

CURRICULUM VITAE

I. Personal Information

A. Name and Address

Name: Arun D. Kulkarni
Phone: 903-566-7403
Email: akulkarni@UTTyler.edu
Citizenship: US Citizen

B. Professional Experience

From	To	
September 1986	Present	The University of Texas at Tyler, Tyler, TX 75799 Current Position: Professor of Computer Science
August 1985	August 1986	Visiting Faculty, Computer Science Department, University of Southern Mississippi, Hattiesburg, MS 39401
August 1976	December 1984	Senior Scientist, Software Division, National Remote Sensing Agency Hyderabad, India

C. Education

Post-Doctoral Fellow, 1984, Virginia Polytechnic and State University

Ph. D. (Electrical Engineering-Image Processing)
Indian Institute of Technology, Bombay, India

M. Tech. (Electrical Engineering)
Indian Institute of Technology, Bombay, India

B. E. (Electronics and Communication)
(I Class with Distinction), Poona University, India

D. Fields of Interest

Data Mining, Soft Computing, Machine Learning, Computer Vision, Remote Sensing

G. Fellowships and Awards

2008 ONR Senior Summer Faculty Fellowship Award at Naval Research Laboratory
2005-2006 President's Scholarly Achievement Award
2001-2002 Chancellor's Council Outstanding Teaching Award
1997 NASA Summer Faculty Fellowship Award
1984 Fulbright Fellowship Award for post-doctoral study

II. Scholarship

A. Grants and Consultation

- 1 Co-PI for Texas Space Grant Consortium award 2009-2011
- 2 Principal Investigator for the Infinity Project 2002-2006
- 5 Principal Investigator Faculty Research Grant for the year 1996-97
- 6 Principal Investigator for NASA/ASSE Summer Faculty Program Grant 1997
- 7 Principal Investigator for the CRAY research Grants for the year 1991-96
- 8 Principal Investigator for the Faculty Research Grants for the year 1993-95
- 9 Principal Investigator for the Faculty Research Grants for the year 1989-91

Books

1. Kulkarni, A. D. (2001). *Computer Vision and Fuzzy Neural Systems*. Prentice Hall, Upper Saddle River, NJ. (ISBN# 0-13-570599-1)
2. Kulkarni, A. D. (1995). *Artificial Neural Networks For Image Understanding*. Van Nostrand Reinhold, New York. (ISBN# 0-442-00921-6)

Papers in Journals

3. Kulkarni, A. D. (2024). Fuzzy Convolution Neural Networks for Tabular Data Classification. *IEEE Access*, vol. 12, pp. 151846-151855, doi: 10.1109/ACCESS.2024.3479882.
4. Kulkarni A. D. (2023). Multispectral Image Analysis Using Convolution Neural Networks. *International Journal of Advanced Computer Science and Applications*, vol. 14, no. 10, pp. 13-19 doi: 10.14569/IJACSA.2023.0141002
5. Kulkarni A. D. (2023). Convolution Neural Networks for Phishing Detection. *International Journal of Advanced Computer Science and Applications*, vol. 14, no. 4, pp 15-19. doi: 10.14569/IJACSA.2023.0140403
6. Kulkarni A. D. (2022). Convolution Neural Networks for Image Classification. *International Journal of Advanced Computer Science and Applications*, vol 13. no. 6, pp 18-23. doi: 10.14569/IJACSA.2022.0130603
7. Arun Kulkarni¹, Aavash Sthapit, Ashim Sedhain, Bishrut Bhattacharai, Saurav Panthee (2021). Texture classification using angular and radial bins in transformed domain, *International Journal of Advanced Computer Science and Applications*, vol. 12, no. 3, pp. 1-4 doi: 10.14569/IJACSA.2021.0120301
8. Kulkarni A. D. and Brown L. (2019). Phishing Websites Detection using Machine Learning. *Journal of Advanced Computer Science and Applications*, vol. 10, no. 7, pp. 8-13. doi: 10.14569/IJACSA.2019.0100702
9. Kulkarni A. D. (2018). Generating Classification Rules from Training Samples. *International Journal of Advanced Computer Science and Applications*, vol. 9, no. 6, pp 1-6 doi: 10.14569/IJACSA.2018.090601.
10. Kulkarni A. D. and Anmol Shrestha (2017). Multispectral image analysis using decision trees, *International Journal of Advanced Computer Science and Applications*, vol. 8, no. 6, pp 11-18 doi: 10.14569/IJACSA.2017.080602.
11. Taylor, C., Kulkarni, A. D., and Mokhtari, K. (2016). Knowledge extraction from metacognitive reading strategies data using induction trees, *International Journal of Advanced Computer Science and Applications*, vol. 7, no. 6, pp 269-274. doi: 10.14569/IJACSA.2016.070634
12. Kulkarni, A. D. and Barrett Lowe (2016). Random forest algorithm for land cover classification, *International Journal on Recent and Innovation Trends in Computing and Communication*, vol. 4, no. 3, pp. 58 – 63. <http://hdl.handle.net/10950/341>
13. Barrett Lowe and Kulkarni A. D. (2015). Multispectral image analysis using Random Forest, *International Journal on Soft Computing*, vol. 6, no. 2, pp 1-14
14. A. D., Gunturu, H., and Datla S. (2009). Association-based image retrieval. *JNTU Technology Spectrum*, vol.2, no. 3, pp 1-6.
15. Kulkarni A. D., Gunturu, H., and Datla S. (2008). Association-based image retrieval. *WSEAS Transactions on Signal Processing*, vol. 4, no. 4, pp 183-189.

16. Kulkarni A. D. and McCaslin S. (2006). Knowledge discovery from satellite images. *WSEAS Transactions on Signal Processing*. vol. 2, no. 11, pp 1523-1530
17. Kulkarni, A. D. and McCaslin S. (2004). Knowledge discovery from multispectral satellite images. *IEEE Geosciences and Remote Sensing Letters*, vol. 1, no.4, pp 246-250
doi: 10.1109/LGRS.2004.834593
18. Kulkarni, A. D. and Cavanaugh, C. D. (2000). Fuzzy neural network models for classification. *International Journal of Applied Intelligence*, vol. 12, pp 207-215.
19. Kulkarni, A. D. and Lulla, K. (2000). Fuzzy neural network models for supervised classification: Multispectral image analysis, *GEOCATO International Multi-disciplinary Journal of Remote Sensing & GIS*, vol. 14, no. 1, pp 41-50.
20. Kulkarni, A. D. (1998). Fuzzy neural models for multispectral image analysis. *International Journal of Applied Intelligence*, vol. 8, no. 2, pp 173-187.
21. Kulkarni, A. D., Giridhar, G. B., and Coca, P. (1994). Neural network based fuzzy logic decision systems for multispectral image analysis. *International Journal of Neural, Parallel, and Scientific Computing*, vol. 2, no. 3, pp 205-218
22. Kulkarni, A. D., (1991). Solving ill posed problems with artificial neural networks. *Neural Networks*, vol. 4, pp 477-484.
23. Deekshatulu, B. L., Kulkarni, A. D., and Rao, K. R., (1985). Quantitative Evaluation of Enhancement Techniques. *International Journal of Signal Processing*. vol. 8, pp 369-375.
24. Kulkarni, A. D., and Sivaraman, K. (1984). Interpolation of digital imagery using hyper-surface approximation. *International Journal of Signal Processing*, vol. 8, pp 65-73.
25. Rao, K. R., Kulkarni, A. D., and Chennaiah, G. C. (1982). Enhancement techniques for land use analysis. *International Journal of Indian Society of Photo Interpretation and Remote Sensing*. vol. 10, no. 3, pp 1-5.
26. Rao, K. R., Kulkarni, A. D., and Chennaiah, G. C. (1981). On stereo pair decomposition of landsat imagery. *International Journal of Indian Society of Photo Interpretation and Remote Sensing*. vol. 9, no. 1, pp 45-48.
27. Sahasrabudhe, S. C., and Kulkarni, A. D. (1979). Shift variant image degradation and restoration. *International Journal of Computer Graphics and Image Processing*, vol. 9, no. 3, pp 203-212.
28. Sahasrabudhe, S. C., and Kulkarni, A. D. (1977). On solving Fredholm integral equation of the first kind. *Journal of Association of Computing Machinery*, vol. 24, no. 3, pp 262-269.

Chapters in Books:

29. Kulkarni A. D. and Brown, Leonard (2009). Association-based Image Retrieval. In *Semantic Mining Technologies for Multimedia Databases* Dacheng Tao, Xu Dong , Xuelong Li (Editors), IGI Global, Hershey, PA, pp 379-406.
30. Kulkarni A. D. and McCaslin, S. (2008). Fuzzy neural networks for knowledge discovery. In *Intelligent data analysis: Developing new methodologies through pattern discovery and recovery*, Chapter VI. Wang Hsiao-Fan (Editor). IGI Global, Hershey, PA, pp 103-119.
31. Kulkarni, A. D. (1991). Neural networks for pattern recognition. In *Progress in Neural networks*, vol. I, Chapter 9, Ablex, New Jersey, O. Omidvar (Editor), pp 197-219.
32. Kulkarni, A. D. (1986). Digital processing of remotely sensed data. In *Advances in Electronics and Electron Physics*, vol. 66, Chapter 4. P. W. Hawkes (Editor). Academic Press, Orlando, Florida, pp 309-368.

Papers in Proceedings (Peer Reviewed)

33. Khan Imran and Kulkarni A. D. (2013). Knowledge extraction from survey data using neural networks. *Procedia Computer Science, Complex Adaptive Systems*, vol 20/C, pp 433-438.
34. Anila Chavali and Kulkarni A. D. (2013). A fuzzy self-constructing algorithm for feature reduction. *45th IEEE Southeastern Symposium on Systems, Theory*, Waco, TX, March 11-13.
35. Anderson, J., Kouider Mokhtari, K., and Kulkarni, A. D. (2012). Assessing Metacognitive Skills Using Adaptive Neural Networks. *Procedia Computer Science Complex Adaptive Systems*, vol 12, pp 294-299.
36. Kulkarni A. D. (2011). Water quality retrieval from Landsat TM imagery. *Procedia Computer Science*, vol. 6, pp. 475-480.
37. Kulkarni, A. D. and Parimi, Kiran (2010). Comparing supervised and unsupervised classifiers for multispectral image analysis. *Proceeding of Intelligent Engineering Systems Through Artificial Neural Networks*, vol. 20, pp 533-540.
38. Kulkarni, A. D., Bankert, R., and Hadjimichael, M. (2010). Tropical cyclone intensity estimation using neural networks. *Proceedings of 2010 Annual Conference of American Society of Photogrammetry and Remote Sensing*, San Diego, CA.
39. Kulkarni, A. D. and Parimi, Kiran (2010). Monitoring Hydrilla growth on Lake Tyler using multispectral imagery. *Proceedings of 2010 Annual Conference of American Society of Photogrammetry and Remote Sensing*, San Diego, CA.
40. Kulkarni, A. D. (2010). Association-based image retrieval. *Proceedings of IEEE 42nd Southeastern Symposium on System Theory (IEEE SSST'10)*, pp 31-34
41. Kulkarni, A. D., Gunturu, H., and Datla, S. (2008). Association-based image retrieval for automatic target recognition. *Proceedings of the 7th WSEAS International Conference on Artificial Intelligence, Knowledge Engineering, and Databases (AIKED'08)*, University of Cambridge, UK, pp 214-219.
42. Kulkarni, A. D., Gunturu, H., and Datla, S. (2008). Association-based image retrieval. *Proceedings of International Conference on Contained-Based Image Retrieval (ICCBIR-08)*, Bangalore, India, pp17-21.
43. Kulkarni, A. D. (2007). Association-based image retrieval. *Proceeding of Intelligent Engineering Systems Through Artificial Neural Networks*, vol. 17, pp 519-524.
44. Kulkarni A. D. and Bandi, M. (2007). Fuzzy neural networks for diagnosis of malignant mesothelioma. *Proceeding of Intelligent Engineering Systems Through Artificial Neural Networks*, vol. 17, pp 31-36.
45. Kulkarni, A. D. (2007). Content-Based Image Retrieval Using Associative Memories' *Proceedings of the 6th WSEAS International Conference on Telecommunication and Informatics*, Dallas, USA, pp 99-104
46. Kulkarni, A. D. and McCaslin, S. (2006). Fuzzy neural network models for multispectral image analysis. *Proceedings of the 5th WSEAS International Conference on Circuits, Systems, Control and Signal Processing*, Dallas, USA, pp 66-71
47. Kulkarni, A. D. (2006). Content based image retrieval using associative memories. *Proceedings of the 4th International Conference on Computing, Communication and Control Technologies*. vol. 2, pp 244-248.
48. Kulkarni, A. D. and Pleasant, K. (2006). Infinity project curriculum for pre-engineering students. *Proceedings of ASEE Gulf Southwest Annual Conference*, Session T3D4, pp 1-7, Baton Rouge, LA
49. Kulkarni, A. D. (2005). Knowledge discovery from fuzzy neural network models. *Proceedings of the 3rd International Conference on Computing, Communications and Control Technologies*. vol. 1, pp 305-310.

50. Holly, Thomas, and Kulkarni, A. D. (2004). Rule generation for classification by ant colony optimization. *Proceeding of Intelligent Engineering Systems Through Artificial Neural Networks*, vol. 14, pp 171-176.
51. Bradley, B. and Kulkarni, A. D. (2002). Decision trees for data mining. *Proceeding of Intelligent Engineering Systems Through Artificial Neural Networks*, vol. 12, pp 423-428.
52. McCaslin, S. and Kulkarni, A. D. (2002). Extracting fuzzy rules from multispectral satellite image data. *Proceeding of Intelligent Engineering Systems Through Artificial Neural Networks*, vol. 12, pp 315-320.
53. Kulkarni, A. D. and Zhiwei Mo (2001). Knowledge discovery from multispectral satellite images. *Proceeding of Intelligent Engineering Systems Through Artificial Neural Networks*, vol. 11, pp 381-386.
54. Kulkarni A. D. and Wasnikar, Viren (2000). Data mining with radial basis function networks. *Proceeding of Intelligent Engineering Systems Through Artificial Neural Networks*, vol. 10, pp 443-448.
55. Kulkarni A. D. and Zhao, Jing (2000). Market segmentation using self-organizing neural networks. *Proceeding of Intelligent Engineering Systems Through Artificial Neural Networks*, vol. 10, pp 929-934.
56. Kulkarni, A. D. (1998). Fuzzy-neural network models for supervised classification. .
57. *Proceeding of Intelligent Engineering Systems Through Artificial Neural Networks*, vol. 8, pp 193-198
58. Kulkarni, A. D. and Nageshwar Rao, B. (1997). Adaptive image coding using fuzzy sub-image classification. *Proceeding of Intelligent Engineering Systems Through Artificial Neural Networks*, vol. 7, pp 543-548.
59. Kulkarni, A. D. and Muniganti, V. K., (1996). Fuzzy neural network models for clustering. *Proceedings of Symposium on Applied Computing*. Philadelphia, PA, pp 523 - 528.
60. Kulkarni, A. D., Baktula, N. R., and Sagar, B. V. (1996). Neuro-fuzzy models for mammography: diagnosis of breast cancer. *In Intelligent Systems in Engineering*, vol. 5, Dagli, C. H. et. al. (Editors), ASME Press, New York, NY.
61. Kulkarni, A. D. (1995). Neural fuzzy decision systems for multispectral image analysis. *Proceedings of 3rd International Conference on Fuzzy Logic*, Burlingame, CA, pp 47-147-12.
62. Kulkarni, A. D., Giridhar, G. B., and Coca, P. (1994). Neural network based fuzzy logic decision systems. *Proceedings of SPIE*, vol. 2353, pp 430-438.
63. Kulkarni, A. D., Giridhar, G. B., and Coca, P. (1994). Neural network based fuzzy logic decision systems. *Proceedings of the World Congress on Neural Networks*, San Diego, vol. 1, pp 705-712.
64. Kulkarni, A. D., Giridhar, G. B., and Coca, P. (1994). Neural network based fuzzy logic decision systems for multispectral image analysis. *In Intelligent Systems in Engineering*, vol. 4, Dagli et al. (Editors), ASME Press, New York, pp 262-268.
65. Kulkarni, A. D., and Yazdapanhi, I. (1993). Generalized bi-directional associative memories for image processing. *Proceedings of the SPIE conference*, vol. 1826, pp 152-159.
66. Kulkarni, A. D., and Yazdapanhi, I. (1993). Generalized bi-directional associative memories for image processing. *Proceedings of the ACM / SIGAPP Symposium on Applied Computing*, Indianapolis, IN, pp 323-379.
67. Kulkarni, A. D., and Nagpurkar, V. B., (1992). Knowledge based pattern recognition using associative storage. *Proceedings of the SPIE conference*, vol. 1827, pp 220-228.
68. Kulkarni, A. D., and Byars, P. (1992). Artificial neural network models for texture classification via: the Radon transform. *Proceedings of the Symposium on Applied Computing*, vol. II, Kansas City, pp 659-644.

69. Kulkarni, A. D. (1990). Neural networks for image restoration. *Proceedings of the ACM 1990 Computer Science Conference*, Washington D. C., pp 373-378.
70. Kulkarni, A. D., and Whitson, G. M. (1990). Self-organizing networks with a split/merge algorithm. *Proceedings of the ACM Symposium on Personal and Small Computers*, Arlington, VA, pp 255-261.
71. Kulkarni, A. D., Yap A. C, and Byars, P. (1990). Neural networks for invariant object recognition. *Proceedings of the Symposium on Applied Computing*, Fayetteville, Arkansas, pp 28-32.
72. Whitson, G. M., and Kulkarni, A. D. (1989). Neural network modeling with CRAY-XMP. *Proceedings of the IEEE conference on Parallel Processing*. Dallas, pp 332-339.
73. Kulkarni, A. D., Whitson, G. M., Bolin, J., and Wu, C. (1989). Some applications of parallel processing. *Proceedings of the Workshop on Applied Computing*, Stillwater, Oklahoma, pp 185-192.
74. Whitson, G. M. and Kulkarni, A. D. (1988). Test-bed for PDP models. *Proceedings of the ACM Computer Science Conference*, Atlanta, Georgia, pp 467.
75. Kulkarni, A. D., and Chandrasekhar, S. C. (1984). Clustering of multispectral data using sequential simplex technique. *Proceedings of the IEEE conference*, Bombay, pp 649-651.
76. Kulkarni, A. D. (1983). Digital processing of remotely sensed data. *Proceedings of the National Conference on Applications of Remote Sensing*. Bombay, pp 15-18.
77. Kulkarni, A. D., and Sivaraman, K. (1983). An algorithm for interpolation of digital imagery using hyper-surface approximation. *Proceedings of the International Symposium on Remote Sensing of Environment*, Ann Arbor, Michigan, pp 609-612.
78. Kulkarni, A. D. (1983). Categorization of multispectral data using binary tree classifiers. *Proceedings of the International Symposium on Machine Processing of Remotely Sensed Data at LARS*, Purdue University, pp 609-612.
79. Kulkarni, A. D., Deekashatulu, B. L., and Rao, K. R. (1982). Shift variant image enhancement techniques. *Proceedings of the International Symposium on Machine Processing of Remotely Sensed Data at LARS*, Purdue University, pp 258-612.
80. Kulkarni, A. D., Deekashatulu, B. L., and Rao, K. R. (1981). Registration of digital imagery using optimization techniques. *Proceedings of the International Symposium on Machine Processing of Remotely Sensed Data at LARS*, Purdue University, pp 181-187.