speaker at the North Carolina Sensor workshop, Chapel Hill North Carolina. 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, February 2, 2009.
53. A. Homaifar, Presented a talk “Sensor Fusion,” at the USAF Minority Leaders Program annual meeting in Atlanta, Georgia, February 2009.
54. A. Homaifar, along with others from ISET visited the National Climatic Data Center (North Carolina DC) for student summer internship. Khristopher Blue will work as an intern at

North Carolina DC with NOAA scientist Russel S. Vose on image reduction and analysis, Jan. 23, 2009.

55. A. Homaifar, “Auction Based Coordination of UAVs” the USAF Minority Leaders Program Annual Meeting, New Orleans, Louisiana, February 2008.

56. A. Homaifar, “Learning and Adaptation for Tactical Behaviors,” RCTA Internal Program Review, Fort Indiantown Gap, Pennsylvania, April 2007.

57. A. Homaifar, “Auction Based Coordination of UAVs,” the Minority Leaders Review Conference, Panama City, Panama, March 2007.

58. A. A. Esterline and A. Homaifar, “Learning and Adaptation for Tactical Behaviors,” Collaborative Technology Alliance Symposium, Adelphi, Maryland, April 2006.

59. A. A. Esterline and A. Homaifar, “Learning and Adaptation for Tactical Behaviors,” RCTA Internal Program Review, Fort Indiantown Gap, Pennsylvania, April 2005.

60. O. Ematboly, A. Homaifar, M. Zolghadri, “High Current Measurements Using a Discrete Giant Magneto Resistive Sensor,” 9th. Annual Undergraduate Research Conference of North Carolina-LSAMP, March 2005.

61. A. Olayiwola, C. Prince, T. Brown, A. Homaifar, M. Zolghadri, “Computer Based Power Electronics Lab,” 9th. Annual Undergraduate Research Conference of North Carolina-LSAMP, March 2005.

62. A. Homaifar, "Panel Discussion on Intelligent Control,” The Second Annual Joint Conference on Information Sciences, September 1995.

63. A. Homaifar, "Robot Arm Trajectory Control via Fuzzy Controller,” E&A'94 Symposium, Prairie View, Texas, March 1994.

64. A. Homaifar, "Fuzzy Inference for Variable Structure Control," The North American Fuzzy Information Processing Society Conference, 1993.

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

66. A. Homaifar, "Evolution Strategy Algorithms Applications in Aerospace,” NASA Langley Research Center, Hampton Virginia, March 1992.

67. A. Homaifar, "Analysis and Design of a General GA for Deceptive Problem,” US Army Research Office, Mathematical and Computer Science Division, Research Triangle Park 1991.

68. A. Homaifar, "Genetic Algorithm and PGA Application in Solving a Special Class of NP-complete Problem,” Bowman Gray School of Medicine, Winston-Salem, North Carolina, 1991.

## X. Workshops/Seminars Conducted or Attended

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

70. Organizing Committee member for Alabamaife13, Michigan State University, July 2012, 11-12.

71. Organizing Committee member for Alabamaife13, Michigan State University, July 2012.
72. Chair of Research Efficiency Committee (Spring 2012) to improve overall research productivity among faculty.
73. 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..
74. 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
75. Organizing member of the Symposium on: Composite Materials, Design & Production Nanotechnology, Design & Engineering Alternate Energy & Fuel Cell Technology, Düsseldorf, Germany, July, 2008-2009.
76. Organizing Committee Member for South Carolina '2008, and World Automation Congress '2008, Hawaii, July 2008-2009.
77. Section chair for Third Workshop on Understanding Climate Change from Data, 2011 & 2012.
78. 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.
79. Committee member of GCDC, to come up with initial policies and approval of courses, 2008-2010.
80. Organized Area Coordination for Control and Power Systems, 2010.
81. Attended a workshop on Modeling and Control Design of DC/DC Converters, Virginia Polytechnic Institute and State University, May 2002, Blacksburg, Virginia.
82. Conducted workshop on Intelligent Control: Fuzzy Logic, and Evolutionary Algorithms, the sixth IEEE Annual Computer System Information (South Carolina) Conference, Isfahan Technology University, February 2001 Isfahan, Iran.
83. 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 IS South Carolina, 2000, and WAC '2000, June, Maui, Hawaii.
84. 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, Anchorage, Alaska.
85. Participated in Lifespring Workshop for leadership, Raleigh, North Carolina, March 1997.
86. Participated in Lifespring Workshop for leadership, Raleigh, North Carolina, January 1997.
87. Participated in Lifespring Workshop for leadership, Washington DC, April 1997.

88. 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 1997.

89. A. Homaifar, and M. Bikdash, presented an invited paper entitled “Tutorial on Fuzzy Systems and Control,” Virginia Tech, Blacksburg, Virginia, December 1996.

90. Attended the workshop on Total Quality Management at the E&A'94 Symposium, Prairie View, Texas, March 1994.

91. Attended the SUCCEED Teaching Effectiveness Workshop, North Carolina A&T, Greensboro, North Carolina, January 1993.

92. Attended the workshop on Robust Control at the International Conference on Decision and Control, Tucson, Arizona, December 1992.

93. Organized a workshop on Variable Structure Control (Professor Wei-Bing Gao, North Carolina A&T, December 1992.

94. Attended the Network Training workshop, November 1992, North Carolina A&T.

95. Attended the workshop on Distributed Parameter Modeling and control of Flexible Aerospace Systems, Williamsburg, Virginia, June 1992.

96. Attended the short course on Distributed Parameter Modeling, Parameters Estimation and Control, Williamsburg, Virginia, June 1992.

97. Attended the OSSA Attached Payloads Investigations Workshop, Columbia, Maryland, April 1990.

98. Attended the workshop on "Effective Teaching,” conducted by Dr. Edwin Fenton, from Carnage Melon University, North Carolina A&T, Greensboro, North Carolina, January 1990.

99. Attended workshop on Robot Sensing and Intelligence, Huntsville, Alabama, September 1989.

## XI. Technical Reports:

1. A. Homaifar, S. Nazmi, M. Khan and N. Gyimah Multi-Domain Autonomous Vehicle Control and Teaming Capstone Project, Technical Monitor, Semi-Annual Progress Report, Lockheed Martin, A2 – July 2020.
2. A. Homaifar, M. Karimoddini, J. Jamshidi, J. Kelly, Y. Seong, and F. Dorley Testing, Evaluation, and Control of Heterogeneous Large-Scale Systems of Autonomous Vehicles, Ainoghena Igetei, Technical Monitor, Information Directorate, AFRL, Rome NY, Q1, 2020 report – April 2020.
3. A. Homaifar, M. Karimoddini, J. Jamshidi, J. Kelly, Y. Seong, and F. Dorley Testing, Evaluation, and Control of Heterogeneous Large-Scale Systems of Autonomous Vehicles, Corey M, Technical Monitor, Information Directorate, AFRL, Rome NY, Q4, 2019 report – Jan 2020.
4. A. Homaifar, S. Nazmi, M. Khan and N. Gyimah Multi-Domain Autonomous Vehicle Control and Teaming Capstone Project, Technical Monitor, Semi-Annual Progress Report, Lockheed Martin, A1 – Jan 2020.

5. A. Homaifar, M. Karimoddini, J. Jamshidi, J. Kelly, Y. Seong, and S. Seyedin Testing, Evaluation, and Control of Heterogeneous Large-Scale Systems of Autonomous Vehicles, Ainoghena Igetei, Technical Monitor, Information Directorate, AFRL, Rome NY, Q3, 2019 report – Oct 2019.
6. A. Homaifar, M. Karimoddini, J. Jamshidi, J. Kelly, Y. Seong, and S. Seyedin Testing, Evaluation, and Control of Heterogeneous Large-Scale Systems of Autonomous Vehicles, Ainoghena Igetei, Technical Monitor, Information Directorate, AFRL, Rome NY, Q2, 2019 report – July 2019.
7. A. Homaifar, M. Karimoddini, J. Jamshidi, J. Kelly, Y. Seong, and S. Seyedin Testing, Evaluation, and Control of Heterogeneous Large-Scale Systems of Autonomous Vehicles, Ainoghena Igetei, Technical Monitor, Information Directorate, AFRL, Rome NY, Q1, 2019 report – April 2019.
8. A. Homaifar, M. Karimoddini, J. Jamshidi, J. Kelly, Y. Seong, and S. Seyedin Testing, Evaluation, and Control of Heterogeneous Large-Scale Systems of Autonomous Vehicles, Ainoghena Igetei, Technical Monitor, Information Directorate, AFRL, Rome NY, Q4, 2018 report – Jan 2019.
9. A. Homaifar, M. Karimoddini, J. Jamshidi, J. Kelly, Y. Seong, and S. Seyedin Testing, Evaluation, and Control of Heterogeneous Large-Scale Systems of Autonomous Vehicles, Ainoghena Igetei, Technical Monitor, Information Directorate, AFRL, Rome NY, Q3, 2018 report – Oct 2018.
10. A. Homaifar, M. Karimoddini, J. Jamshidi, J. Kelly, Y. Seong, and S. Seyedin Testing, Evaluation, and Control of Heterogeneous Large-Scale Systems of Autonomous Vehicles, Corey M, Technical Monitor, Information Directorate, AFRL, Rome NY, Q2, 2018 report – July 2018.
11. A. Homaifar, M. Karimoddini, J. Jamshidi, J. Kelly, Y. Seong, and S. Seyedin Testing, Evaluation, and Control of Heterogeneous Large-Scale Systems of Autonomous Vehicles, Corey M, Technical Monitor, Information Directorate, AFRL, Rome NY, Q1, 2018 report – April 2018.
12. A. Homaifar, M. Karimoddini, J. Jamshidi, J. Kelly, Y. Seong, and S. Seyedin Testing, Evaluation, and Control of Heterogeneous Large-Scale Systems of Autonomous Vehicles, Corey M, Technical Monitor, Information Directorate, AFRL, Rome NY, Q4, 2017 report – Jan 2018.
13. A. Homaifar, M. Karimoddini, J. Jamshidi, J. Kelly, Y. Seong, and S. Seyedin Testing, Evaluation, and Control of Heterogeneous Large-Scale Systems of Autonomous Vehicles, Corey M, Technical Monitor, Information Directorate, AFRL, Rome NY, Q3, 2017 report – Oct 2017.
14. A. Homaifar, M. Karimoddini, J. Jamshidi, J. Kelly, Y. Seong, and S. Seyedin Testing, Evaluation, and Control of Heterogeneous Large-Scale Systems of Autonomous Vehicles, Corey M, Technical Monitor, Information Directorate, AFRL, Rome NY, Q2, 2017 report – July 2017.
15. A. Homaifar, M. Karimoddini, J. Jamshidi, J. Kelly, Y. Seong, and S. Seyedin Testing, Evaluation, and Control of Heterogeneous Large-Scale Systems of Autonomous Vehicles, Corey M, Technical Monitor, Information Directorate, AFRL, Rome NY, Q1, 2017 report – April 2017.
16. A. Homaifar, M. Karimoddini, J. Jamshidi, J. Kelly, Y. Seong, and S. Seyedin Testing, Evaluation, and Control of Heterogeneous Large-Scale Systems of Autonomous Vehicles,

Corey M, Technical Monitor, Information Directorate, AFRL, Rome NY, Q4, 2016 report – Jan 2017.

17. A. Homaifar, M. Karimoddini, J. Jamshidi, J. Kelly, Y. Seong, and S. Seyedin Testing, Evaluation, and Control of Heterogeneous Large-Scale Systems of Autonomous Vehicles, Corey M, Technical Monitor, Information Directorate, AFRL, Rome NY, Q3, 2016 report – Oct 2016.
18. A. Homaifar, M. Karimoddini, J. Jamshidi, J. Kelly, Y. Seong, and S. Seyedin Testing, Evaluation, and Control of Heterogeneous Large-Scale Systems of Autonomous Vehicles, Corey M, Technical Monitor, Information Directorate, AFRL, Rome NY, Q2, 2016 report – July 2016.
19. A. Homaifar, A. Karimoddini, Jamshidi M, J. Kelly, Seong Y, and Seyedin S, Testing, Evaluation, and Control of Heterogeneous Large-Scale Systems of Autonomous Vehicles, Corey M, Technical Monitor, Information Directorate, AFRL, Rome NY, Q1, 2016 report – April 2016.
20. A. Homaifar, Human Factors for Crash Imminent Safety in Intelligent Vehicles, Dr. Umit Ozguner/Theresa Gordon, Ohio State, the US Department of Transportation (USDOT), Research and Innovative Technology Administration (RITA) under University Transportation Center (UTC) Program, Report October-March, 2016.
21. A. Homaifar, A. Karimoddini, Jamshidi M, J. Kelly, Seong Y, and Seyedin S, Testing, Evaluation, and Control of Heterogeneous Large-Scale Systems of Autonomous Vehicles, Corey M, Technical Monitor, Information Directorate, AFRL, Rome NY, Q4, 2015 report– January 2016.
22. A. Homaifar, Human Factors for Crash Imminent Safety in Intelligent Vehicles, Dr. Umit Ozguner/Theresa Gordon, Ohio State, the US Department of Transportation (USDOT), Research and Innovative Technology Administration (RITA) under University Transportation Center (UTC) Program, Report March-October 2015.
23. A. Homaifar, A. Karimoddini, Jamshidi M, J. Kelly, Seong Y, and Seyedin S, Testing, Evaluation, and Control of Heterogeneous Large-Scale Systems of Autonomous Vehicles, Corey M, Technical Monitor, Information Directorate, AFRL, Rome NY, Q3, 2015 report – October 2015.
24. A. Homaifar, Karimoddini, J. Kelly, Y. Seong, and Seyedin S, “Testing, Evaluation and Control of Heterogeneous Large-scale Autonomous Vehicles (TECHLAV),” DOD DAF Air Force Research Laboratory (AFRL) quarter 3 report, October 2015.
25. A. Homaifar, “Crash Imminent Safety UTC,” The Ohio State University, Department of Transportation (DOT), annual report, September 2015.
26. A. Homaifar, A. Karimoddini, Jamshidi M, J. Kelly, Seong Y, and Seyedin S, Testing, Evaluation, and Control of Heterogeneous Large-Scale Systems of Autonomous Vehicles, Corey M, Technical Monitor, Information Directorate, AFRL, Rome NY, Q2, 2015 report– July 2015.
27. A. Homaifar, and M. Bikdash, “NASA CAR Annual Report,” June 2002.
28. A. Homaifar, and A. Esterline, C, "NASA ACE Annual Report," April 2002.
29. A. Homaifar, M. Bikdash, F. Fatehi, and N. Patel, “NSF/CPES Annual Report, “Volumes I and II, March 2002.
30. A. Homaifar, and M. Bikdash, Sixth Semi-Annual MURI Report, September 2001.

31. A. Homaifar, M. Bikdash, F. Fatehi, and N. Patel, “NSF/CPES Annual Report, “Volumes I and II, March 2001.
32. A. Homaifar, and F. Fatehi, “Artificial Potential Field Based Motion Planning/Navigation in Two and Three Dimensional Environment,” NASA-Dryden. April 2001.
33. A. Homaifar, and Ashokkumar C.R, "Supplemental Control for Flight Cruise with turbulence in discrete Time Windows,” NASA-Dryden, April 2001.
34. A. Homaifar, and M. Bikdash, “NASA CAR Annual Report,” June 2000.
35. A. Homaifar, M. Bikdash, F. Fatehi, and N. Patel, “NSF/CPES Annual Report, “Volumes I and II, March 2000.
36. A. Homaifar, M. Bikdash, F. Fatehi, and N. Patel, “NSF/CPES Annual Report, “Volumes I and II, March 1999.
37. M. Bikdash, and A. Homaifar, “Fuzzy-Linguistic Control of Axisymmetric Compression Inlets,” Final Report Submitted to the Boeing Corporation, September 30, 1998.
38. A. Homaifar, And F. Fatehi, “Artificial Potential Field Based Motion Planning/Navigation in Two and Three Dimensional Environment,” NASA-Dryden, April 1998.
39. A. Homaifar, and M. Bikdash, "MURI Annual Report," April 1998.
40. A. Homaifar, M. Bikdash, and A. Esterline, C, "NASA ACE Annual Report,” April 1998.
41. A. Homaifar, and Ashokkumar C.R, "Supplemental Control for Flight Cruise with Turbulence in Discrete Time Windows,” NASA-Dryden, February 1998.
42. A. Homaifar, and M. Bikdash, “NASA CAR Annual Report.” June 1997.
43. M. Bikdash, and A. Homaifar, Fuzzy-Linguistic Control of Axisymmetric Compression Inlets: First Quarterly Report Submitted to the Boeing Corporation, April 1997.
44. A. Homaifar, and M. Bikdash, and G. Dozier V, "Autonomous Control Engineering: Annual Report/Renewal Proposal," NASA ACE Center at North Carolina A&T, March 1997.
45. A. Homaifar, M. Bikdash, 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.
46. A. Homaifar, and Ashokkumar C.R, "Supplemental Control for Flight Cruise with Turbulence in Discrete Time Windows,” NASA-Dryden, 1997.
47. A. Homaifar, S.E. Bikdash, F. Vainstein, P. Lala, G. Dozier, and G. Lebby, "Autonomous Control Engineering,” Annual Report, University of New Mexico, Albuquerque, February 1996.
48. A. Homaifar, D.O. Dunn, and CR. Ashokkumar, "Control and Guidance of Hypersonic Vehicle,” NASA Center of Research Excellence, North Carolina A&T Annual Report, November 1995.
49. A. Homaifar, D.O. Dunn, and C.R. Ashokkumar, "Control and Guidance of Hypersonic Vehicle,” NASA Center of Research Excellence, North Carolina A&T Annual Report, December 1994.
50. A. Homaifar, "A New Approach in the Design of Fuzzy Controllers" by Honeywell Systems and Research Center ($40,000), December 1993.
51. A. Homaifar, H.Y. Lai, D.O. Dunn, and Y.D. Song, "Control and Guidance of Hypersonic Vehicle,” NASA Center of Research Excellence, North Carolina A&T Annual Report, October 1993.

52. A. Homaifar, "AT&T Research Fellowship in Adaptive Learning Applications," A T&T Bell Laboratory, 1993.
53. H.L. Martin, J. Kelly, G.L. Lebby, A. Homaifar, and J. H. Kim, "Laboratory for Communications, Signal Processing Expert Systems, And ASIC VLSI Design," Technical Report, NSF-8913432, 1993.
54. A. Homaifar, H.Y. Lai, H, D.O. Dunn, and Y.D. Song, "Control and Guidance of Hypersonic Vehicle," NASA Center of Research Excellence, North Carolina A&T, Annual Report, October 1992.
55. A. Homaifar, and M. Rastani, "Space Station Freedom Attached Payload Subsystems Analysis for The Payload Pointing Systems, and Contamination Monitoring Unit," NASA-Goddard Space Flight Center-442013, April 1991.
56. A. Homaifar, "Learning and Identifying Concept Description from Noisy Examples". Digital Equipment Corporation 111 Powdermill Road Maynard, Massachusetts, December 1990.
57. C.C. Carroll, A. Homaifar, and, K. Ananthram, "An Intelligent Allocation Algorithm for Parallel Processing," The University of Alabama BER Report, Tuscaloosa, Alabama 1988.
58. A. Homaifar, C.C. Carroll, and S. Baru, "Effective Parallel Architecture for Highly Coupled Real-Time Linear System," The University of Alabama BER Report, Tuscaloosa, Alabama 1988.
59. A. Homaifar, J.E. Bailey, and K. Krishnakumar, "Global Positioning Satellite-Based Automatic Landing System and Wind Estimated Feedback for The AH-64 Helicopter," The University of Alabama BER Report, December 1986.
60. A. Homaifar, J.E. Bailey, and K. Krishnakumar, "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 for the Journal of Intelligent Automation and Soft Computing
2. International Editorial Review Board (IERB) for the *International Journal of Information Security and Privacy (IJISP)*

### *B. Reviewer for:*

1. Paper reviewer for Alabamaife13, Michigan State University, July 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 9 papers of the IEEE Fuzzy 2000, San Antonio, Texas, May 2000.
12. Reviewer of 25 papers of the of the Third International Symposium on Soft Computing for Industry, - South Carolina '98, and World Automation Congress ’2000, Maui, Hawaii, June 2000.
13. Reviewer of 32 papers of the of the Third International Symposium on Soft Computing for Industry, - South Carolina '98, and World Automation Congress ’98, Anchorage, Alaska, May 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 1996.
18. Reviewer of the Program 25 papers of the “5 Fuzzy Days, Fuzzy Logic, Neural Networks, Evolutionary Algorithms,” Conference, University of Dortmund, Germany, April 28-30, 1997.
19. Reviewer of the NASA University Research Centers’ Technical Conference on Education, Aeronautics, Space, Autonomy, Earth and Environment, Albuquerque, New Mexico, February 1997.
20. Reviewer of 50 papers of the International Conference on Computational Intelligence, “5 Fuzzy Days, Fuzzy Logic, Neural Networks, Evolutionary Algorithms,” University of Dortmund, Germany, April 1997.
21. Reviewer of two papers for Journal of Robotic Systems, Special Issue on Neuro-Fuzzy Intelligent Robotic Systems, 1997.
22. Reviewer of 50 papers of the International Conference on Computational Intelligence, “5 Fuzzy Days, Fuzzy Logic, Neural Networks, Evolutionary Algorithms,” University of Dortmund, Germany, April 1997.
23. Reviewer of 10 papers of the of the Second International Symposium on Soft Computing for Industry, ISI'96 and World Automation Congress ’96, Montpellier, France, May 1996.
24. Papers for ICEE, 1993.
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), 1990, 1991.

### *C. Member of Conference Program Committee:*

1. Organizing Committee Member for ISI06, ISI'2008, and World Automation Congress 2008, Hawaii, July 2008.
2. Organizing member of the Symposium on: Composite Materials, Design & Production Nanotechnology, Design & Engineering Alternate Energy & Fuel Cell Technology, Düsseldorf, Germany, July 2007.
3. General Chair of the 4th International Symposium on Soft Computing for Industry with applications of financial engineering, Orlando, Florida, June 2002.
4. IEEE, SMC, 2000, Nashville, Tennessee

5. Co-Chair of the Third International Symposium on Soft Computing for Industry, - ISI 2000, Maui, Hawaii
6. Co-Chair of the Second International Symposium on Soft Computing for Industry, - ISI 1998, Anchorage, Alaska
7. Co-Chair of the NASA University Research Centers' Technical Conference on Education, Aeronautics, Space, Autonomy, Earth and Environment, February 1997, Albuquerque, New Mexico
8. Organizing Committee member, and Treasurer, First International Forum on Discontinuous Deformation Analysis (DDA), Berkeley, California, June 1996.
9. Organizing Committee Chairman, First Industry/University Symposium on High Speed Civil Transport Vehicle, 1994.
10. Program Committee member for the International conference on Computational Intelligence, Dortmund Germany, 5 Fuzzy Days, in Dortmund, 1999.
11. Program Committee member for the International conference on Computational Intelligence, Dortmund Germany, 5 Fuzzy Days, in Dortmund, 1996.
12. Program Committee member for the International Symposium on Soft Computing for Industry, ISI 1996.
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.

### *D. Chairman of Conference Sessions:*

1. IEEE International Conference on Systems, Man, and Cybernetics (SMC 2016) Chair, Budapest, Hungary, October 2016.
2. Co-Chair of the session on "Adaptive Identification and Estimation," IEEE ACC, May 2002.
3. Session Chair on "Electronic and Robotic Systems," the 10th IEEE International Conference on Fuzzy Systems. The University of Melbourne, Australia, December 2001.
4. Chairman of the session on Evolutionary Programming, of the World Automation Conference, (WAC'98), Anchorage, Alaska, May 1998.
5. Chairman of the plenary session of the Second International Symposium on Soft Computing for Industry (ISI'98), on Rule Extraction with Clustering Algorithms, Anchorage, Alaska, May 1998.
6. 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, Albuquerque, New Mexico, February 1997.
7. Chairman of the session on Evolutionary Fuzzy Logic Applications at the International Symposium on Soft Computing for Industry ISI 1996, Montpellier, France

8. Chairman of the session on Fuzzy Control IX, IEEE Fuzzy 96, New Orleans, September 1996.
9. Chairman of the International Symposium on Soft Computing for Industry ISI, 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.

### *E. 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. Hagler II, A. E, Sensor Technology within Homeland Security, selected for one of the three best papers, Raytheon Paper Competition, 2007-2008.
2. Researcher of the year award in the College of Engineering, 2002-2003.
3. C. BouSaba, A. A. Esterline. Homaifar, “A Framework for Learning Coordinated Tactical Behavior,” 2nd out of 40 posters under the Graduate Category
4. E. Ayele A. Homaifar, and A. Esterline, “Learning Tactical Behaviors - Terrain Reasoned Weight Adapter (TRWA),” 3rd out of 40 posters under the Graduate Category
5. Johnson, S, Murphy, D, First Place Engineering Oral Presentation, March 2006.
6. Johnson, S, Murphy, D, First Place Engineering Oral Presentation- HBCU-UP National Research Conference, February 2006.
7. M. Alighanbari, A. Homaifar, and B. Sayarrodsari, selected as a 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 Conference in Fayetteville, North Carolina, 2005.
9. **Selected as the Best Paper:** M. Hussain, B. Kimiaghalam, A. Ahmadzadeh, A. Homaifar,

and B. Sayyar-Roudsari, "Multi Robot Scheduling Using Evolutionary Algorithms," Proceeding of the World Automation Congress, Orlando, Florida, June 2002.

10. **Selected as Best Session Presentation**: B. Kimiaghalam, A. Homaifar, and M. Bikdash, “Pendulation Suppression of a Shipboard Crane Using Fuzzy Controllers,” The IEEE American Control Conference, San Diego, pages 586-590, June 1999.
11. Y Shen, and A. Homaifar, “Active Control of Flexible Structure Using Genetic Algorithms and LQG/LTR Approaches," The American Control Conference, San Diego, California, pages 4398-4402, June 1999.
12. **Finalists for Best Paper Awards***:* B. Kimiaghalam, A. Homaifar, and M. Bikdash, “Hybrid Fuzzy-PD Control for A Dock Mounted Pantry Crane,” Editors: Tommy L. Coleman, Bettie White, and Steven Goodman, TSI Press, Huntsville, Alabama, Vol. II, pages 247-251, February 1998.
13. Y Shen, A. Homaifar, M. Bikdash, A. Naser, “Real-Time Active Vibration Control Using Piezoelectric Actuators in Plate Structures, Editors: Tommy L. Coleman, Bettie White, and Steven Goodman, TSI Press, Huntsville, Alabama, Vol. II, pages 342-347, February 1998.
14. Selected as the Department of Electrical Engineering Outstanding Researcher of the Year, 1995-1996.
15. Selected as the Outstanding Researcher of the Year in the College of Engineering, 1995-1996.
16. Best Paper Award, “Aircraft Pitch Control with Fixed-Order LQ Compensators,” by J. Green, CR. Ashokkumar, and A. Homaifar, Albuquerque, New Mexico, February 1997.
17. Best Paper Award, "Feedback Implementation of Zermelo’s Optimal Control by Sugeno Approximation,” by C. Clifton, A. Homaifar, and M. Bikdash, Albuquerque, New Mexico, February 1997.
18. Very Important Parent Award (VIP) for participation in the Multicultural Day at Summerfield School, 1994-1996.
19. Selected as the Department of Electrical Engineering Outstanding Researcher of the Year, 1994-1995.
20. One of two nominees for outstanding Researcher in the Department of Electrical Engineering, 1993-1994.
21. Outstanding Freshman Advisor in the School of Engineering, North Carolina A&T State University, 1993-1994.
22. ASCE Carolina Conference Appreciation Award, North Carolina A&T State University, 1993.
23. Nominated for C. Holmes MacDonald OUTSTANDING TEACHING AWARD for young Electrical Engineering Professor, 1991.
24. Nominated for the Presidential Young Investigator Awards, 1990.
25. Outstanding Dissertation Award-College of Engineering, The University of Alabama, Tuscaloosa, Alabama, 1987.

## XIV. Community Service:

1. Member of the Grimsley High School Advisory Committee
2. Member of the Grimsley High School 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, helped to collect $35,000.
10. Member of the Youth for Aids Relief in South Africa helped collect $22,000.
11. Treasurer and Organizing Committee member, Iranian-American Relief Committee of North Carolina, 1997.
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.
14. Science Fair Judge at Summerfield School, 1993.
15. Volunteered for 1992 Annual Alumni Phonathon
16. Science Fair Judge at Laughlin School, 1992.
17. Vice President of the Persian Club, 1993.
18. Member of the North Carolina Center for Advancement of Classical Persian Music, 1992.
19. Member of the Guilford Green Community for protecting environment, 1990.
20. Member of the PTA committee at Grimsley High School, 1998.
21. Member of the PTA at Laughlin School, 1990-1994.
22. Member of the PTA at Summerfield School, 1995.
23. Member of the Leadership committee at Northwest Middle School, 1997 -1998.