Farhad A. Kamangar

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Computer Science and Engineering Department
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Education

Ph. D. Electrical Engineering, University of Texas at Arlington, May 1980.
Dissertation: "Interfield Hybrid Coding of NTSC Component Video Signals". Funded by Rockwell International.

Research Interests

• **Deep Learning, Neural Networks**

• **Artificial Intelligence, Machine Learning, Computer Vision**

• **Computer Graphics and Visualization.**

• **Signal processing: Digital filters, discrete transforms, and time series.**

Employment

Professor, Computer Science and Engineering Department, University of Texas at Arlington, Sept. 2004-present .
Associate Professor, Computer Science and Engineering Department, University of Texas at Arlington, Sept. 1989- Aug. 2004.
Assistant Professor, Computer Science and Engineering Department, University of Texas at Arlington, Sept. 1983 to Sept. 1989.
Visiting Assistant Professor, Teaching jointly in Computer Science, and Electrical Engineering Departments, University of Texas at Arlington, June 1980 to Sept. 1983.

Publications

Journal Papers:

1. Farahanipad, F.; Rezaei, M.; Nasr, M.S.; Kamangar, F.; Athitsos, "A Survey on GAN-Based Data Augmentation for Hand Pose Estimation Problem," Technologies,10, 43. https://doi.org/10.3390/technologies10020043, 2022

2. A. Sabol, R. Alimo, F. Kamangar and R. Madani, "Deep space network scheduling via mixed-integer linear programming", IEEE Access, vol. 9, pp. 39985-39994, 2021..

3. Grzybowski, Andrzej and Schachar, Ronald A. and Gaca-Wysocka, Magdalena and Schachar, Ira H. and Kamangar, Farhad and Pierscionek, Barbara K., "Mechanism of accommodation assessed by change in precisely registered ocular images associated with concurrent change in auto-refraction," Graefe's Archive for Clinical and Experimental Ophthalmology, 2017.

4. S. Emmons and F. Kamangar, "Evaluating the Optimal Placement of Binary Sensors," International Journal of Information Sciences & Techniques; Jan2013, Vol. 3 Issue 1

5. S. Emmons and F. Kamangar, "Analysis of the Hurst Exponent for M2M Applications," International Journal of Computational Engineering Research (IJCER), Vol, 03, Issue, 9, pp. 112-118, Sept. 2013

6. R. A. Schachar, F. Kamangar, "Image registration required for magnetic resonance imaging experiments of accommodation," Journal of Investigative ophthalmology & visual science. 2013 Mar 13;54(3):1857-8. doi: 10.1167/iovs.13-11784

7. A. Rahmani,·M. Samadi, Farhad Kamangar, " Arsenic (III) biosorption from aqueous solution using Holly, Sallow and Poplar sawdust: Kinetics and Equilibrium Studies," Int. Journal of Rapid Commun. and Updating in the Field of Biotic and Abiotic Sys. Volume 20 - No. 3a; pp. 720-726, 2011

8. R. A. Schachar, G. G. Liao, R. D. Kirby, F. Kamangar, Z. E. Musielak1, and G. Rosensteel, "Novel explanation for the shape of the lenticular galaxy bulge and its implication for red spiral galaxy evolution," Journal of Astronomy & Astrophysics, A&A 505, 613-623, July 2009.

9. Fernandez, R., Abolmaali, A., Kamangar, F., and Le, T., Analysis and Development of a Passive Mechanical Vibration Abatement Device for Traffic Monitoring Cameras, American Society of Civil Engineers Journal of Transportation Engineering, Vol. 135, No. 5, pp 270-278, May 2009.

10. R A Schachar1, G Liao, R Kirby, F Kamangar, J Savoie, A Abolmaali, and G Rosensteel, "Unexpected shape changes of encapsulated oblate spheroids in response to equatorial traction," Journal of Physics A: Mathematical and Theoretical, (9pp) 41, Dec. 2008

11. G.V. Záruba, M. Huber, F.A. Kamangar, and I. Chlamtac, "Indoor Location Tracking Using RSSI Reading from a Single Access Point," ACM Journal of Wireless Networks (WINET). vol. 13:2 April 2007.

12. R.A. Schachar, F. Kamangar, "Computer Image Analysis of Ultrasound Biomicroscopy of Primate Accommodation," Eye, pp 226 – 233 Feb. 2006

13. G.V. Záruba, F.A. Kamangar, M. Huber, and D. Levine, "CONNECT – A Personal Remote Messaging and Monitoring System to Aid People with Disabilities," IEEE Communications, Vol. 43, No. 9, pp 101-109, September, 2005.

14. Farhad Kamangar, David Levine, Gergely V. Záruba, Renjith Thomas, "Mobile Agent Connection Establishment and Management (CEMA) - Message Exchange for Pervasive Computing Environments," Journal of Supercomputing, Vol. 31, Number 1, pp 79-99, Jan. 2005.

15. L. R. Welch, B. A. Shirazi, B. Ravindran, and F. Kamangar, "Instrumentation, Modeling and Analysis of Dynamic, Distributed Real-Time Systems," International Journal of Parallel and Distributed Systems and Networks (IJPDSN), Volume 2, Number 2, pages 105 - 117, 1999.

16. F.A. Kamangar, and K. Behbehani, "An Artificial Neural Network Based Controller for Control of Induced Paralysis Using Vecuronium Bromide," Annals of Biomedical Engineering, The Journal of the Biomedical Engineering Society, Vol. 25, pp. 1040-1052, 1997.

17. K. Behbehani, F. Lopez, F. C. Yen, E. A. Lucas, J. R. Burk, J. P. Axe and F. A. Kamangar, "Pharyngeal Wall Vibration Detection Using an Artificial Neural Network," Journal of Medical and Biological Engineering and Computing , 35, pp. 193-198, May 1997.

18. M. Missler and F. A. Kamangar, "A Neural Network for Pursuit Tracking Inspired by the Fly Visual System," Neural Networks Journal, vol. 8, pp. 463-480 1995.

19. R. L. Allen, F. A. Kamangar and E. M. Stokely, "Laplacian and orthogonal wavelet pyramid decompositions in coarse-to-fine registration," IEEE Transactions on Signal Processing, vol. 41, pp. 3536-3541, Dec. 1993.

20. J. O. Smith, K. M. Black, F. A. Kamangar and J. Fitzer, "The University of Texas at Arlington Autonomous Aerial Vehicle- An Overview," Journal of Applied Intelligence, vol. 2, pp. 299-320, Aug. 1992.

21. F. A. Kamangar and K. R. Rao, "Fast Algorithms for the 2-D Discrete Cosine Transform," IEEE Transactions on Computers, vol. Vol. C-31, pp. 899-906, Sep. 1982.

22. F. A. Kamangar and K. R. Rao, "Interframe Hybrid Coding of NTSC Component Video Signals," IEEE Transaction on Communication, vol. COM- 29, pp. 1740-1753 1981.

Letters

Farhad A. Kamangar

1. Ronald Schachar and Farhad Kamangar, "Sclera does not change its shape during accommodation," Ophthalmic & Physiological Optics (OPO) The Journal of the College of Optometrists, Aug. 2017

2. Schachar, R.A., F.A. Kamangar, and Pierscionek, B.K. "Comments on Edinger-Westphal and pharmacologically stimulated accommodative refractive changes and lens ciliary process movements in rhesus monkeys' Experimental Eye Research. 84/2 (2007) 298 - 299

3. R.A. Schachar, F.A. Kamangar, "Additional Controls Are Required for Assessing In Vivo Accommodation," eLetter Journal of Investigative Ophthalmology and Visual Sciences, May. 2006.

4. Ronald A. Schachar, Ali Abolmaali, and Farhad Kamangar, "Comment on the publication: Three-dimensional ultrasound, biomicroscopy environmental and conventional scanning electron microscopy investigations of the human zonula ciliaris for numerical modelling of accommodation; by O. Stachs et al.," Graefe's Archive for Clinical and Experimental Ophthalmology, Volume 244, Number 8, pp 1062-1063, Mar. 2006.

5. R.A. Schachar, F. Kamangar, "Proper Controls Are Required for Accommodative Experiments," Journal of Investigative Ophthalmology and Visual Sciences, Mar. 2006.

6. R.A. Schachar, F. Kamangar, "Proper evaluation of accommodating IOLs," Journal of Cataract and Refractive Surgery. Volume:32, Issue:1, pp 4-6, Jan. 2006.

Conference Papers:

1. Farnaz Farahanipad, Mohammad Rezaei, Mohammadsadegh Nasr, Farhad Kamangar, Vassilis Athitsos, "GAN-based Face Reconstruction for Masked-Face," Proceedings of the 15th International Conference on PErvasive Technologies Related to Assistive EnvironmentsJune Pages 583–587 https://doi.org/10.1145/3529190.3534774, 2022

2. Mohsen Kheirandishfard, Fariba Zohrizadeh, Farhad Kamangar, "Class Conditional Alignment for Partial Domain Adaptation," 25th International Conference on Pattern Recognition (ICPR), Milan, Italy, 2021 pp. 811-818..

3. Mohsen Kheirandishfard, Fariba Zohrizadeh, Shahrouz Ryan Alimo, Farhad Kamangar, Ramtin Madani, "Sequential Convex Programming Revisited", 2021 60th IEEE Conference on Decision and Control (CDC). Dec 2021 Pages 3137–3142

4. Farnaz Farahanipad, Mohammad Rezaei, Alex Dillhoff, Farhad Kamangar, Vassilis Athitsos, "A pipeline for hand 2-D keypoint localization using unpaired image to image translation," 14th PErvasive Technologies Related to Assistive Environments Conference, pp. 226–233, 2021.

5. Ryan Alimo, Kyongsik Yun, Changrak Choi, Amir Rahmani, Farhad Kamangar, Muhammad Adil, Saloni Shah, Tricia Vines, Ramtin Madani, "Scalable Swarm Trajectory Planning via Integrated Optimization and Machine Learning," Submitted to 2021 AIAA.

6. Mohsen Kheirandishfard, Fariba Zohrizadeh, Farhad Kamangar, "Multi-Level Representation Learning for Deep Subspace Clustering," IEEE Winter Conference on Applications of Computer Vision (WACV), 2020

7. M. Kheirandishfard, F. Zohrizadeh and F. Kamangar, "Deep low-rank subspace clustering", Proc. 2020 IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops (CVPRW), pp. 864-865, Jun. 2020.

8. Jason Jennings, Farhad Kamangar, "Unsupervised Pose Estimation via Inverse Graphics," 6th Annual Conf. on Computational Science & Computational Intelligence CSCI, Dec. 2019.

9. Fariba Zohrizadeh, Mohsen Kheirandishfard, Farhad Kamangar, and Ramtin Madani, "Non-smooth Optimization over Stiefel Manifolds with Applications to Dimensionality Reduction and

Graph Clustering," Proceedings of the Twenty-Eighth International Joint Conference on Artificial Intelligence IJCAI, pp. 1319-1326, Sept. 2019.

10. Fariba Zohrizadeh, Mohsen Kheirandishfard, Farhad Kamangar, "Class Subset Selection for Partial Domain Adaptation," Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR) Workshop, June 2019.

11. Fariba Zohrizadeh, Mohsen Kheirandishfard, Ramtin Madani, Farhad Kamangar, "Image Segmentation using Sparse Subset Selection," IEEE Winter Conference on Applications of Computer Vision (WACV), pp. 1470-1479, 2018.

12. Jason Jennings and Farhad Kamangar, "Binarizing Neural Networks by Regularizing Moments," International Conference on Artificial Intelligence ICAI'17.

13. F. Zohrizadeh, M. Kheirandishfard, K. Ghasedidizaji, and F. Kamangar, "Reliability-Based Local Features Aggregation for Image Segmentation," ISCV, pp. 193-202, Dec. 2016.

14. Zohrizadeh, Fariba & Kheirandishfard, Mohsen, Kamangar, Farhad, "Natural Scene Image Segmentation Based on Multi-Layer Feature Extraction," arXiv:1605.07586. https://doi.org/10.48550/arXiv.1605.07586, 2016

15. Stephen P. Emmons, Farhad Kamangar, "Understanding the Linguistic Characteristics of Network Signaling for the 'Internet of Things' Using n-Grams", IEEE International Conference on Cloud Engineering (IC2E2015), pp. 219-227, March .2015

16. S. Shafiee, F. Kamangar and V. Athitsos, "A Multi-Modal Sparse Coding Classifier Using Dictionaries with Different Number of Atoms", IEEE Winter Conference on Applications of Computer Vision (WACV'15), pp. 518-525, January 2015.

17. S. Shafiee, F. Kamangar, J. Huang, V. Athitsos and L. Ghandehari, "Multimodal Sparse Representation Classification with Fisher Discriminative Sample Reduction", IEEE International Conference on Image Processing (ICIP'14), pp. 5192-5196, October 2014.

18. S. Shafiee, F. Kamangar, K. Behbehani and L. Ghandehari, "A Multi-Feature Classification Approach to Detect Sleep Apnea in an Ultrasonic Upper Airway Occlusion Detector System", IEEE International Conference of the Engineering in Medicine and Biology Society (EMBC'14), pp. 254-257, August 2014.

19. G. Ghidini, S. Emmons, F. Kamangar, and J. Smith, "Advancing M2M communications management: A cloud-based system for cellular traffic analysis," IEEE 15th International Symposium on A World of Wireless, Mobile and Multimedia Networks (WoWMoM), June 2014.

20. S. Shafiee, F. Kamangar and L. Ghandehari, "Cluster-Based Multi-task Sparse Representation for Efficient Face Recognition", Proceedings of IEEE Southwest Symposium on Image Analysis and Interpretation (SSIAI), pp. 125-128, April 2014, San Diego, CA

21. S. Shafiee, F. Kamangar, V. Athitsos and J. Huang, "Efficient Sparse Representation Using Adaptive K-means Clustering", International Conference on Image Processing, Computer Vision, and Pattern Recognition (IPCV), pp. 693-699, July 2013.

22. S. Shafiee, F. Kamangar, V. Athitsos and J. Huang, "The Role of Dictionary Learning in Sparse Representation-based Classification for Face Recognition", Proceedings of the 6th International Conference on Pervasive Technologies Related to Assistive Environments (PETRA), Number 47, May 2013

23. Hua Wang, Heng Huang, Feiping Nie, Farhad Kamangar, Chris Ding. "Maximum Margin Multi-Instance Learning". Neural Information Processing Systems Conference (NIPS 2011).

24. Xiao Cai, Feiping Nie, Heng Huang, Farhad Kamangar, "Heterogeneous Image Features Integration via Multi-Modal Spectral Clustering," The 24th IEEE Conference on Computer Vision and Pattern Recognition (CVPR), pp. 1977-1984. June 2011.

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25. J. Davies, F. Kamangar, G. Záruba, M. Huber, V. Athitsos, "Use of RSSI and Time-of-Flight Wireless Signal Characteristics for Location Tracking," Proceedings of the 4th International Conference on Pervasive Technologies Related to Assistive Environments, Crete, Greece, May 25-27, 2011.

26. Haijing Wang, Alexandra Stefan, Sajjad Moradi, Vassilis Athitsos, Carol Neidle, and Farhad Kamangar. "A System for Large Vocabulary Sign Search." Workshop on Sign, Gesture and Activity (SGA), September 2010.

27. Sajjad Moradi, Farhad Kamangar, Heng Huang, "Mixtures of Probabilistic PCA with Missing Data," International Conference on Artificial Intelligence and Pattern Recognition (AIPR-10), pp 45-50, Orlando, Florida, USA, July 12-14, 2010

28. Tummalapalli Reddy, David Levine, Farhad Kamangar, Nirmal Ranganathan, "Optimizing Grid Scheduling Based on Local Cluster Scheduling Policies and Resource Availability," Iternational Conference on Grid Computing &Applications, Las Vegas, Nevada, June 2006.

29. R.A. Schachar, F. Kamangar, "Computer Image Analysis of Ultrasound Biomicroscopy of Primate Accommodation," American Academy of Ophthalmology, Chicago, Oct. 15-18, 2005.

30. G. V. Záruba, M. Huber, F.A. Kamangar, I. Chlamtac, "Monte Carlo Sampling Based In-Home Location Tracking With Minimal RF Infrastructure Requirements," Proceedings of the IEEE Globecom 2004, pp. 3624-3629, Dallas, TX, December 2004.

31. N.M. Chakravarthy, F.A. Kamangar, and D.C. Kung, "Policing Encrypted Data using Mobile Agents," 2nd IASTED International Conference on Communication and Computer Networks, MIT Cambridge, MA. pp. 219-223, November 2004.

32. N.M. Chakravarthy, F.A. Kamangar, "Piracy-Prevention Framework for Software," IASTED International Conference on Communication Systems and Networks, Marbella, Spain, pp. 271-273, September 1-3, 2004.

33. J. Smith, F. Kamangar, N.Ravi, G.Cowin, K.U.Shah, P.Patel, "A Generalized Agent-Based Framework for the Optimization of Telematics,", Accepted, IFAC Symposium on Telematics Applications in Automation and Robotics, 21-23 June 2004, Finland.

34. J. Smith, F. Kamangar, N Ravi, G. Cowin, K. Shah, "SensorLogic – Driving the Future of Telematics," IEEE International Conference on Networking, Sensing and Control, Taipei, Taiwan, Mar. 2004.

35. Nikhil Chakravarthy and Farhad Kamangar, "Application Licensing Using Mobile Agents – ALUMA," Hawaii International Conference on Computers, Honolulu, HI, Jan. 2004

36. Farhad Kamangar, David Levine, Gergely V. Zaruba, and Navakiran Chitturi, "Distributed Network Monitoring using Mobile Agents Paradigm," Proceedings of the International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'03), Las Vegas, June 2003

37. David Levine, Farhad Kamangar, and Vamsi Putrevu, "Interoperability Issues for a Secure Mobile Agent Platform," Proceedings of the International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'03), Las Vegas, June 2003

38. David Levine, Renjith Thomas, Farhad Kamangar, and Gergely V. Zaruba, "Mobile Agents for Pervasive Computing Using a Novel Method of Message Passing," Proceedings of the International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'03), Las Vegas, June 2003

39. Novobilski, Andrew, F. Kamangar. "Bayesian Learning with Selective Subsets of Populations in Genetic Programming," Proceedings of the Artificial Neural Networks In Engineering ANNIE, Nov. 2002.

40. F. Kamangar, M.A. Masnadi, K. Behbehani, R. Zhang, H. Nazeran, and B.D. Levine, "A Model of Cerebral Blood Flow Velocity as a Function of Mean Arterial Blood Pressure Using Kalman Filter

Estimation Technique," Proceedings of the the 24th Annual International Conference of the Engineering in Medicine and Biology Society IEEE-EMBS, Oct. 23-26, 2002.

41. F. Kamangar, M.A. Masnadi-Shirazi, H. Nazeran, and K. Behbehani, "ECG Compression Using Cardinal Spline Functions," Proceedings of the 4th International Biosignal Interpretation Workshop IEEE-IWBI, Villa Olmo, Como, Italy, June 2002.

42. Novobilski, Andrew, F. Kamangar. "A Genetic Algorithm Based Approach for Discovering Temporal Trends Using Bayesian Networks," Proceedings of the 6th World Conference on Systemics, Cybernetics, and Informatics, Orlando, FL,.July 2002.

43. Farhad Kamangar, David Levine, and Srinivas Bhaktha, "A Secure Environment for Agent Server Resources," Proceedings of the International Conference on Security and Management (SAM'02), Las Vegas, Nevada, pp. 50-56, June 2002

44. David Levine, Farhad Kamangar, and Shashi Kanth Lakshmikantha,: "Quality of Service Primitives for Operating System Support of Multimedia Applications," Proceedings of the International Conference on Parallel and Distributed Processing Techniques and Applications, PDPTA '02, , Las Vegas, Nevada. pp 755-759, June 2002

45. Geoffrey Wossum and Farhad Kamangar, " Scalability and Performance Analysis of Multi-Master I2C Protocol in Sensor Networks," Proceedings of the International Conference on VLSI (VLSI'02), Las Vegas, Nevada, June 2002

46. David Levine, Farhad Kamangar and Bilal Wahid, " A Policy Based Permission Framework for Resource Access in Mobile Agent Systems," Proceedings of the International Conference on Security and Management (SAM'02), Las Vegas, Nevada, pp. 63-69, June 2002

47. Vijay Murthi, Farhad Kamangar, David Levine, and Jeff Marquis, "Performance Analysis and Scalability of the ThreadmanTM Thread Manager,". Proceedings of the International Conference on Parallel and Distributed Processing Techniques and Applications, PDPTA '02, , Las Vegas,. Pp 1004-1009, June 2002.

48. Farhad Kamangar and Ramesh Yerraballi "Design of a Wearable Computing Environment for Distance Education in TeleCampus," Proceedings of the International Conference on Internet Computing (IC'2001), Las Vegas, Nevada, pp. 285-291, 2001

49. David Levine, Sunil Pai, Farhad Kamangar, and Ramesh Yerraballi, "A Multimedia Application Using Mobile Agents for Establishing and Managing Streaming Audio Communication," Proceedings of the International Conference on Internet Computing, Las Vegas, Nevada, pp. 292-298, 2001

50. Novobilski, Andrew, F. Kamangar. "Average percent error based fitness functions for evolving forecast models," Proceedings of the the 14th International Florida Artificial Intelligence Research Society Conference (FLAIRS), FL., 2001

51. Khosrow Behbehani and Farhad Kamangar, "Wavelet-Based Removal of the Baseline Wander from Electrocardiography (ECG) Signals," Proceedings of the International Conference on Signal Processing Applications and Technology (ICSPAT), Oct. 2000.

52. Novobilski, Andrew, F. Kamangar. "A Two-Tiered Cognitive Model for Forecasting Time Series Data," Second International ICSC Symposium on Neural Computation, May 2000

53. Novobilski, Andrew, F. Kamangar. "Inferencing Bayesian Networks from Time Series Data Using Natural Selection," Proceedings of the the 13th International Florida Artificial Intelligence Research Society Conference (FLAIRS), 298-302, May 2000, Orlando FL.

54. Charles D. Cavanaugh, L.R. Welch, Farhad Kamangar, and Behrooz A. Shirazi, "Quality of Service Forecasting for Distributed, Dynamic Real-time Systems," IEEE Real-Time Systems Symposium, Dec. 1999.

55. Farhad. Kamangar, and Habib Farahani, "Motion Estimation from a Sequence of Images Using Hopfield Network," Proceedings of Artificial Neural Networks In Engineering ANNIE, Nov. 7-10, 1999

56. Andy Novobilski and Farhad Kamangar, "A Bayesian Belief Network Approach for Forecasting Using Genetic Search," The 19th International Symposium on Forecasting , Washington DC, June 27-30, 1999.

57. Farhad Kamangar, Maher Al-Khaiyat, and Jeffrey Smith, "Bayesian Networks for Forecasting Financial Markets," The 19th International Symposium on Forecasting , Washington DC, June 27-30, 1999.

58. Farhad Kamangar, "Wavelet Analysis for Visualization of Seasonal Patterns in Univariate Time-Series," The 19th International Symposium on Forecasting , Washington DC, June 27-30, 1999.

59. Sekhavat Sharghi and Farhad Kamangar, "Geometric Feature-Based Matching in Stereo Images," Proceedings of the Information, Decision and Control Conference, Adelaide, Australia, pp. 65-70, Feb. 1999.

60. Sekhavat Sharghi and Farhad Kamangar, "Stereo Correspondence Using Geometric Relational Matching" Proceedings of the IS&T/SPIE Visual Communications and Image Processing Conference, San Jose, CA, pp. 582-592, Jan. 1999

61. M. Al-Khaiyat, F. Kamangar, "Planar Curve Representation and Matching," Proceedings of The Ninth British Machine Vision Conference, pp 174-184, September, 1998

62. Sekhavat Sharghi and Farhad Kamangar, "Stereo Correspondence Using Relation Matching," Proceedings of the Joint Conference on Information Sciences JCIS, Oct. 1998.

63. V. Rangadass and F. A. Kamangar, "Adaptive Multivariate Time Series Forecasting - A Recurrent Neural Network Approach," Proceedings of IASTED International Modeling and Simulation Conference, Pittsburgh, PA, April 25-27, 1996.

64. F. A. Kamangar and V. Rangadass, "Non-Linear Time Series Forecasting - A Recurrent Neural Network Approach," Fifteenth International Symposium on Forecasting, Toronto, Canada, June 4-7, 1995.

65. F. T. Sheldon, K. M. Kavi and F. A. Kamangar, "Reliability Analysis of CSP Specifications: A New Method Using Petri Nets," AIAA Proceedings of Computing in Aerospace 10, pp. 317-326, March 1995.

66. F. J. Lopez, K. Behbehani, and F. A. Kamangar, "An Artificial Neural Network Based Snore Detector," Proceedings of 16th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Nov. 3-6, 1994.

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68. J. L. Missler and F. A. Kamangar, "A Neural Network for Moving Object Detection and Tracking Inspired by the Fly Visual System," Proceedings of World Congress on Neural Networks, Portland, OR, pp. 62-67, July 11-15, 1993.

69. F. A. Kamangar and K. Behbehani, "Control of Induced Paralysis Using Recurrent Backpropagation Neural Network," Proceedings of 15th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, San Diego, CA, pp. 281-283, Oct. 28-31, 1993.

70. R. L. Allen and F. A. Kamangar, "Pose Space Search for Address Block Location in Letter Mail," Proceedings of Fifth Advanced Technology Conference, United States Postal Service, Washington, D.C., pp. 1271-1282, Nov. 30-Dec. 2, 1992.

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71. R. L. Allen and F. A. Kamangar, "Registration and matching using orthogonal wavelets," Proceedings of IEEE-SP International Symposium on Time-Frequency and Time-Scale Analysis, Victoria, British Columbia, pp. 567-570, Oct. 4-6, 1992.

72. L. A. Leeth, F. A. Kamangar and L. Schkade, "Symbolic Logic and Backpropagation Neural Networks," Proceedings of Decision Sciences Annual Meeting, Miami Beach, FL, pp. 1722-1724, Nov. 24-26, 1991.

73. F. A. Kamangar and V. Rangadass, "Performance Analysis of a Neural Network-Based Robot Path Planner," Midcon Technical Conference on Electronic and Electrical Technology, Dallas, Texas, Sept. 11-13, 1990.

74. F. A. Kamangar, R. A. Duderstadt and J. O. Smith, "Implementing the Back-Propagation Algorithm on the Meiko Parallel Computing Surface," Proceedings of International Conference on Applications of Transputers, Liverpool, UK, pp. 197-206, August 23-25, 1989.

75. F. A. Kamangar and L. A. Leeth, "Understanding Internal Representations and Generalization Properties in Back-propagation Networks," Proceedings of the International Joint Conference on Neural Networks, Washington, D. C., June 18-22, 1989.

76. F. A. Kamangar and E. M. Stokely, "A Local Curvature Operator," Proceedings of SPIE Conference on Intelligent Robots and Computer Vision VIII, Philadelphia, Pennsylvania, Nov. 5-10, 1989.

77. F. A. Kamangar and S. Underwood, "Modeling of 3-D Depth from 2-D Views by Graphical Interpretation," Proceedings of SPIE Conference on Intelligent Robots and Computer Vision VIII, Philadelphia, Pennsylvania, Nov. 5-10, 1989.

78. F. A. Kamangar, R. A. Duderstadt and J. O. Smith, "Efficient Implementation of Connectionist Models on MIMD Parallel Processors using Chordal Ring Topologies," Proceedings of the International Joint Conference on Neural Networks, Washington, D. C., June 18-22 1989.

79. F. A. Kamangar and J. O. Smith, "A Neural Network Based Controller for Robotic Manipulators," Proceedings of Nineteenth Annual Pittsburgh Conference on Modeling and Simulation, Pittsburgh, pp. 2043-2050, May 5-6, 1988.

80. F. A. Kamangar and M. J. Cykana, "Recognition of Handwritten Numerals Using a Multilayer Neural Network," Proceedings of Third Advanced Technology Conference, Washington, DC, pp. 768-781, May 1988.

81. F. A. Kamangar and M. J. Cykana, "Comparison of ART-1 with Hierarchical Clustering Algorithms," Proceedings of the IEEE Conference on Neural Information Processing Systems, Natural and Synthetic, Denver, Colorado, Nov. 28 - Dec. 1, 1988

82. M. J. Cykana and F. A. Kamangar, "Learning Invariant Features of Handwritten Digits Using ART-1," Proceedings of the IEEE Annual International Conference on Neural Networks, San Diego, CA, July 1988.

83. M. J. Cykana and F. A. Kamangar, "An Integrated Approach to Handwritten Address Reading," Proceedings of Third Advanced Technology Conference, Washington, DC, pp. 842-854, May 1988.

84. E. M. Stokely and F. A. Kamangar, "Designing Local Operators Using Optimal Basis Functions," IEEE International Conference on Robotics and Automation, Philadelphia, PA Apr. 25-29, 1988.

85. F. A. Kamangar, "Applications of Neural Networks in the Recognition of Handprinted Numerals," Third Annual Symposium on Networks in Brain and Computer Architecture, Denton, TX, Sept. 1987.

86. F. A. Kamangar and K. R. Rao, "Hybrid Coding of NTSC Signals - Channel Error Studies," Proceedings of the IEEE International Symposium on Information Theory, Santa Monica, CA, Feb. 9-12, 1981.

87. F. A. Kamangar and K. R. Rao, "Adaptive Coding of NTSC Component Video Signals," Proceedings of National Telecommunication Conf., Houston, TX, pp. 36.4.1-36.4.6, Nov. 30 - Dec. 4 1980.

88. F. A. Kamangar and K. R. Rao, "Interframe Hybrid Coding of NTSC Component Video Signals," Proceedings of National Telecommunications Conference, Washington, DC, pp. 53.2.1-53.2.5, Nov. 1979.

Workshops and Abstracts:

Mohsen Kheirandishfard, Fariba Zohrizadeh, Shahrouz Alimohammadi, Ramtin Madani, and Farhad Kamangar, "Promises of Convex Optimization for Training Polynomial Neural Networks,'' NASA Goddard AI Workshop, 2018,

Funded Contracts and Grants

Total: $8.5M ($2.5M as PI and $6.5M as Co-PI)

Funded Grants and Contracts	
Agency:	JPL (NASA)
Funding:	$234K Oct. 2019-Sept. 2021
PI	Ramtin Madani
Co-PI	Farhad Kamangar
Title	Scalable and Distributed Swarm Motion Planning via Integrated Optimization and Machine Learning
Agency:	NSF
Funding:	$140K Sept. 2015-Sept. 2016
PI	M. Huber
Co-PI	Farhad Kamangar, G. Zaruba
Title	Functional Imitation of Observed Tasks by Co-Robots
Agency:	edX
Funding:	$69K Aug. 2015-Aug. 2016
PI	F. Kamangar
Co-PI	None
Title	Learn to program Using Python (Develping MOOC)
Agency:	Department Of Education
Funding:	$980,549 (from EDU:$533,064), awarded from 09/2012-08/2016).
PI	G. Zaruba
Co-PI	M. Huber, P. Cohen, F. Kamangar, D. Levine
Title	Educating Health Informatics Researchers at the Computer Science and Engineering Department of The University of Texas at Arlington
Agency:	U.S. Department of Health and Human Services ; Health Resources and Services Administration HRSA
Funding:	$643,500 Aug. 2010-Aug. 2014
PI:	Kathryn Daniels
Co-PI:	Carolyn Cason, Manfred Huber, Gergely Zaruba, Farhad Kamangar, David Levine
Title:	Smart Care: A Technology Discovery Center for Improving In-Home Health Care
Agency:	NIH
Funding:	$465,942 Sept. 2007-Aug. 2011
PI:	G.V. Záruba
Co-PI:	D. Schoech, F.A. Kamangar, M. Huber, D. Levine
Title:	Teleherence: Monitoring/Increasing Adherence via Web Telecommunications
Agency:	National Institute of Justice (NIJ-DoJ)
Funding:	$264,879 Sept. 2007-Aug. 2009
PI:	G.V. Záruba
Co-PI:	Farhad Kamangar, M. Huber, D. Levine
Title:	PLR: Mesh Networked, Two-Way Personnel Locator Radios and Relays

Farhad A. Kamangar

Funded Grants and Contracts	
Agency:	Texas Department of Transportation TxDOT Grant#: 05251
Funding:	$241,508 Oct. 2005-Sept. 2007
PI:	Ali Abolmaali
Co-PI:	Farhad Kamangar, Raul Fernandez, Guillermo Ramirez
Title:	Vibration Reduction and Control for Traffic Cameras
Agency:	College of Engineering, UTA
Funding:	$25,733
PI:	G.V. Záruba
Co-PI:	M. Huber, F. A. Kamangar, Roger Walker, J.C. Chiao, Daniel Engels
Title:	SMT (Surface Mount Technology) Prototyping Workstation
Agency:	Sensor Logic Inc.
Funding:	$85,122 Mar. 2006-Aug. 2007
PI:	Farhad Kamangar
Co-PI:	G.V. Záruba, M. Huber, D. Levine
Title:	Remote Monitoring and Control of Sensor/Actuator Nodes in Cellular Networks
Agency:	Texas Health and Human Services Commission
Funding:	$2,112,533 Sept. 2003-Aug. 2005
PI:	Farhad. Kamangar
Co-PI:	Diane Cook, Manfred Huber, Mohan Kumar, David Levine, Dick Schoech, Behrooz Shirazi, Jeffrey Smith, Koshy Varghese, Gergely Zaruba
Title:	Connect - A Personal Remote Messaging and Monitoring Infrastructure for Persons with Disabilities.
Agency:	National Science Foundation
Funding:	$1,357,000, Sept. 2002-Aug. 2005
PI:	S. Chakravarthy
Co-PI:	A. Aslandoga, P. Bergstresser, S. Das, K. De, L. Hollder, F. Kamangar, D. Kung, M. Kumar, D. Levine, J. Oh, J. Yu, G. Zaruba
Title:	Acquisition of High-Performance Distributed Computing and Storage Infrastructure at UTA
Agency:	National Science Foundation, Contract no. STI-0129682
Funding:	$426,361, June 02 - May 05.
PI:	Muhan KumarDiane Cook
Co-PI:	B. Shirazi, S. Das, F. Kamangar, D. Levine
Title:	Pervasive Information Communities Organization (PICO): A Framework for Internet Services of the Future
Agency:	National Science Foundation ITR Program
Funding:	$1,159,959 Sept. 2001 - Aug. 2004
PI:	Diane Cook
Co-PI:	S. Chakravarthy, S. Das, L. Holder, M. Huber, F. Kamangar, R. Yerraballi
Title:	MavHome: An Intelligent Home Environment
Agency:	National Science Foundation Educational Innovation
Funding:	$329,915, Jan 2001 - Dec. 2003
PI:	Diane Cook
Co-PI:	L. Holder, F. Kamangar, S. Das, R. Yerraballi
Title:	Integrating Intelligent Agent and Wireless Computing Research into the Undergraduate Curriculum

Farhad A. Kamangar

Funded Grants and Contracts	
Agency:	SensorLogic Inc.
Funding:	$25,000, Jan. 2003-Dec. 2003 (Gift)
PI:	F. Kamangar
Co-PI:	
Title:	Distributed Sensor Networks.
Agency:	National Science Foundation DUE/CCLI , Contract no. DUE -9950697
Funding:	$55,153; Sep. 1999-Aug. 2002 ($24,294 from NSF, $21,000 From UTA,
PI:	Farhad A. Kamangar
Co-PI:	Behrooz Shirazi
Title:	Platform-Independent Remote Data Acquisition and Control Over the Internet.
Agency:	Verio Inc.
Funding:	$98,173, Jan. 1999-Aug. 2000
	Received equipment support (5 workstations, 1 server, and other hardware such as printer, scanner, ..) in addition to $98k.
PI:	Farhad A. Kamangar
Title:	Forecasting of Financial Markets by using Cooperative Intelligent Agents.
Agency:	Automation & Robotics Research Institute (ARRI)
Funding:	$20,000, May 2000 - Aug. 2000
PI:	Diane Cook
Co-PI:	L. Holder, F. Kamangar, S. Das, R. Yerraballi
Title:	Remote Site Monitoring, Measurement, and Control
Agency:	Verio Inc.
Funding:	$18,000, May 1999-May. 2000
PI:	Farhad A. Kamangar
Title:	Real-time Analysis and Visualization of Computer Networks.
Agency:	Motorola Inc.
Funding:	Equipment donation (American Robot, Estimated value $75,000) Oct. 1990
PI:	Farhad A. Kamangar
Co-PI	Kai Yeung
Title:	Neural Network Controller.
Agency:	United States Postal Service Technology Resource Department.
Funding:	$21,000, Jan. 1989- Feb. 1990
PI:	Farhad A. Kamangar.
Title:	Feature extraction for the Advanced Research in the Use of Contextual Information for Automatic Postal Address Interpretation.
Agency:	ElectroCom Automation Inc.
Funding:	$11,775, Aug. 1988 - May 1989
PI:	Farhad A. Kamangar
Title:	Modeling a back-propagation neural network on a Meiko computing surface
Agency:	Teledyne Geotech Inc.
Funding:	$75,299, Jan. 1988 - Dec. 1989
PI:	Lynn Peterson
Co-PI::	Farhad A. Kamangar
Title:	Expert System for Design of Seismic Sensors

Farhad A. Kamangar

Funded Grants and Contracts	
Agency:	Automation & Robotics Research Institute (ARRI) .
Funding:	$12,425, Jan. 1988 - Sept. 1989
PI:	Farhad A. Kamangar
Title:	Partitioning Connectionist Models on Parallel Computers
Agency:	Automation & Robotics Research Institute (ARRI) .
Funding:	$27,065, Sept.1987 - Sept.1989
PI:	Farhad A. Kamangar
Title:	Implementation of Image Processing Algorithms on Parallel Computers.
Agency:	Automation & Robotics Research Institute (ARRI)
Funding:	$3,500, Sep. 1987 - Dec. 1987
PI:	Farhad A. Kamangar
Title:	Parallel Algorithms in 3-d Modeling of Curved Surfaces.
Agency:	United States Postal Service Technology Resource Department
Funding:	$45,562, May 1987 - Aug. 1988
PI:	Farhad A. Kamangar
Title:	Applications of Neural Networks in the Recognition of Handwritten Numerals.
Agency:	Bell Helicopter Textron.
Funding:	$34,000, Jan. 1987 - June 1987
PI:	Pei Hsia
Co-PI:	Farhad A. Kamangar
Title:	Software Verification Using Artificial Intelligence.
Agency:	United States Postal Service Technology Resource Department
Funding:	$16,559, Jan. 1987 - May 1987
PI:	Farhad A. Kamangar
Title:	Invariant Algorithms for Recognition of Handprinted Characters.
Agency:	Medic International Inc.
Funding:	$15,000, Sept. 1986 - Dec. 1986
PI:	Farhad A. Kamangar
Title:	Analysis of Image processing Algorithms in Nuclear Medicine Imaging System.
Agency:	Intel Corporation equipment grant.
Funding:	$25,000 Equipment grant, Nov. 1984- Dec. 1985
PI:	Farhad A. Kamangar
Title:	3-Dimensional Graphic Package with Hierarchical Data Structure.

Patents

- G.V. Záruba, M. Huber, **F.A. Kamangar**, D.Levine, "Location and Tracking System, Method and Device Using Wireless Technology," Patent No.: US8179253B2 , 2012

Professional and Honor Societies

Association for Computing Machinery (ACM).
ACM Special Interest Group on Computer Graphics (ACM SIGGRAPH).
Institute of Electrical and Electronic Engineers (IEEE)
IEEE Circuits and Systems Society
IEEE Signal Processing Society

Eta Kappa Nu.
Tau Beta Pi.
Omega Rho.
Metroplex Institute for Neural Dynamics (MIND)
Acoustic, Speech and Signal Processing Society.

Committee Activities:

University
Chair of the CSE Department Tenure and Promotion Committee, UTA 2004-2016
Member of the Graduate Assembly Committee, UTA 2003-present
Member of Graduate Program Creation Committee, UTA 2004-present
Member of the College of Engineering Grade Appeal Committee, UTA, 2003-Present
Member of the CSE Department Graduate Studies Committee, UTA, 1989- Present
CSE Department Engineering Week Representative, UTA, 1997- Present
Member of the CSE Department Tenure and Promotion Committee, UTA, 1989- 2004.
Chair of the CSE Department Facilities Committee, UTA, 1988-2003
Member of the UTA Undergraduate Assembly 2001-2003
Member of the Graduate Admissions Committee, CSE Department, UTA, 1991 - 1995.
Chair of the CSE Department Intelligent Systems Technical Stem, UTA, 1994-1996
Member of University Parking Appeal Committee, UTA, 1994-1996
Coordinator of the CSE Department Research Paper Option program, UTA, 1994-1995
Member of the CSE Department Seminar Program, Spring Semester 1991
Member of the CSE Department Ph.D. Admissions Committee, UTA, 1987- 1992
Member of the CSE Department Undergraduate Studies Committee, UTA, 1986- 1993
Member of the CSE Department Task force to develop Ph.D. guidelines UTA, 1990
CSE Department Perspectives Representative, UTA, 1987- 1990
Member of the North Texas Commission Panel to study applied neural sciences.
Member of the Automation and Robotics Research Institute task force, UTA 1987-1992
Member of the CSE Department Research Activities Committee, UTA 1984-1985
Member of the CSE Department Applications of Computers Committee, UTA 1984-1985
Member of the CSE Department Computer Organization and Architecture Committee, UTA 1984-1985
Member of the CSE Department Technical Committee on Artificial Intelligence and Expert Systems Committee, UTA 1984-1988 (chair)
Associate Member of the CSE Department Graduate Studies Committee, UTA, 1984-1989
Conference
Member of the program committee, Sixteenth International FLAIRS Conference, Special track on Artificial Intelligence in Medicine (AIM), 2003.
Member of the organizing committee, First IEEE International Conference on Pervasive Computing and Communications (PerCom), 2003.
Member of the program committee, Seventeenth International FLAIRS Conference, Special track on Artificial Intelligence in Medicine (AIM), 2004.
Session Chair 2001 International Conference on Parallel and Distributed Processing Techniques and Applications PDPTA, 2001

Consulting:

ElectroCom Automation Inc., Arlington, TX. Recognition of Handwritten Numerals.
Medic International Inc., San Antonio, TX. Design and implementation of software algorithms for nuclear medicine imaging system.
Recognition Equipment Inc. Dallas, TX. Survey of character recognition algorithms for postal services.
Rockwell International, Collins Commercial Telecommunications, Dallas, Texas. Design and analysis of all-digital transmultiplexer, May 1980 to Sept. 1985.

Major activities during these 5 years of consulting:
*   Design and analysis of an interactive software system for simulation of digital transmultiplexer.
*   Design and coding of a program for optimization of digital filter coefficients.
*   Software simulation of 2600 Hz. in-band signal processor.
*   Design and assembly of an interface board for NEC-7720 signal processor chip (Built and tested the board).
*   Design of the protocol and Coding of a communication routine to link IBM/PC and NEC- 7720 EVAKIT.
*   Development and coding of assembly routines for TI TMS320 signal processor chip.

Courses Taught

Massive Open Online Course (MOOC):
*   "Learn to Program Using Python", more than 120,000 students enrolled. UTAx+CSE1309x+2016T1
    https://learning.edx.org/course/course-v1:UTAx+CSE1309x+2016T1/home

*   "Introduction to Programming Using Python", More than 50,000 students enrolled UTArlingtonX+CSE1309x+1T2018
    https://learning.edx.org/course/course-v1:UTArlingtonX+CSE1309x+1T2018/home

Undergraduate:

CSE_1310	Introduction to Computers and Programming
CSE_1311	Introductory Programming for Engineers and Scientists
CSE-2306	Computer Programming and Applications
CSE-3307	Systems Engineering
CSE-3341	Assembly Language Programming
CSE-3345	Discrete Structures for Computer Science
CSE-3346	Systems Programming
CSE-3442	Microcomputer Design I
CSE-4301	Computational Methods for Engineers
CSE-4303	Computer Graphics
CSE-4313	Introduction to Signal Processing
CSE-4316	Computer System Design Project I
CSE-4317	Computer System Design Project II
CSE-4342	Microcomputer Design II
CSE-4392	Computer Vision
EE-2315	Circuit Analysis I
EE-2316	Circuit Analysis II
EE-3217	Linear Circuits and Systems
EE-3302	Energy Conversion
EE-3303	Electronics I
EE-3304	Electronics II
EE-4332	Electronics Devices

Graduate:

CSE-5302	Computer Graphics
CSE-5307	Computer Networks
CSE-5312	Formal Methods
CSE-5315	Advanced Computational Methods for Engineers
CSE-5319	Assembly Language
CSE-5320	Systems Programming
CSE-5335	Advanced Micro Systems Design
CSE-5345	Discrete Structures
CSE-5368	Neural Networks

CSE-5392	PL/I Programming
CSE-5392	Computer Vision
CSE-5407	Digital Logic and Computer Organization
CSE-5441	Microcomputer Systems I
CSE-6321	Image Processing
CSE-6328	Signal Processing

New Courses Developed:

Developed curricula and offered for the first time:
CSE-1309x Learn to Program Using Python, developed online MOOC course on edX.org with more than 140,000 students enrolled
CSE-6321 Image Processing
CSE-6328/CSE-4313 Signal Processing
CSE-5368 Neural Networks.

Developed new curricula:
CSE-5302/CSE-4303 Computer Graphics
CSE-3307 Systems Engineering
CSE-2308/CS-5319 Assembly Language Programming

Awards

- President's Award for Transformative Online Education, UTA, April 2018.
- Inducted in the Academy of Distinguished Teachers, University of Texas at Arlington, 2005.
- "Outstanding Teaching Award," Department of Computer Science and Engineering, May 2002.
- Recipient of Robert Q Lee award for the excellence in teaching in the College of Engineering, UTA, Feb. 1997.
- Designated by the graduating seniors as the individual who made the most significant contribution to their education. Teaching award, College of Engineering, UTA, May 1987.

Student and Academic Advising:

Graduate Advisor, CSE Department, UTA, 1994 - 1996.
Faculty Advisor, ACM/IEEE –CS 1999-2002
Faculty Advisor, Tau Beta Pi. Honor Society 1996-2000
Faculty Advisor, Iranian Culture Club Student Organization 1997-2001

Graduate Students (Supervised):

Ph.D.

1. Jonathan Sabol, "Swarm Optimization", Ph.D. Dissertation, current
2. William Hunter, "Deep Learning", Ph.D. Dissertation, current
3. Jason Jennings, "Pose Estimation via Inverse Graphics", Ph.D. Dissertation, current
4. Farnaz Farahanipad, "GAN-Based Domain Translation for Hand Pose Estimation and Face Reconstruction", Ph.D. Dissertation, Aug. 2022
5. Mohsen Kheirandish, "Deep Presentation Learning for Clustering and Domain Adaptation" Ph.D. Dissertation, Dec. 2019.
6. Joel Martin, "Using Property-based Testing, Weighted Grammar-based Generators and a Consensus Oracle to Test Browser Rendering Engines and to Reproduce Minimized Versions of Existing Test Cases", Ph.D. Dissertation, Dec. 2019

7. Fariba Zohrizadeh, "Convex and Non-Convex Optimization Methods for Machine Learning", Ph.D. Dissertation, Aug. 2019.
8. Soheil Shafiee "Sparse Representation-based Classification: Towards Efficiency and Accuracy," Ph.D. Dissertation, May 2015
9. Steve Emmons, "Discovery of Anomalous Patterns Within Multidimensional Asynchronous Time-Series with an Emphasis on the "Internet of Things"", Ph.D. Dissertation, Dec. 2014
10. Jeffery Smith, "A Framework For The Optimization Of Self-Organized Distributed Autonomous Agents On A Dynamic Network Of Heterogeneous Intelligent Sensors And Actuators" Ph.D. Dissertation, May 2004
11. Andy Novobilski, "Forecasting of Time Series Data Using Naturally Selected Bayesian Networks," Ph.D. Dissertation, May 2000
12. Sekhavat Sharghi, "Feature Point-based Stereo Correspondence from Stereo Images Using Geometric Relational Matching," Ph.D. Dissertation, Dec. 1998
13. Vassu Rangadass, "Time Series Analysis using Neural Networks," Ph.D. Dissertation, Dec. 1996
14. Ron Allen, "Motion Analysis Using Orthogonal Wavelets in the Spatio-Temporal Filtering Paradigm," Ph.D. Dissertation, May 1993
15. Mike Missler, "A Neural Network for Moving Object Detection and Tracking Inspired by the Fly Visual System," Ph.D. Dissertation, May 1993

Master:

16. Anil Kumar Nayak, "Face detection and recognition using moving window accumulator," Master Thesis, May 2018.
17. Matt Middleton, "Learning techniques, dynamics, and control systems," Master Thesis, Dec. 2010.
18. Justin Graham "Motion detection and object tracking", Master Thesis, Dec. 2010.
19. Joshua Davis, ""Simultaneous localization and mapping (SLAM)," Master Thesis, Dec. 2008..
20. Tauheed Ahmed, "Adaptive Particle Swarm Optimizer for Dynamic Environments," Master Thesis, Dec. 2004
21. Robert Martin, "A Dynamic Mesh for Cloth Modeling and Simulation Using Interacting Particles," Master Thesis, Dec. 2004.
22. Sujata Wani, "3D Reconstruction of Architectural Scenes From Single 2-D Perspective Sketches," Master Thesis, Dec. 2004.
23. Nicholas Knize, "Recognition of Music Scores," Master Thesis, Aug. 2004.
24. R. Issa, "Cellular texture generator for architectural models," Master Thesis, May 2003.
25. J. Wossum, "Performance Analysis of Multi-Master I2C Protocol in Sensor Networks," Master Thesis, May 2002
26. B. Adcock, "Object Reconstruction System," Master Project, May 2001
27. Jithendra Kudrekod, "Dynamic Programming Based Feature Matching for Three-Dimensional Scene Reconstruction," Master thesis, May 2001.
28. S. Musani," Development of Personal WebBot for better E-Commerce," Master Project, May 2001
29. C. Jakkampudi, "Web Searching Tools," Master Project, Dec. 2000
30. R. Nagarajan, "Realistic Images of Spiral Phyllotaxis (RISP)," Master Project, May 1998
31. H. Farahani, "Motion Analysis Using Hopfield Network," Master Thesis, Dec. 1997
32. M. Al-Khaiyat, "Concentric Circles Information for the Representation and Matching of Planar Curves," Master Thesis, Dec. 1995
33. J. Spiess, "Fuzzy-Based 2-D String Matching for Image Retrieval," Master Thesis, May 1995
34. J. Hall, "Gray-Scale Interpolation of missing Slice Data in 3-Dimensional Reconstruction of A Volume Prior to Volume Rendering," Master Thesis, May 1993
35. A. Kunzman, "Real-Time Non-Uniformity Correction of an Infrared Focal Plane Array Using Neural Networks," Master Thesis, Dec. 1993
36. S. Shen, "Fingerprint Recognition System," Master Project, May 1993

37. T. C. Lu, "3D Surface Reconstruction by Integration of Feature Matching," Master Project, Nov. 1992
38. D. Gentry, "Point Correspondence in Stereo Images," Master Thesis, (1991-1992, Student resigned before graduation)
39. T. Phung, "Printed Circuit Board Layout Algorithm," Master Project, May 1991
40. W.-M. Jeng, "Macintosh-Like User Interface on the Sun Workstation," Master Project, Aug. 1989
41. J. Jackson, "Modeling of 3-Dimensional Objects from Engineering Drawings," Master Thesis, (1988-1989, Student resigned before graduation).
42. C. Macia, "Boundary Contour System Neural Networks for Connecting Broken Characters," Master Thesis, Aug. 1989
43. M. Suryam, "Segmentation of Multiply Connected Numerals using Critical Points," Master Thesis, Aug. 1989
44. R. Duderstadt, "Topology and Routing Issues for Partitioning Neural Networks on Parallel MIMD Computers," Master Thesis, May 1989
45. A. Farci, "The 'ART' of Character Recognition," Master Thesis, Aug. 1989
46. A. Novobilski, "A Method for Adaptive Boundary Approximation of Octree Encoded Volumes by Cubic Surface Patches," Master Thesis, May 1988
47. J. O. Smith, "A Neural Network Based Controller for Robotic Manipulators," Master Thesis, Aug. 1988
48. F. Abu-Ennab, "Invariant Recognition of Handprinted Numerals," Master Thesis, Aug. 1987
49. W. H. Yu-Shin, "Design and Implementation of Assembler and Interpreter for IBM/370 On IBM/PC," Master Project, May 1986
50. W.-L. Hu, "A Tutorial of Hidden Surface Removal Problems," Master Project, May 1986
51. M. Vergnes, "Invariant Transforms in Pattern Recognition," Master Thesis, Aug. 1986
52. L. Kao, "Syntactic Pattern Recognition and Application in Recognition of Handprinted Characters," Master Project, Dec. 1985
53. V.-H. Wang, "An Efficient Algorithm for Five Layer Channel Routing," MS Project, Aug. 1985
54. Y. W. Ngai, "Design and Implementation of 2-Dimensional CAD System for Engineering Drawing," Master Project, Dec. 1985
55. S. M. Chowdary, "Dynamic Data Structure for a 3-D Interactive Graphic Package," MS Project, Aug. 1984