

**BILL P. BUCKLES**

Professor

Department Computer Science and Engineering  
University of North Texas

**EDUCATION**

B.S., Mathematics, East Tennessee State University, 1967  
M.S.O.R., Operations Research, University of Alabama in Huntsville, 1977  
M.S., Computer Science, University of Alabama in Huntsville, 1979  
Ph.D., Operations Research, University of Alabama in Huntsville, 1981

**PROFESSIONAL EXPERIENCE**

University of North Texas	2006–present
Professor of Computer Science & Engineering Taught Image Processing, Artificial Intelligence, Sensor Fusion, Data Structures, Graph Theory, and others	
Tulane University	1987–2006
Professor of Computer Science (From 1990) and Yahoo! Founders Chair (From 2002) Taught Databases, Compiler Design, Artificial Intelligence, Data Structures, Analysis of Algorithms, Image Processing, and others	
University of Texas at Arlington	1981–87
Associate Professor of Computer Science (Tenured from 1986) Taught Data Structures, Survey of Algorithmic Languages, Discrete Mathematics, Artificial Intelligence, List Processing, Databases, Compiler Design	
University of Alabama in Huntsville	1972–81
Part-time Lecturer in Computer Science Department Taught Compiler Construction, Data Structures, Computer Organization Comparative Programming Languages, Operating Systems	
General Research Corporation	1978–81
Member Technical Staff Multi-computer software design techniques, computer emulation methods	
Science Applications Inc.	1975–78
Scientist Designed and developed software engineering tools including a software design language, static code analyzer, and relational database	
Computer Sciences Corporation	1968–75
Computer Scientist Developed Fortran compiler, graphics language interpreter, telecommunications systems, assembler and O/S for prototype computer, hardware instructions sets	
Lockheed-Georgia Corporation	1967–68
Associate Scientific Programmer Developed graphics applications.	

## PUBLICATIONS

### Books

1. B. P. Buckles and F. E. Petry (editors), *Genetic Algorithms: Introduction and Applications*, IEEE Computer Society Press, Catalog #2935, Los Alamitos, CA, 1992.

### Journals

1. Yassine Belkhouche, Prakash Duraisamy, and Bill P. Buckles, “Graph Connected Components for Filtering Urban LiDAR Data,” *J. of Applied Remote Sensing*, **9** 1 (March 2015) 13 pages.
2. Guangchun Cheng, Yan Huang, and Bill P. Buckles, “Exploring temporal structure of trajectory components for action recognition,” *Int. J. of Intelligent Systems*, **30** 2 (2015) pp. 99–119.
3. Yiwen Wan, Yan Huang, and Bill P. Buckles, “Camera Calibration and Vehicle Tracking: Highway Traffic Video Analytics,” *Transportation Science Part C: Emerging Technologies*, **44** (2014) pp. 202–213.
4. Guangchun Cheng and Bill Buckles, “A Nonparametric Approach to Region-of-interest Detection in Wide-angle Views,” *Pattern Recognition Letters*, **49** (2014) pp. 24–32.
5. Yiwen Wan, Tze-I Yang, David Keathly, and Bill Buckles, “Dynamic Scene Modeling and Anomaly Detection Based on Trajectory Analysis,” *IET Intelligent Transport Systems*, **8** 6 (2014) pp. 526–533.
6. Prakash Duraisamy, Kamesh Namuduri, Steve Jackson, and Bill Buckles, “Coarse Automated Registration of Visual Imagery with 3D Light Detection and Ranging Models,” *SPIE J. of Electronic Imaging*, **22** 3 (Sept. 2013) 10 pages.
7. Yiwen Wan, Prakash Duraisamy, Mohammed S. Alam, and Bill P. Buckles, “Wireless Capsule Endoscopy Segmentation using Globally Constrained Hidden Markov Models and Image Registration,” *Int. J. of Computer Vision and Signal Processing*, **2** 1 (2013) pp. 17–28.
8. Prakash Duraisamy, Yassine Belkhouche, Stephen Jackson, Kamesh Namuduri, and Bill Buckles, “Choosing Appropriate Homography Transformation for Building Panaramic Images,” *Int. J. of Computer Vision & Signal Processing*, **2** 1 (2013) pp. 29–37.
9. Shijun Tang, Pinliang Dong, and Bill P. Buckles, “Three-dimensional Surface Reconstruction of Tree Canopy from LiDAR Point Clouds using a Region-based Level Set Method,” *Int. J. of Remote Sensing*, **4** 34 (2013) pp. 1373–1385.
10. Prakash Duraisamy, Yassine Belkhouche, Stephen Jackson, Kamesh Namuduri, and Bill Buckles, “Automated Two-dimensional-three-dimensional Registration using Intensity Gradients for 3D Reconstruction,” *J. of Applied Remote Sensing*, **6**, 2012, 13 pages, DOI:10.1117/1.JRS.6.063517.
11. Yao Shen, Partha Guturu, and B. P. Buckles, “Wireless Capsule Endoscopy Video Segmentation Using an Unsupervised Learning Approach based on Probabilistic Latent Semantic Analysis with Scale Invariant Features,” *IEEE Trans. on Information Technology in BioMedicine*, **16** 1 (2012) pp. 98–105.
12. Shijun Tang, Pinliang Dong, and B. P. Buckles, “A new method for extracting trees and buildings from sparse LiDAR data in urban areas,” *Remote Sensing Letters*, **3** 3 (2012) pp. 211–219.

13. M. Y. Belkhouche and B. P. Buckles, "Iterative TIN-Based Automatic Filtering of Sparse LiDAR Data," *Remote Sensing Letters*, **2** 3 (Sept. 2011) pp. 231–240.
14. X. Yuan, J. Zhang, and B. P. Buckles, "A Multi-resolution Method for Tagline Detection and Indexing," *IEEE Trans. on Information Technology in Biomedicine*, **14** 2 (March 2010) pp. 507–513.
15. Yao Shen, Partha Guturu, B. P. Buckles, Damarla Thyagaraju, and Kamesh Namuduri, "Video Stabilization Using Principal Component Analysis and Scale Invariant Feature Transform in Particle Filter Framework," *IEEE Trans. on Consumer Electronics*, **55** 3 (August 2009) pp. 1714–1721.
16. X. Liu, X. Zhu, Y. Yu, X. Yuan, B. P. Buckles, "Building Algorithm of Triangulation Based on LiDAR Point Clouds," *Journal of Software* (in Chinese), **19** (Dec. 2008) pp. 1-9.
17. Cong-cong Xing and B. P. Buckles, "On the Size of the Search Space of Join Optimization," *J. of Computing Sciences in Colleges*, **20** 6 (June 2005) pp. 136–142.
18. Jian Zhang, Xiaohui Yuan, and B. P. Buckles, "Function Granularity Estimation for Multimodal Optimization," *Int. J. on Artificial Intelligence Tools*, **14** 1-2 (2005) pp. 199–213.
19. Xiaojing Yuan, J. Zhang, and B. P. Buckles, "Multi-scale Feature Identification Using Evolutionary Strategies," *Image and Vision Computing Journal* **23** 6 (June 2005) pp. 555–563.
20. X. Yuan, J. Zhang, and B. P. Buckles, "Evolution Strategies Based Image Registration via Feature Matching," *Intern. J. on Information Fusion*, **5** 4 (Dec. 2004) pp. 269–282.
21. D. Prabhu, B. P. Buckles, and F. E. Petry, "A SIMD Environment for Genetic Algorithms with Interconnected Subpopulations," *Scalable Computing: Practice and Experience*, **7** 2 (Summer 2006) pp. 65–86.
22. A. Hernández-Aguirre, C. Koutsougeras and B. P. Buckles, "Sample Complexity for Function Learning Tasks Through Linear Neural Networks," *Int. J. on Artificial Intelligence Tools*, **11** 4 (Dec. 2002) pp. 499–512.
23. I. Pineda, I. Gokcen, and B. P. Buckles, "Image Feature Set for Correspondence Mappings," *Int. J. of High Performance Computing Applications*, **16** 3 (Fall 2002) pp. 273–284.
24. D. Prabhu, B. P. Buckles, and F. E. Petry, "Genetic Algorithms for Scene Interpretation from Prototypical Semantic Description," *Int. J. of Intelligent Systems* **15**, 10 (Oct. 2000) pp. 901–918.
25. James P. Buckley, Bill P. Buckles, and Fred E. Petry, "Processing Structured Textual Data with Uncertainty using a Fuzzy Matching Approach," *Int. J. of Soft Computing* **4**, 4 (Dec. 2000) pp. 195–205.
26. Adnan Yazici, Bill P. Buckles, and Fred E. Petry, "Handling Complex and Uncertain Information in the ExIFO and NF2 Data Models," *IEEE Trans. on Fuzzy Systems* **7**, 12 (Dec. 1999) pp. 259–276.
27. Adnan Yazici, Alper Soysal, Bill P. Buckles, and Fred E. Petry, "Uncertainty in a Nested Relational Database Model," *Data and Knowledge Engineering* **30**, 3 (March 1999) pp. 275–301.
28. Arturo Hernández Aguirre and B. P. Buckles, "Estrategias Evolutivas: La Versión Alemana del Algoritmo Genético, Parte 1," *Soluciones Avanzadas* **6**, 62 (Oct. 1998), pp. 38–45.

29. Arturo Hernández Aguirre and B. P. Buckles, "Estrategias Evolutivas: La Versión Alemana del Algoritmo Genético, Parte 2," *Soluciones Avanzadas* **6**, 64 (Dec. 1998) pp. 47–53.
30. J. Buckley, B. P. Buckles and F. E. Petry, "Constructing a Windowing Function to Interface a Database with Expert System Rules," *J. of Systems Engineering and Electronics* **5** (1996) pp. 45–54.
31. R. George, R. Srikanth, F. E. Petry, and B. P. Buckles, "Uncertainty Management Issues in Object-oriented Database Systems," *IEEE Trans. on Fuzzy Systems* **4**, 2 (May 1996) pp. 179–192.
32. R. George, B. P. Buckles and F. Petry, "Fuzzy Information Systems: Challenges and Opportunities of a New Era," *Int. Journal of Intelligent Systems* **11**, 9 (Sept. 1996), pp. 649–659.
33. R. Srikanth, R. George, N. Warsi, D. Prabhu, F. E. Petry, and B. P. Buckles, "A Variable Length Genetic Algorithm for Clustering and Classification," *Pattern Recognition Letters* **16**, 8 (July 1995) pp. 789–800.
34. T. Beaubouef, B. P. Buckles, and F. Petry, "Extension of the Relational Database and its Algebra with Rough Set Techniques," *Computational Intelligence* **11**, 2 (May 1995) pp. 233–245.
35. A. Yazici, B. Buckles, and F. Petry, "A Semantic Data Model Approach to Knowledge-Intensive Applications," *International Journal of Expert Systems* **8**, 1 (Jan. 1995) pp. 77–91.
36. R. George, B. P. Buckles, and F. E. Petry, "Modeling Class Hierarchies in the Fuzzy Object-oriented Data Model," *Fuzzy Sets and Systems* **60**, 3 (Dec. 1993) pp. 259–272.
37. B. P. Buckles, F. E. Petry, and J. Pillai, "Network Data Models for Representation of Uncertainty," *Fuzzy Sets and Systems* **38**, 2 (November, 1990), pp. 171–190.
38. C.A. Ankenbrandt, B. P. Buckles and F. E. Petry, "Scene Recognition Using Genetic Algorithms With Semantic Nets," *Pattern Recognition Letters* **11**, 2 (April, 1990), pp. 285–293.
39. B. P. Buckles, F. E. Petry and Y.Y. Cheung, "Attribute Grammars for the Heuristic Translation of Query Languages," *Information Systems* **14**, 6 (December, 1989), pp. 507–514.
40. B. P. Buckles, F. E. Petry and H. Sachar, "A Domain Calculus for Fuzzy Relational Databases," *Fuzzy Sets and Systems* **29**, 3 (February 1989), pp. 327–340.
41. K.M. Kavi, B. P. Buckles and U.N. Bhat, "Isomorphisms Between Petri Nets and Dataflow Graphs," *IEEE Trans. Software Engineering* **13**, 10 (October, 1987), pp. 1127–1139.
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45. B. P. Buckles and F. E. Petry, "Information-Theoretic Characterization of Fuzzy Relational Databases," *IEEE Trans. on Syst., Man and Cybernetics* **13**, 1 (February 1983), pp. 74–77.

46. B. P. Buckles and F. E. Petry, "A Fuzzy Representation of Data for Relational Databases," *Fuzzy Sets and Systems* **7**, 3 (May 1982), pp. 213–226.
47. B. P. Buckles and H.D. Fitzgibbon, "Distributed Time Management for Emulation/Simulation," *Journal of Digital Systems* **5**, 2 (summer 1981), pp. 137–156.
48. R.E. Shannon, S.S. Long and B. P. Buckles, "Operation Research Methodologies in Industrial Engineering," *AIIE Trans.* **12**, 4 (December 1980), pp. 364–467.
49. P.R. Odom, R.E. Shannon and B. P. Buckles, "Multi-Goal Subset Selection Problems Under Uncertainty," *AIIE Trans.* **11**, 1 (March 1979), pp. 61–69.
50. B. P. Buckles and M. Lybanon, "Generation of a Vector from the Lexicographic Index," *ACM Trans. on Mathematical Software* **3**, 2 (June 1977), pp. 180–182.

### Edited Volumes

1. Patrick Bosc, Bill P. Buckles, Frederick E. Petry, and O. Pivert, "Fuzzy Databases," *Approximate Reasoning and Fuzzy Information Systems*, (eds. J. C. Bezdek, D. Dubois, and H. Prade), Kluwer Press, 1999, pp. 403–468.
2. R. George, A. Yazici, F. E. Petry, and B. P. Buckles, "Modelling Impreciseness and Uncertainty in the Object-Oriented Data Model – A Similarity-based Approach," *Fuzzy and Uncertain Object-Oriented Databases: Concepts and Models*, (ed., Rita de Caluwe), World Scientific Publishers, 1997, pp. 63–96.
3. D. Kraft, F. E. Petry, B. P. Buckles, and T. Sadasivan, "Genetic Programming for Query Optimization in Information Retrieval: Relevance Feedback," *Genetic Algorithms and Fuzzy Logic Systems*, ed, E. Sanchez, World Scientific Publishing Co., 1997, pp. 155–173.
4. F. Petry, B. Buckles, and D. Kraft, "The Use of Genetic Programming to Build Queries for Information Retrieval," *Handbook of Evolutionary Computation*, eds, T. Bäck, D. Fogel and Z. Michalewicz, Oxford University Press, New York, 1997, pp. G2.1:1–G2.1:6.
5. P. Bosc, B. Buckles and F. Petry, "Fuzzy Databases: Theory and Models," *Handbook of Fuzzy Sets*, eds, D. Dubois and H. Prade, Kluwer Press, Boston, 1997.
6. R. George, R. Srikanth, B. P. Buckles and F. E. Petry, "An Approach to Modeling Impreciseness and Uncertainty in the Object-Oriented Model," *Fuzzy Information Engineering: A Guided Tour of Applications*, eds: D. Dubois, H. Prade, R. Yager, Wiley Press, NY 1997, pp. 325–337.
7. B. P. Buckles, F. E. Petry, D. Prabhu and M. Lybanon, "Mesoscale Feature Labeling from Satellite Images," *Genetic Algorithms for Pattern Recognition*, eds, S.K. Pal and P.P. Wang, Springer-Verlag, Heidelberg, Germany, 1996, pp. 167–177.
8. D. Kraft, F. Petry, B. Buckles and T. Sadasivan, "Applying Genetic Algorithms to Information Retrieval," *Fuzzy Sets and Possibility Theory in Database Management Systems*, P. Bosc and J. Kacprzyk, eds, Springer-Verlag, Heidelberg, Germany, 1995, pp. 330–344.
9. F. E. Petry and B. P. Buckles, "Applications of Genetic Algorithms to Permutation Problems," *Artificial Intelligence Methods and Applications*, (ed. N. Bourbakis), World Scientific, Singapore, Chap. 3, 1992, pp. 106–123.

10. A. Yazici, R. George, B. P. Buckles, and F. E. Petry, "A Survey of Conceptual and Logical Data Models for Fuzzy and Incomplete Information," *Fuzzy Logic for the Management of Uncertainty*, (eds., L. Zadeh and J. Kacprzyk), John Wiley and Sons, New York, 1992, pp. 607–643.
11. B. P. Buckles and F. E. Petry, "Fuzzy Databases," *Encyclopedia of AI*, 2nd edition, Wiley Press, New York, 1992, pp. 507–515.
12. R. George, B. P. Buckles and F. E. Petry, "Integrating Expert Systems and Databases – Where Do We Manage Uncertainty," *The Next Generation of Information Systems – From Data to Knowledge*, (M. Papazoglu, J. Zeleznikow, eds.), Springer-Verlag, New York, 1992, pp. 37–48.
13. B. P. Buckles and F. E. Petry, "Fuzzy Databases," *Systems and Control Encyclopedia*, Vol. IV (M. Singh, ed.), Pergamon Press, London, 1988, pp. 1795–1797.
14. B. P. Buckles and F. E. Petry, "Generalized Information Systems," *The Analysis of Fuzzy Information*, Vol. II (J. Bezdek, ed.), CRC Press, Boca Raton, FL, 1987, pp. 177–202.
15. B. P. Buckles, F. E. Petry and H. Sachar, "Design of Similarity-based Relational Databases," *Fuzzy Logic in Knowledge Engineering* (C.V. Negotia and H. Prade, eds.), Verlag TUV Rheinland, Cologne, 1986, pp. 3–17.
16. B. P. Buckles and F. E. Petry, "Query Languages for Fuzzy Databases," *Management Decision Support Systems Using Fuzzy Sets and Possibility Theory*, (J. Kacprzyk and R. Yager, eds.), Verlag TUV Rheinland, Cologne, 1985, pp. 241–252.
17. B. P. Buckles and F. E. Petry, "Fuzzy Databases and Their Applications," *Fuzzy Information and Decision Processes* (M. Gupta and E. Sanchez, eds.), North-Holland, New York, 1982, pp. 361–371.
18. B. P. Buckles and D.M. Hardin, "Partitioning and Allocation of Logical Resources in a Distributed Computing Environment," *IEEE Tutorial: Distributed System Design* (M. Mariani and D. Palmer, eds.), IEEE Computer Society Press, Los Alamitos, CA, IEEE Cat. No. EHO 151-1, 1979, pp. 247–276.

#### Refereed Conferences:

1. Jiaxuan Pang, Charles Tian, Yan Huang, Bill Buckles, and Arash Mirzaei, "ATVIS: A New Transit Visualization System," *Advances in Geocomputation*, (eds. D. A. Griffith, Zhe Jiang, Xun Tang, and Shashi Shekhar), Springer, 2017, pp. 85–96.
2. Roya N. Kandalan, Ramapreet Singh, Kamesh Namuduri, Murali Varanasi, and B. P. Buckles, "Impact of mobility on convergence rate in a wireless sensor network," *IEEE Ann. Conf. on Information Sciences and Systems (CISS)*, Johns Hopkins Univ., March 22-24, 2017, pp. 1–4.
3. Yassine Belhouche, Prakash Duraisamy, and Bill Buckles, "Ground extraction from terrestrial LiDAR scans using 2D-3D neighborhood graphs," *International Symposium on Visual Computing*, Las Vegas, Dec. 14-16, 2015.
4. Jiaxuan Pang, Charles Tian, Yan Huang, Bill Buckles, and Arash Mirzaei, "Atvis: A new transit visualization system," *GeoComputation*, Dallas TX, May 20-23, 2015, pp. 528–536.

5. Guangchun Cheng, Yan Huang, Arash Mirzaei, Bill Buckles, and Hua Yang, "Video-based Automatic Transit Vehicle Ingress/Egress Counting using Trajectory Clustering," *IEEE Intelligent Vehicle Symposium*, Dearborn MI, June 2014, pp. 827–832.
6. Yiwen Wan, Wasanna Santiteerakul, Guangchun Cheng, Bill Buckles, and Ian Parberry, "An application-independent logic framework for human activity recognition," *IEEE Computer Vision and Pattern Recognition Workshops*, Portland OR, June 2013, pp. 671–675.
7. Yassine M. Belkhouche and Bill P. Buckles, "Skewness Balancing Algorithm for Approximation of Discrete Object Boundaries," *IEEE IVMSW Workshop: Perception and Visual Signal Analysis*, Ithaca NY, June 2011, pp. 70–74.
8. Ye Yu, B. P. Buckles, and Xiaoping Liu, "Residential Building Reconstruction Based on the Data Fusion of Sparse LiDAR Data and Satellite Imagery," *International Symposium on Visual Computing*, Las Vegas, Dec. 2009, pp. 240–251.
9. Ye Yu, Xiaoping Liu, and Bill P. Buckles, "A Residential Building Reconstruction Method and Its Evaluation," *Intern. CAD/Graphics Conf.*, Jinan China, Sept. 2011, pp. 489–493.
10. Yao Shen, Parthasarathy Guturu, Thyagaraju R. Damarla, and Bill P. Buckles, "Particle filter based object tracking with discriminative feature extraction and fusion," *Intern. Symp. on Visual Computing*, Las Vegas, Dec. 2008, pp. 246–256.
11. B. P. Buckles, Laura Steinberg, Xiaohui Yuan, Xiaoping Liu, Liangmei Hu, Yassine Mohammed Belkhouche, and Brad Cromwell, "Analysis, Modeling, and Rendering of Urban Flood Events," *Annual Intern. Conference on Digital Government Research*, May 18-21, 2008, Montreal Canada.
12. Xiaohui Yuan and Bill P. Buckles, "A Wavelet-based Noise-aware Method for Fusing Noisy Imagery," *Proc. IEEE Intern. Conf. on Image Processing*, Vol. 4, San Antonio, TX, Sept. 16-19, 2007, pp. 885–888.
13. Peng Zhang, Jing Peng, and Bill Buckles, "Learning optimal filter representation for texture classification," *IEEE Intern. Conf. on Pattern Recognition*, 2006, pp. 1138–1141.
14. Kun Zhang, Wei Fan, Bill P. Buckles, Xiaojing Yuan, and Zujia Xu, "Discovering Unrevealed Properties of Probability Estimation Trees: On Algorithm Selection and Performance Explanation," *Proc. IEEE Intern. Conf. on Data Mining (ICDM)*, Hong Kong, Dec. 18-22, 2006, pp. 741–752. (acceptance rate < 10%.)
15. Xiaohui Yuan, Jian Zhang, and Bill P. Buckles, "A Real-coded Genetic Algorithm for Shape Constrained MR Image Registration," *Intern. Conf. of the IEEE Engineering in Medicine and Biology Society (EMBS)*, Shanghai, China, Sept. 1-4, 2005.
16. Kun Zhang, Zujia Xu, Jing Peng, and B. P. Buckles, "Learning through Changes: An Empirical Study of Dynamic Behaviors of Probability Estimation Trees," *Proc. IEEE Intern. Conf. on Data Mining (ICDM)*, Houston TX, Nov. 27-30, 2005, pp. 817–820.
17. Costin Barbu, Kun Zhang, Jing Peng, and Bill P. Buckles, "Boosting in Classifier Fusion vs. Fusing Boosted Classifiers," *Proc. IEEE International Conference on Information Reuse and Integration*, Las Vegas, NV, August 15-17, 2005.

18. Kun Zhang and B. P. Buckles, "Oblique decision tree induction using multi-membered evolution strategies," *SPIE Defense and Security Symposium*, Orlando Florida, March 28-April 1, 2005.
19. Zu-Jia Xu, Kun Zhang, and B. P. Buckles, "Improving Support Vector Machines Prediction of DNA Sequence Classification using Support Vector Machines," *Multi-Conf. on Systemics, Cybernetics and Informatics*, Orlando Florida, July 18-21, 2004.
20. Xiaojing Yuan, Bill Buckles, Fernando Figueroa, "Intelligent Sensor Model and Dynamic Transient Behavior for Highly Autonomous Sensors," *SPIE Defense and Security Symposium*, April 12-16, 2004, Orlando, Florida.
21. Xiaojing Yuan, Xiangshang Li, Bill Buckles, "Real-time sensor validation and fusion for distributed autonomous sensors," *SPIE Defense and Security Symposium*, April 12-16, 2004, Orlando, Florida.
22. J. Zhang, X. Yuan, and B. Buckles, "Subspace Fitness Distance Correlation for Sharing Distance Information," *Congress on Evolutionary Computation (CEC'04)*, Portland, Oregon, June 20-23, 2004.
23. X. Yuan and B. Buckles, "Subband Noise Estimation for Adaptive Wavelet Shrinkage," *Intern. Conf. On Pattern Recognition (ICPR'04)*, Cambridge, U.K., Aug. 23-26, 2004.
24. J. Zhang, X. Yuan, and B. Buckles, "Multimodal Function Optimization Using Subspace Fitness Distance Correlation," *Florida Artificial Intelligence Symposium (FLAIRS'04)*, Miami, Florida, May 17-19, 2004, pp. 380-385.
25. Xiaohui Yuan, Jian Zhang, and Bill P. Buckles, "Fusing Multiple Images with Evidential Reasoning," *SPIE Defense and Security Symposium*, Orlando, Florida. April 21-25, 2003.
26. I. Gokcen, I. Pineda, B. Buckles, "Adaptive Image Registration for Remote Sensing." *Proc. of International Conference on Recent Advances in Space Technologies (RAST'2003)*, Istanbul, Turkey, 2003, pp. 11-16.
27. Xiaohui Yuan, Jian Zhang, Xiaojing Yuan, and B. P. Buckles, "Low Level Fusion of Imagery Based on Dempster-Shafer Theory," *Proc. Florida Artificial Intelligence Symposium (FLAIRS'03)*, St. Augustine, Florida, May 12-14, 2003, pp. 475-479.
28. Jian Zhang, Xiaohui Yuan, and B. P. Buckles, "Sample Complexity of Real-Coded Evolutionary Algorithms," *Proc. Florida Artificial Intelligence Symposium (FLAIRS'03)*, St. Augustine, Florida, May 12-14, 2003, pp. 239-243.
29. Xiaojing Yuan, Xiaohui Yuan, Fan Yang, B. P. Buckles, and Jing Peng, "Gene Expression: Decision Trees vs. SVMs," *Proc. Florida Artificial Intelligence Symposium (FLAIRS'03)*, St. Augustine, Florida, May 12-14, 2003, pp. 92-96.
30. Xiaohui Yuan, Bill P. Buckles, Zhaoshan Yuan, and Jian Zhang, "Mining Negative Association Rules," *Proc. 7th IEEE Symp. on Computers and Communications (ISCC'02)*, Taormina Italy, July 2002, pp. 623-628.
31. J. Zhang, X. Yuan, and Bill P. Buckles, "A Fast Evolution Strategies Based Approach to Image Registration," *Proc. Genetic and Evolutionary Computation Conference (GECCO'02)*, New York, July 2002, pp. 1249-1257.



32. Ibrahim Gokcen and Jing Peng and Bill P. Buckles, "Active learning using one-class classification," *Proc. of 2nd Intl. Conf. on Hybrid Intelligent Systems*, Santiago, Chile, Dec. 2002.
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34. A. Hernández, B. P. Buckles, and C. Coello-Coello, "GA-based learning of  $kDNF$  Boolean Formulas," *Proc. 4th Intern. Conf. on Evolvable Systems: From Biology To Hardware (ICES2001)*, Tokyo, Japan, Oct. 2001.
35. A. Hernández, B. P. Buckles, and C. Coello-Coello, "On Learning  $kDNF_n^s$  Boolean Formulas," *Proc. Third NASA/DoD Evolvable Hardware Workshop*, Long Beach, CA, July 2001, pp. 240–246.
36. A. Hernández, B. P. Buckles, and C. Coello-Coello, "Evolutionary Synthesis of Logic Functions Using Multiplexers," *Proc. Artificial Neural Networks in Engineering (ANNIE)*, St. Louis, MO, Nov. 2000, pp. 311–316.
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47. B. Buckles, J. Buckley and F. Petry, "Architecture of FAME: Fuzzy Address Mapping Environment," *Proc. Third Int. Conference on Fuzzy Systems*, Orlando, FL, June 1994, pp. 308–312.
48. D. Kraft, F. Petry, B. Buckles, T. Sadasivan and D. Prabhu, "Construction of Boolean Queries for Document Retrieval Via Genetic Algorithms," *Proc. of AISB Workshop on Evolutionary Computation*, Univ. of Leeds, England, April 1994, pp. 307–315.
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50. L.A. Smith, B. P. Buckles and F. E. Petry, "Deductive Querying for an Object-Oriented Database Model," *Proc. ETCE Computers and Engineering Symp.*, Houston, January 1993, pp. 69–74.
51. B. P. Buckles and F. E. Petry, "Extension of the Fuzzy Database With Arithmetic," *Proc. IFAC Symp. on Fuzzy Information, Knowledge Representation and Decision Analysis*, July 1983, Marseille, France, pp. 409–414.
52. B. P. Buckles and H. D. Fitzgibbon, "Distributed Emulation Control: An Algorithm With ESP," *Proc. First Intern Conf. on Distributed Computing Systems*, October 1979, Huntsville, Alabama, pp. 536–543.
53. B. P. Buckles "Formal Module Level Specifications," *Proc. ACM '77*, October 1977, Seattle, pp. 138–144.
54. B. P. Buckles and G. C. Hintze, "Levels of Abstraction and Compilers," *Proc. ACM '76*, October 1976, Houston, pp. 419–429.

#### **International and National Papers and Presentations:**

1. Javaria Ahmad, Prakash Duraisamy, and Bill Buckles, "Movie success prediction using data mining," *Int. Conf. on Computers, Communication, and Network Technology*, New Delhi, India, July 2017 (4 pages).
2. Prakash Duraisamy, Amr Yousef, Bill Buckles, Steve Jackson, "Image Registration under Symmetric Conditions - Novel Approach", *SPIE Defense, Security and Sensing*, Baltimore, Maryland, USA, April 2015, Proc. of SPIE. Vol. 9477-19
3. Kamesh Namuduri, Murali Varanasi, and Bill P. Buckles, "A link between consensus building and low-density parity check decoding," *Conference on Information Sciences and Systems*, Baltimore MD, March 18-20, 2015 (5 pages).
4. Yassine Belkhouche, Bill Buckles, Prakash Duraisamy, Mohammed S Alam, "Graph-based Filtering of Urban LiDAR Data," *SPIE Symp. on Defense, Security and Sensing*, Baltimore, Maryland USA, May 2014, Proc of SPIE Vol. 9094-18.

5. Prakash Duraisamy, Steve Jackson, Kamesh Namuduri, Bill Buckles, and Mohammed S. Alam, "Robust 3-D Reconstruction using LiDAR and  $n$ -Views of Visual Images," *SPIE Defense Security and Sensing* (SPIE vol. 8748), Baltimore MD, April 2013.
6. Prakash Duraisamy, Steve Jackson, Bill Buckles, and Mohammed S. Alam, "Image Registration under Poor Illumination using Calibrated Cameras," *SPIE Defense Security and Sensing* (SPIE vol. 8748), Baltimore MD, April 2013.
7. Yassine Belkhouche, Bill Buckles, Prakash Duraisamy, and Kamesh Namuduri, "Registration of 3D LiDAR Data with Visual Imagery using Shape Matching," *Int. Conf. on Image Processing, Computer Vision, and Pattern Recognition*, Las Vegas, July 2012, pp. 749-754.
8. Shijun Tang, Bill Buckles, and Kamesh Namuduri, "3D Reconstruction of Subthalamic Nuclei from MRI," *Int. Conf. on Image Processing, Computer Vision, and Pattern Recognition*, Las Vegas, July 2012, pp. 24-28.
9. Shijun Tang, Bill Buckles, and Kamesh Namuduri, "3D Surface Reconstruction of the Brain based on Level Set Method," *Int. Conf. on Image Processing, Computer Vision, and Pattern Recognition*, Las Vegas, July 2012, pp. 64-68.
10. Prakash Duraisamy, Yassine Belkhouche, Ye Yu, Steve Jackson, Kamesh Namuduri, and Bill Buckles, "Low-complexity Registration of Visual Imagery with 3D LiDAR," *IEEE Int. Conf. on Computing Communication and Networking Technologies (ICCCNT)*, Coimbatore, India, July 2012.
11. Prakash Duraisamy, Yassine Belkhouche, Steve Jackson, Kamesh Namuduri, and Bill Buckles, "Detection of Image Transformation for Reduced Error in 2-D Reconstruction," *Intern. Conf. on Electronics & Vision*, Bangladesh, May 2012, pp. 367-371.
12. Yiwen Wan, Prakash Duraisamy, Mohammed S. Alam, and Bill Buckles, "Global Constrained Hidden Markov Model applied to Wireless Capsule Endoscopy Video Segmentation," *SPIE Defense, Security, and Sensing Conf. (SPIE Vol. 8394)*, Baltimore, Maryland, April 2012.
13. Prakash Duraisamy, Yassine Belkhouche, Steve Jackson, Kamesh Namuduri, and Bill Buckles, "Color-based Features for Registering Image Time Series," *SPIE Defense, Security, and Sensing Conf. (SPIE Vol. 8394)*, Baltimore, Maryland, April 2012.
14. Ye Yu, Xiaoping Liu, and Bill P. Buckles, "A Residential Building Reconstruction Method and its Evaluation," *Int. Conf. on Computer-aided Design and Computer Graphics (CAD/Graphics)*, Jinan China, Sept. 2011, pp. 489-493.
15. Prakash Duraisamy, Yassine Belkhouche, Steve Jackson, Kamesh Namuduri, and Bill Buckles, "Estimation of Camera Matrix using LiDAR Images," *SPIE Optical Engineering and Applications SPIE Vol. 8135*, San Diego USA, August 2011.
16. Prakash Duraisamy, Yassine Belkhouche, Stephen Jackson, Kamesh Namuduri, and Bill Buckles, "2D-3D Registration using Intensity Gradients," *Signal and Data Processing of Small Targets (SPIE Vol. 8137)*, San Diego CA, August 2011, 6 pages.

17. Prakash Duraisamy, Ye Yu, Steve Jackson, Kamesh Namuduri, and Bill Buckles, "Map Updation using Image Registration for Different Sensors by Camera Calibration," *IEEE Intern. Conf. on Wireless Communication and Signal Processing (WCSP)*, Nanjing China, Nov. 2011, ISBN: 978-1-4577-1008-7/11.
18. Prakash Duraisamy, Ye Yu, Steve Jackson, Kamesh Namuduri, and Bill Buckles, "A Comparison of Image Registration Techniques for Joining Sequential Images," *IEEE Intern. Conf. on Wireless Communication and Signal Processing (WCSP)*, Nanjing China, Nov. 2011, ISBN: 978-1-4577-1008-7/11.
19. Guangchun Cheng, Wasana Santiteerakul, Yiwen Wan, and Bill P. Buckles, "Characterizing Video-based Activity Using a 3D Structure Tensor," *Intern. Conf. on Image Processing, Computer Vision, and Pattern Recognition*, Las Vegas, July 2011.
20. Shijun Tang, Pinliang Dong, and B. P. Buckles, "Comparison of two classification methods for feature extraction from LiDAR data in urban areas," *Intern. Conf. on Image Processing, Computer Vision, and Pattern Recognition*, Las Vegas, July 2010.
21. Wengang Feng, B. P. Buckles, and Jun Gao, "Fusion of Color Spaces for Vehicle Shadow Segmentation in Intelligent Transportation Systems Based on Object Knowledge," *Intern. Conf. on Image Processing, Computer Vision, and Pattern Recognition*, Las Vegas, July 2010.
22. Wengang Feng, B. P. Buckles, Jun Gao, and Yan Huang, "A Parallel, Hierarchical Scene Classification Framework," *IASTED Intern. Conf. on Signal and Image Processing*, Maui Hawaii, August 2010, pp. 43–48.
23. B. P. Buckles, "Autonomous Video Monitoring: A Vision of the Future for Intelligent Transportation Systems," *Intern. Conf. on Computers, Communications, and Network Technology*, Kurur, India, August 2010, presentation only.
24. Wengang Feng, B. P. Buckles, and Jun Gao, "Probabilistic-based Graphical Models and their Applications in Image Understanding," *Intern. Conf. on Computers, Communications, and Network Technology*, Kurur, India, August 2010.
25. X. Zhu, Y. Yu, X. Yuan, B. Buckles, and X. Liu, "The Extraction of Urban Roads Based On Aerial Images and LiDAR Point-Cloud," *Annual Conference of the Computer Application Federation of China Instrument and Control Society*, Hefei, China, July 15-20, 2008.
26. X. Liu, S. Ling, Y. Yu, X. Yuan, and B. Buckles, "A Parallel Model Simplification Algorithm for LOD-based Large-scale Terrain Real-time Rendering," *Annual Conference of the Computer Application Federation of China Instrument and Control Society*, Hefei, China, July 15-20, 2008.
27. X. Liu, Y. Yu, G. Zhang, X. Zhu, S. Ling, X. Yuan, and B. Buckles, "The Assisting Flood Disaster Assessment Method Based on LiDAR Data," *Annual Conference of the Computer Application Federation of China Instrument and Control Society*, Hefei, China, July 15-20, 2008.
28. Jianguo Liu, Xiaohui Yuan, and Bill P. Buckles, "Breast Cancer diagnosis using level-set statistics and support vector machines," *IEEE Intern. Conf. on Engineering in Medicine and Biology*, Vancouver, August 2008, pp. 3034–3047.

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30. M. Yassine Belkhouche, Bill P. Buckles, Xiaohui Yuan, and Laura Steinberg, "A Preprocessing Method for Automatic Breaklines Detection," *IEEE International Geoscience & Remote Sensing Symposium*, Boston, July 5-10, 2008, pp. II-253-II-256.
31. Xiaohui Yuan, Liangmei Hu, Bill P. Buckles, Laura Steinberg, and Vaibhav Sarma, "An Adaptive Method for the Construction of Digital Terrain Models from LiDAR Data," *IEEE International Geoscience & Remote Sensing Symposium*, Boston, July 5-10, 2008, pp. II-828-II-830.
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33. Xiaohui Yuan, Zhaoshan Yuan, and Bill P. Buckles, "A Computational Vision Approach to Improve Fusion Performance," *Proc. 2nd Intern. Conf. on Image and Graphics*, Hefei, China, Aug. 2002, pp. 505-512.
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36. B. P. Buckles, Arturo Hernández-Aguirre, Carlos Coello-Coello, "Circuit Design Using Genetic Programming: An Illustrative Study," *Proc. 10th NASA Symposium on VLSI Design*, Albuquerque NM, March 2002, pp. 4.1-1-4.1-10.
37. Arturo Hernández-Aguirre, B. P. Buckles, and Carlos Coello-Coello, "Gate-level Synthesis of Boolean Functions using Binary Multiplexors and Genetic Programming," *Proc. Congress on Evolutionary Computation*, Las Vegas, NV, July 2000, pp. 675-682.
38. I. Gokcen, I. H. Pineda, X. Yuan, C. Koutsougeras, and B. P. Buckles, "Image Segmentation Using Ant Colony System," *Proc. Genetic and Evolutionary Computation Conf. (GECCO)*, Las Vegas, Nevada, July 2000.
39. A. Hernández Aguirre, C. Koutsougeras, and B. P. Buckles, "On Model Selection in SLT and Linear Basis Neural Networks," *Proc. Intern. Joint Conf. on Neural Networks*, Washington, D.C., July 1999.
40. Rocio Alba-Flores, C. Koutsougeras, B. P. Buckles, and S. Amer, "Content-based Search Prototype for Image Databases," *Third IEEE Meta-Data Conference*, Bethesda, Maryland, April 1999 (poster session).
41. B. P. Buckles, Cris Koutsougeras, Saud Amer, Jer-Yee Chuang, and Xiao Yuan, "Image Decomposition Using Evolutionary Strategies," *Proc. JCIS'98, Vol. II, Second Intern. Workshop on Evolutionary Algorithms*, Research Triangle Park, NC, 1998, pp. 395-398.

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45. B. Buckles, F. Petry and D. Prabhu, "Feature Labeling Using Genetic Algorithms," *Proc. of FLAIRS*, Pensacola FL, 1994, pp. 324–329.
46. D. H. Kraft, B. P. Buckles, F. E. Petry, and D. Prabhu, "Genetic Algorithms for Optimal Fuzzy Boolean Information Retrieval," *TIMS/ORSA Joint National Meeting*, Boston, MA, April 1994.
47. D. H. Kraft, F. E. Petry, B. P. Buckles, and D. Prabhu, "Fuzzy Information Retrieval Using Genetic Algorithms and Relevance Feedback," *Proc. American Society for Information Systems Annual Meeting*, Columbus, Ohio, October, 1993.
48. D. H. Kraft, B. P. Buckles, F. E. Petry, and D. Prabhu, "Genetic Algorithms with Relevance Feedback for Improved Performance in Fuzzy Information Retrieval," *Proc. IFSA Congress*, Seoul, Korea, July 1993.
49. R. George, F. E. Petry and B. P. Buckles, "Behavioral Characterization of the Fuzzy Object-Oriented Data Model," *Proc. IEEE Systems, Man and Cybernetics Conference*, Chicago, October 1992.
50. R. George, B. P. Buckles, F. E. Petry and A. Yazici, "Uncertainty Modeling in Object-Oriented Geographical Information Systems," *Proc. Intern. Conf. on Database and Expert System Applications*, Seville, Spain, September, 1992, 77–86.
51. F. E. Petry, B. P. Buckles, A. Yazici and R. George, "Fuzzy Information Systems," *Proc. IEEE Intern. Conf. on Fuzzy Systems*, (plenary session), March 1992, San Diego, pp. 1187–1200.
52. A. Yazici, B. P. Buckles, and F. E. Petry, "A Semantic Data Model Approach to Knowledge-Intensive Applications," *Proc. Florida AI Research Symposium*, Ft. Lauderdale, FL, April 1992.
53. A. Yazici, B. P. Buckles and F. E. Petry, "Database Architecture for Knowledge Intensive Applications," *Proc. Intern. Symp. on Computer and Information Sciences*, November 1991, Antalya, Turkey, pp. 211–219.
54. B. P. Buckles, R. George and F. E. Petry, "Towards a Fuzzy Object-Oriented Data Model," *Proc. of NAFIPS '91*, May 1991, Columbia, Missouri, pp. 73–77.
55. B. P. Buckles, M. Lybanon, J. Mader and F. E. Petry, "Evaluation and Experimental Tuning of an Oceanographic Expert System," *Ann. Meeting of Amer. Soc. of Liminology and Oceanography*, June 1991, Halifax, Nova Scotia.
56. Roy George, B. P. Buckles, and F. E. Petry, "Integrating Artificial Intelligence and Database Systems: Where Do We Manage Uncertainty," *Proc. ICJAI'91 Workshop on Integrating AI and DBMS*, August 1991, pp. 117–129.

57. B. P. Buckles, F. E. Petry, and R.A. Kuester, "Schema Survival Rates and Heuristic Search in Genetic Algorithms," *Proc. Tools for AI Conference*, November, 1990, Washington, DC, pp. 322–327.
58. B. P. Buckles and F. E. Petry, "Ocean Feature Labeling Using GA/F3," *Proc. NAFIPS '90*, Toronto, 1990 pp. 394–397.
59. Roy George, Adnan Yazici, and B. P. Buckles, "Preserving Data Semantics: A Semantic Data Model Approach Utilizing NF<sup>2</sup> Relations," *Proc. Intern. Symposium on Computer and Information Sciences*, Capadocia, Turkey, Oct. 1990, pp. 47–53.
60. Adnan Yazici, B. P. Buckles, and F. E. Petry, "A New Approach for Conceptual and Logical Design of Databases," *Proc. Intern. Symposium on Computer and Information Sciences*, Capodocia, Turkey, Oct. 1990, pp. 314–324.
61. K. C. Messa, B. P. Buckles, F. E. Petry and M. Lybanon, "Labeling Satellite Images of the Gulf Stream Using Genetic Algorithms," *Ocean Sciences Meeting*, New Orleans, February 1990. Poster Session.
62. B. P. Buckles and F. E. Petry, "Mappings of Uncertain Data Between Expert Systems and Databases," *Proc. of 3rd IFSA Congress*, August 1989, pp. 583–586.
63. C. A. Ankenbrandt, B. P. Buckles, F. E. Petry and M. Lybanon, "Ocean Feature Recognition Using Genetic Algorithms With Fuzzy Fitness Functions (GA/F3)," *Proc. SOAR '89*, July 1989, Houston, pp. 679–685.
64. B. P. Buckles, F. E. Petry and J. Pillai, "Uncertainty Models of Network Databases," *Proc. of NAFIPS '88*, June 1988, San Francisco, pp. 9–12.
65. B. P. Buckles, F. E. Petry and Y.Y. Cheung, "Automatic Translation of Heuristically Interpreted Query Languages," *Proc. of 2nd IFSA Congress*, July 1987, Tokyo, Japan, pp. 589–592.
66. B. P. Buckles, F. E. Petry and H. Sachar, "Design Concepts for Similarity-based Relational Databases," *Intern. Conf. on Information Processing and Management of Uncertainty in Knowledge-based Systems*, July 1986, Paris, France.
67. B. P. Buckles, F. E. Petry and H. Sachar, "Retrieval and Design Concepts for Similarity-based (Fuzzy) Relational Databases," *ROBEXS '86 Proceedings*, June 1986, Houston, Texas, pp. 335–343.
68. B. P. Buckles, F. E. Petry and H. Sachar, "Functional Dependencies in Fuzzy Databases," *First IFSA Congress*, July 1985, Palma de Mallorca, Spain.
69. B. P. Buckles and F. E. Petry, "Data Models and Retrieval Techniques for Fuzzy Information," *First Intern. Conf. on Fuzzy Information Processing*, July 1984, Kauai, Hawaii and First Sino-American Symp. on Fuzzy Set Applications, July 1984, Beijing.
70. B. P. Buckles and F. E. Petry, "Extension of Fuzzy Databases With Fuzzy Arithmetic," *NAFIP-II Workshop*, June 1983, Schenectady, NY.
71. B. P. Buckles, "An Information Retrieval Perspective on Fuzzy Relational Databases," *Proc. ACM '82* (Panel member), October 1982, Dallas, p 186.

72. B. P. Buckles and F. E. Petry, "Security and Fuzzy Databases," *Proc. IEEE Intern. Conf. on Cybernetics and Society*, October 1982, Seattle, pp. 622–624.
73. B. P. Buckles and F. E. Petry, "Fuzzy Databases," *NAFIP-I Workshop*, May 1982, Logan, Utah.
74. J. E. Scaf, C. R. Vick and B. P. Buckles, "Report on the First Intern. Conf. on Distributed Computing: Microprocessor Trends," *Proc. Ann. Workshop on Microprocessors in Military and Industrial Systems*, February 1980, Laurel, MD, pp. 101–114.
75. H. D. Fitzgibbon, B. P. Buckles and J. E. Scaf, "Distributed Data Processing Design Evaluation Through Emulation," *Proc. COMPSAC '78*, November 1978, Chicago, pp. 364–369.
76. B. P. Buckles, M.R. Paige, J. P. Ryan and C.G. Davis, "Computer Program Development Analysis," *Proc. 11-th Intern. Symp. on System Sciences*, February 1978, Honolulu.
77. B. P. Buckles, "Parametric Models of Concurrent Communications in Highly Distributed Systems," *Report of Workshop on Interprocesses Communication in Highly Distributed Systems*, (Ga. Tech) September, 1978, pp. 87–90.
78. B. P. Buckles and J. P. Ryan, "Higher Level Verification," *Proc. Summer Computer Simulation Conf.*, December 1977, Chicago, pp. 735–739.

#### Reviews:

1. "Fundamental Solutions of the 8 Queens Problem," R. Topor *BIT* **22**, 1 1982 (in *ACM Computing Reviews*).
2. "Third Intern. Conf. on Distributed Computing Systems Review," (in *IEEE Communications Magazine*).
3. "Conference Report: First Intern. Conf. on Distributed Computing Systems," (in *IEEE Computer*).
4. "Parametric Combinatorial Computing and a Problem of Program Module Distribution," D. Gusfield *J. ACM* **30**, 3, 1983 (in *ACM Computing Reviews*).
5. "An  $O(n \log m)$  Algorithm for the Josephus Problem," E.L. Lloyd *J. of Algorithms* **4**, 1983 (in *ACM Computing Reviews*).
6. "Pushdown Permuter Characterization Theorem," P. Ramanan *SIAM J. Comput.* **13**, 1, 1984 (in *ACM Computing Reviews*).
7. "Optimal Speeding Up of Parallel Algorithms Based Upon the Divide-and-Conquer Strategy," C.Y. Yang and R.C.T. Lee, *Information Sciences* **32**, 1984 (in *ACM Computing Reviews*).
8. "An Application of Cohen's Result on Star Height to the Theory of Control Structures," T. Motoki, *J. of Computer and System Sciences* **29**, 1984 (in *ACM Computing Reviews*).
9. *Searching With Probabilities*, A. J. Palay, Pitman, Boston, 1985 (in *ACM Computing Reviews*).
10. "Parallel Generation of Permutations and Combinations," G.H. Chen and M.S. Chern, *BIT* **26**, 1986 (in *ACM Computing Reviews*).



### **Short Courses and Tutorials:**

1. "Airborne LiDAR," Full day tutorial, Intern. Conf. on Computers, Communications, and Network Technology, Kurur India, July 31, 2010.
2. "Planning for and Responding to Emergencies - Who Needs to Know What?," One-half day tutorial, Annual Intern. Conf. on Digital Government Research, Montreal, Canada, May 18, 2008.
3. "Applications of Computational Intelligence to Electric Power Systems," One and one-half day tutorial, (to employees of) Entergy Corp., New Orleans, LA, July 29-30, 2002.
4. "Data Mining over Image Databases," One-half day tutorial, Artificial Neural Networks in Engineering (ANNIE 2000), St. Louis, MO, Nov. 5, 2000.
5. "Introduction to Data Mining: Concepts, Practices, and Research," One-half day short course, AeroSense: SPIE Symp. on Defense Sensing, Simulation, and Controls, Orlando FL, April 26, 2000. (Also at AeroSense in April 2001)
6. "Formal Methods for the Specification and Analysis of Concurrent Processes," Full day tutorial, Intern. Conf. on Parallel Processing, Chicago, IL, August 16, 1993.
7. "Software Design and Reliability," (10 lectures), National Central University, Chung-Li, Taiwan, R.O.C., August 1983.
8. "Mathematical Methods in Systems Design," IEEE Mini-tutorial, Miami, October 1982.

### **FUNDED RESEARCH**

1. Principal Investigator – Study of AI Techniques for Avionic Fault Interpretation – General Dynamics Corporation – October 1983 – September 1984. (\$22,405)
2. Co-Investigator – Reliability Modeling of Dataflow and Demand Driven Computer Systems – NASA/Ames – December 1983 – February 1985. (\$32,000)
3. Principal Investigator – Development of Retrieval Principles and Languages for Fuzzy Databases – National Science Foundation – June 1984 – May 1986. (\$53,283)
4. Principal Investigator – Group Travel to Sino – American Conference on Fuzzy Sets – National Science Foundation – June 1984 – December 1984. (\$20,500)
5. Co-Investigator – Applications of Artificial Intelligence to Helicopter Programs – Bell Helicopter Textron – October 1984 – August 1985. (\$42,879)
6. Principal Investigator – General Principles for High Level Query Languages – Louisiana Board of Regents Education Quality Support Fund – June 1988 – June 1990. (\$112,107)
7. Principal Investigator – Parallel System Evaluation Methods – National Science Foundation – June 1989 – May 1990. (\$34,911)
8. Co-Investigator – Strengthening the Intelligent Machines Research Cluster – July 1990 – June 1993. (\$25,000 Tulane share)

9. Principal Investigator – Labeling and Tracking of Oceanic Features from Remotely-sensed Images – Naval Oceanographic Research and Development Activity – February 1989 – June 1992. (\$134,373)
10. Principal Investigator – Cloud Parameter Optimization – National Institute for Global Environmental Change – July 1992 – August 1992. (\$12,150)
11. Principal Investigator – Genetic Algorithms for Poorly Structured Problems – Deutscher Akademischer Austausch Dienst – Sept. 1993 – Nov. 1993. (DM6,600)
12. Principal Investigator – Cloud Identification Using Genetic Algorithms and Massively Parallel Computation – NASA – January 1993 – December 1995. (\$90,000)
13. Co-Investigator – Content Based Search Prototype – Hughes Information Technology Systems – March 1997 – June 1998. (\$99,645)
14. Principal Investigator – Processing Optical Information Using Neural Nets and Evolutionary Computation – DoD EPSCoR/BMDO – March 1998 – March 2001. (\$389,037)
15. Co-Investigator – Advanced Methods for Storage and Retrieval in Image Databases – NASA Goddard Space Flight Center – June 1999 – May 2000. (\$100,000)
16. Principal Investigator – Remote Sensing of Forest Canopy Chemistry (Feasibility Study) – NIGEC/South Central Region – July 1999 – June 2000. (\$14,000)
17. Principal Investigator – Intergovernmental Personnel Act (IPA) Agreement: Neural Nets and Evolutionary Computation – NASA/Ames – May 1999 – August 2000. (\$70,112)
18. Principal Investigator – Gene Expression Workbench: A Web-based Toolkit – NASA/Ames via a subcontract from Institute for Human and Machine Cognition – Feb. 2001 – Oct. 2001. (\$78,556)
19. Principal Investigator – Multi-domain Network Learning Algorithms for Latent Variable Interpretation and Discovering Genetic Regulation – NASA/Ames via a subcontract from Institute for Human and Machine Cognition – Oct. 2001 – Sept. 2002. (\$83,627)
20. Principal Investigator – Advanced Research in Ballistic Missile Defense – Missile Defense Agency – Oct. 2001-Sept. 2005 – \$2.46M.
21. Principal Investigator – The Urban Data Warehousing/Data Mining (DW/DM) Component for ITS: Statewide Planning Phase – Louisiana Transportation Research Center – Sept. 2003-Sept. 2005 – \$170,000.
22. Principal Investigator – Communication Routing for Distributed Mobile Sensors – Army Research Lab (via subcontract with IHMC) – June 2004-August 2004 – \$8,099
23. Principal Investigator – SGER: A New Tool for Economic and Environmental Planning - Expanding the Boundaries of LiDAR – NSF (award #0722106) – July 2007-December 2008 – \$75,000
24. Principal Investigator – SGER: US/China Digital Government Collaboration: A New Tool for Economic and Environmental Planning - Expanding the Boundaries of LiDAR – NSF (award #0737861) – Sept. 2007-February 2008 – \$49,808

25. Co-Investigator – Computer-aided Diagnosis for Gastrointestinal Bleeding using Wireless Capsule Endoscopy – Texas Advanced Research Program (TARP award #003594-0020-2007) – July 2008-June 2010 – \$112,944
26. Co-Investigator – Low Cost Wireless Network Camera Sensors for Data Collection and Traffic Monitoring – Texas Department of Transportation (TxDOT award #0-6432) – Sept. 2009-August 2011 – \$138,178
27. Principal Investigator – Adding Value to Sparse LiDAR Elevation Data – (Texas) Norman Hackerman Advanced Research Program (NHARP #003594-0016-2009) – July 2010-June 2012 – \$150,000

## HONORS

Fulbright Scholar, Guanajuato Mexico (2006)  
 Best Paper Award, European Workshop on Evolutionary Computing in Image Analysis and Signal Processing (2000)  
 Departmental Faculty Contribution Award (1998)  
 Golden Core Member, Computer Society of the IEEE (charter group, 1997)  
 Departmental Teaching Award (1983, 1993, 1999, and 2000)  
 NASA Technical Innovation Awards (1980 and 1982, cash awards)  
 IEEE Outstanding Branch Counselor/Advisor Award (1986, cash award)  
 University Outstanding Research Contribution Award (1987, cash award)  
 Pi Mu Epsilon, Mathematics Honor Society  
 Sigma Xi, Research Honor Society

## PROFESSIONAL ACTIVITIES AND SERVICE

IEEE (senior member)  
 Computer Society of the IEEE  
 Intelligent Transportation Society of the IEEE  
 Association of Computing Machinery (ACM)  
 SIGSPATIAL (ACM)

### Positions:

Editor, special issue of *Visualization in Action*, 2017  
 General Chair, *Int. Conf. on Computers, Communications, and Network Technology*, 2016  
 General Chair, *IEEE Int. Conf. on Computers, Communications, and Network Technology*, 2015  
 Local Arrangements Chair, *ACM SIGSPATIAL GIS*, 2014  
 Tech Committee Co-chair, *Int. Conf. on Computers, Communications, and Network Technologies*, 2013 and 2014.  
 Vice Chair, IEEE Computer Society Awards Committee, 1999-2003  
 Workshop Chair, IEEE Conference on Evolutionary Computation (CEC), 2001  
 General Chair, IEEE Intern. Conf. on Distributed Computing Systems, 1999.  
 Editor, special issue of *IEEE Trans. on Computers*, June 1997  
 Program Co-Chair, IEEE Intern. Conf. on Distributed Computing Systems, 1996.  
 Local Arrangements Chair, IEEE Intern. Conf. on Data Engineering, 1996.  
 ACM Lectureship Program Spreader, 1993-1996.  
 IEEE Computer Society Distinguished Visitor, 1991-1993.  
 Chair, IEEE Technical Committee on Distributed Processing, 1991-1993.  
 Editorial Board, *IEEE Trans. on Parallel and Distributed Systems*, 1990-1994.

IEEE Computer Society Technical Committee on Distributed Processing  
Newsletter Editor, 1979–1984.  
Organizer and steering committee member, First IEEE Intern. Conf. on Distributed  
Computing Systems, 1979.  
Publicity Chairman, Third and Fourth Intern. IEEE Conf. on Distributed Computing  
Systems, 1983 and 1984  
Tutorial Chairman, Eleventh IEEE Intern. Conf. on Distributed Computing Systems, 1991  
Treasurer, North American Fuzzy Information Processing Society (NAFIPS), 1985–1987.  
IEEE Computer Society Tutorials Committee, 1985–1986.  
Editor, special issue of *Fuzzy Sets and Systems*, Nov. 1990

**Referee:**

*Pattern Recognition Letters*;  
*IEEE Trans. on Software Engineering; Systems, Man and Cybernetics; Computers;*  
*Knowledge and Data Engineering*  
*Intern. J. Man-Machine Studies; Fuzzy Sets and Systems Intelligent Systems*  
*J. American Society of Information Science*  
*Int. J. of Smart Engineering System Design*  
*Knowledge and Information Systems: An Intern. J.*  
Various national conferences

**Reviewer:**

*ACM Computing Reviews*  
John Wiley and Sons  
National Science Foundation  
U.S. Army Research Office

**UNIVERSITY ACTIVITIES AND SERVICE**

**M.S. Theses Supervised:**

Object Recognition using Scale Invariant Chordigram  
– Ashwini Tonge, November 2016.  
Classifying Pairwise Object Interactions: A Trajectory Analytics Approach  
– Siamak Jonmohammadi 2015.  
Segwork – An Image Segmentation Framework and Image  
Processing Toolbox Expansion Pack for use with Matlab  
– George Mauer, December 2006.  
An Exploration of Separability Criterion for Oblique Decision Tree Induction  
– Kun Zhang, July 2003.  
A Duality Problem in Support Vector Machines (SVMs)  
and DNA Sequence Classification SVMs  
– Zujia Xu, June 2003.  
Application of Evolutionary Strategies for Multi-scale  
Feature Identification  
– Xiaojing Yuan, March 2002  
Unsupervised Texture Segmentation for Satellite Images

- Si Li, Nov. 1999.
- Self Organizing Map as a Clustering Tool in Monitoring  
Deterioration of Three-Phase Induction Motors
  - Raul Saavedra, May 1999
- Wavelet-based Image Similarity Analysis
  - Glen Qiu, May 1999
- Searching for Images using Statistical Metadata
  - Tony Hieu Ngoc Mai, 1998.
- Supporting Fuzzy Logic Selection Predicates on a High Throughput Database System
  - Robert Fleishmann (MIT), 1992.
- A Generalization of the Fitness Function and Crossover Operation Used in Genetic Algorithms
  - K. C. Messa, 1990.
- Windowing Functions as an Interface Scheme Between an Expert System and Database
  - J. P. Buckley, 1990.
- Automatic Translation of Heuristically Interpreted Query Languages
  - Y. Y. Cheung, 1986.
- A Formal System for Data Specification and Queries
  - W. Wilson, 1983.

**Dissertations Supervised:**

- Trajectories as a Unifying Cross Domain Feature for Surveillance Systems
  - Yiwen Wan, spring 2015
- Video Analytics with Spatiotemporal Characteristics of Activities
  - Guangchun Cheng, spring 2015
- Segmentation, Recognition and 3D Reconstruction of Objects Based on LiDAR Data or MRI
  - Shijun Tang, spring 2015
- Trajectory Analytics
  - Wasana Santiteerakul, fall 2014
- Multi-perspective, Multi-modal Image Registration and Fusion
  - Mohammed Yassine Belkhouche, Summer 2012
- 3D Reconstruction Using LiDAR and Visual Images
  - Prakash Duraisamy, 2012
- Probability Estimation Trees: Empirical Comparison, Algorithm Extension and Applications
  - Kun Zhang, Summer 2006
- Distributed Resource Coordination Strategies for Mobile Ad-hoc Networks
  - Marco Carvalho, Spring 2006
- Search Space Reduction Methods for Active Learning
  - Ibrahim Gokcen, Spring 2004
- Adaptive Image Fusion Using Noninformative Prior
  - Xiaohui Yuan, Spring 2004
- Convergence Criteria for Evolutionary Algorithms Using Fitness Landscape Features
  - Jian Zhang, Spring 2004
- Image Correspondence Feature Sets Using Principal Components
  - Ivo Pineda, Spring 2002
- Sample Complexity and Generalization in Feedforward Neural Networks
  - Arturo Hernández Aguirre, Fall 1999

Supporting Array Types in Object-Oriented Databases  
 – Antonio Martinez Alcantara, Spring 1998

A Study in Massively Parallel Genetic Algorithms with Application to Image Processing  
 – Devaraya Prabhu, 1996.

A Fuzzy Database Approach to Handling Structured Textual Input with Uncertainty  
 – James P. Buckley, 1994.

An Object Oriented Database Model for Deductive Querying  
 – Lon A. Smith, 1993

Integrating Advanced Data Models for Large Knowledge-based Applications  
 – Adnan Yazici, 1991

Uncertainty Management in Object-Oriented Databases  
 – Roy George, 1991

Time Complexity of Genetic Algorithms and Theory of Recombination Operators  
 – Carolyn A. Ankenbrandt, 1990

Theoretical Aspects of Design and Retrieval from Similarity-based Relational Database Systems  
 – Harvinder S. Sachar, 1986.

**Committees:**

College of Engineering Personnel Affairs Committee (Chair: 2013-2014, 2016-2017)

Graduate Advisor and Associate Chair (2011-2014 at UNT)

CSE Chair Search Committee (2009-2010, Chair: 2010-2011)

Graduate Advisor (1986–1987 at UTA)

ACM/IEEE-CS Student Chapter Advisor at UTA (1982–1987)

Tulane Educational Resource Center Advisory Board (1989)

ACM Student Chapter Advisor (1988–1993)

Tulane Select Committee on Conflict of Interest (1991)

School of Engineering Strategic Planning Committee (1996)

Dean’s Performance Review Committee (1996)

School of Engineering Tenure and Promotion (1990–92, 1994–96, 1998–1999, 2004-05)

Tulane Senate Standing Committee on Computing (1994–1996)

School of Engineering’s Engineering Science Committee (1996–present)

Undergraduate Advisor (1997–present)

Search Committee Chair, Yahoo! Founder’s Chair (1997–1998)

Dean Search Committe: School of Engineering (1998–1999)

Assistant Dean Search Committee: School of Engineering (2001)

Department Chair Search Committee - Chair (2011-2012)

College of Engineering Personnel Affairs Committee - Chair (2012-2014)

**LANGUAGES**

German (well enough for lecturing)  
 Spanish (under ideal conditions)