

Curriculum Vitae Aidong Zhang

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Education

- 1994: Ph.D., Computer Science, Purdue University, West Lafayette, Indiana
Advisor: Bharat Bhargava
- 1989: M.S., Computer Science, University of Kentucky, Lexington, Kentucky

Employment History

- 2009–present: Department chair, Department of Computer Science and Engineering, State University of New York at Buffalo, New York.
- 2002–present: Professor, Department of Computer Science and Engineering, State University of New York at Buffalo, New York.
- 1999–2002: Associate Professor, Department of Computer Science and Engineering, State University of New York at Buffalo, New York.
- 1994–1999: Assistant Professor, Department of Computer Science and Engineering, State University of New York at Buffalo, New York.

Research Interests

Data mining, Bioinformatics, Content-based Image Retrieval, Multimedia Systems, Database Systems.

Awards/Honors

- Member of SUNY (State University of New York) Research Council (an advisory body to the SUNY Board of Trustees, the Research Foundation Board of Directors, the SUNY Provost and Campus Presidents).
- 2010 Inventor of the year, Niagara Frontier Intellectual Property Law Association (NFIPLA), 2010.
- Association of Computing Machinery, Recognition of Service Award, 2010.

- IEEE Fellow.
- Best Teacher Award, Department of Computer Science and Engineering, 2004.
- Exceptional Scholar Achievement Award, University at Buffalo, 2003.
- SUNY Chancellor's Research Recognition Award, 2002.
- NSF CAREER Award, 1998-2002.
- Association of Computing Machinery, Recognition of Service Award, 2001.
- Top 100 Innovators of Upstate New York, Upstate Alliance for Innovation, 2001.
- Applications Paper Award, Runner-up, 2004. The tenth ACM SIGKDD conference, Seattle, WA. Paper title: Mining Coherent Gene Clusters from Three-Dimensional Microarray Data, by Daxin Jiang, Jian Pei, Murali Ramanathan, Chun Tang, and Aidong Zhang.

Inventions and Patents

- A. Zhang, G. Sheikholeslami and S. Chatterjee, WaveCluster: Wavelet-Based Clustering Method for Managing Spatial Data in Very Large Database, Patent number: 6,882,997, date issued: April 19, 2005.
- A. Zhang, M. Ramanathan, Y. Cho, and W. Hwang, Bridging Centrality: A Concept And Formula To Identify Bridging Nodes In Scale-Free Networks, U.S. Patent No. 7,808,291, date issued October 6, 2010.
- A. Zhang, M. Ramanathan, Y. Cho, and W. Hwang, Method for identifying drug targets in biological networks, provisional Patent Application.
- M. Ramanathan, A. Zhang, and P. Chanda, Method for assessing interactions in biological networks and hypergraphs, U.S. Serial No. 61/061,508 on June 13, 2008.

Professional Memberships

- IEEE Fellow
- Member of Association for Computing Machinery (ACM)
- Upsilon Pi Epsilon
- Buffalo Center of Excellence in Bioinformatics

Grant Support

6/15/11-5/31/12:	National Science Foundation 'III:Small: Women in Bioinformatics Initiative at ACM-BCB 2011' (PI: Wei Wang, co-PIs: Robert Grossman, Andrey Rzhetsky, Cathy Wu, Aidong Zhang)	\$22,500
8/15/10-7/31/13:	National Science Foundation 'III:Small: Overlapping Clustering Analysis of Biological Networks' (PI, co-PI: Michael Buck)	\$500,000
4/1/10-3/31/11:	National Science Foundation 'ACM-BCB: Conference on Bioinformatics and Computational Biology' (PI, co-PIs: Armin R. Mikler, Chaoyang (Joe) Zhang, Dong Xu, Gultekin Ozsoyoglu)	\$24,450
7/22/09-6/30/11:	National Institute of Health 'Integration of Clinical, Genomic and Proteomic Data using a Bioinformatic Approach' (co-PI, PI: Stanley Schwartz)	\$779,970
6/15/09-6/30/10:	UB 2020 Interdisciplinary Research Development Fund 'A Dynamic approach to strategic market segmentation: an application of data mining techniques' (co-PI, PI: Arun Jain)	\$26,000
5/1/03-4/30/10:	National Science Foundation 'Advanced Approaches for Integration and Analysis of Genomic Data' (PI, co-PIs: M. Trevisan, R. Zivadinov, B. Weinstock-Guttman, M. Ramanathan)	\$1,628,001
7/1/02-12/31/09:	National Science Foundation 'ITR: Enhancing Crystal Structure Determination through Data Mining, Collaborative Environments, and Grid Computing' (Co-PI, PI: R. Miller, other co-PIs: J. Anstey, C. Weeks H. Hauptman)	\$2,018,965
8/1/03-8/31/08:	National Institute of Health 'Computational Approaches to Disease Causes and Treatment' (PI, co-PIs: M. Trevisan, B. Jusko)	\$1,177,500
9/1/03-8/31/07:	National Science Foundation 'A Semantic Summarization Approach to Data Warehousing and Online Analytical Processing' (PI, co-PI: J. pei)	\$260,000
8/1/02-7/31/05:	National Science Foundation 'Evaluation Methodology for Image Testbed and Content-Based Retrieval' (PI)	\$170,000

9/1/01-2/29/08:	National Science Foundation (including UB matching) 'CISE Research Infrastructure–MultiStore: A Research Infrastructure for Management, Analysis and Visualization of Large-Scale Multi-dimensional Data Sets' (PI, co-PIs: R. Acharya, A. Garg, D. Mark, R. Miller)	\$1,591,961
9/1/03-8/31/04:	National Geospatial-Intelligence Agency (NGA, DOD Agency) 'Content Based Image Retrieval for Man-Made Objects' (co-PI, PI: Ling Bian)	\$49,989
9/1/01-8/31/04:	National Science Foundation 'Visual Design Steering As an Aid in Complex System Decision Making' (co-PI, PI: K. Lewis, other co-PIs: C. L. Bloebaum, A. Bisantz E. Winer)	\$330,000
6/15/01-10/31/05:	National Science Foundation 'Digital Government: Digitalization of Coastal Management and Decision Making Supported by Multi-dimensional Geospatial Information and Analysis' (co-PI, subcontract amount from Ohio State University: \$120,000 PI: R. Li, Ohio State University, Other co-PIs: K. Bedford, J.R. Ramirez, C.K. Shum, Ohio State University)	\$1,052,933
1/8/00-7/31/04:	National Science Foundation 'Digital Government: Very Large Scale Multidimensional Data Management and Retrieval for USGS and NIMA Imagery' (PI, co-PI: D. Mark)	\$500,000
8/15/00-7/31/04:	National Science Foundation 'International Digital Libraries: Metadata Model, Resource Discovery, and Querying on Large-scale Multidimensional Datasets' (PI, co-PI: D. Mark, R. Acharya)	\$400,000
4/1/02-3/31/04:	National Science Foundation 'U.S.-Japan Joint Seminar: International Digital Library Annotation and Resource Discovery of Geographical Image Data' (PI, co-PI: D. Mark, W. I. Grosky)	\$20,000
5/1/98-4/30/03:	National Science Foundation (including UB matching) 'CAREER: Consistent and Robust Retrieval, Transmission and Presentation of Multimedia Data' (PI)	\$234,129
1/1/99-12/31/01:	National Science Foundation (including UB matching) 'CISE Research Instrumentation: Experimental Infrastructure for Indexing, Retrieval, and Robust Presentation of Multimedia Data' (PI, co-PI: R. Srihari)	\$78,263
1/1/98-9/30/01:	National Imagery and Mapping Agency (NIMA, DOD Agency) 'A Multi-Resolution Geographical Data Retrieval System' co-PI with L. Bian (PI), Geography, SUNY-Buffalo	\$175,125

8/1/96-7/31/97:	National Science Foundation 'Planning Grant for Women Scientists: Developing Interactive Presentation Tools for Educational Digital Libraries' (PI)	\$18,000
1998-2007	National Science Foundation 'IGERT: Integrating Graduate Education and Research Training in Geographical Information Science' Faculty participant and Computer Science Representative in IGERT Steering Committee There are 18 faculty participants from seven departments at SUNY-Buffalo. PI: D. Mark (Geography)	\$2,215,436

Other Funding with Companies/University

2002-2004	Air Force (subcontract from Orincon company) 'Data Fusion Phase 2' co-PI with J. Llinas (PI), Industrial Engineering, SUNY-Buffalo	\$200,000
2001-2002	Air Force (subcontract from Orincon company) 'Data Fusion Phase 1' co-PI with J. Llinas (PI), Industrial Engineering, SUNY-Buffalo	\$33,000
2001-2003	Canadian Government 'Investigations on Prior Knowledge for Levels 2 and 3 Information Fusion' co-PI with J. Llinas (PI), Bruce Pitman (co-PI)	\$153,000
2001-2002	Calspan-University at Buffalo Research Center, Inc. (CUBRC) 'Data Mining/Data Fusion Asymmetric Threat' co-PI with J. Llinas (PI), Industrial Engineering, SUNY-Buffalo	\$57,411
2000-2001	Calspan-University at Buffalo Research Center, Inc. (CUBRC) 'Linking Dynamic Data Mining (DDM) and Data Fusion to Deal with the Asymmetric Threat' co-PI with J. Llinas (PI), Industrial Engineering, SUNY-Buffalo	\$30,000
2000-2001	SUNY-Buffalo - Office of the Provost 'Establishing a Gene Expression Data Testbed for Pharmaceutical Applications' (PI, co-PI: R. M. Straubinger, Department of Pharmaceutics)	\$20,000
1998-1999	SUNY-Buffalo - Office of the Provost 'Creating a Web-Based Image Database for Benchmarking Image' co-PI with C. Jorgensen (PI), D. Walters, R. Srihari	\$20,000
1997-1998	Xerox Foundation 'Content-based and Multimedia Database Design and Integration' with B. Jayaraman	\$20,000
1996-1999	National Center for Geographic Information and Analysis (seed fund) 'A Web-based Geographical Images Retrieval System' with L. Bian, Geography, SUNY-Buffalo	\$5,500

Publications

Books

- [1] A. Zhang, Protein Interaction Networks: Computational Analysis, Cambridge University Press, 2009.
- [2] A. Zhang, Advanced Analysis of Gene Expression Microarray Data, World Scientific Publishing Co., Inc. 2006.
- [3] A. Zhang, A. Silberschatz and S. Mehrotra: Continuous Media Databases, edited book, Kluwer Academic Publishers, 2000.

Edited Journal/Book Chapters

- [4] Y. Cho and A. Zhang, Functional Influence Based Approach to Identify Overlapping Modules in Biological Networks, in Link Mining: Models, Algorithms and Applications, book edited by Philip S. Yu, Christos Faloutsos, and Jiawei Han, Springer, 2010.
- [5] A. Zhang, L. Zhu, A. Aygun, G. Sheikholeslami, and Y. Song, Image Databases, in Handbook of Database Technology, book edited by Joachim Hammer and Markus Schneider, CRC press. (to appear)
- [6] P. Chanda and A. Zhang, Using Machine Learning Methods to Select SNPs in Disease Association Study, in Machine Learning in Bioinformatics, book edited by Yan-Qing Zhang and Jagath C. Rajapakse, John Wiley & Sons, 2008. (to appear)
- [7] C. Lin, Y. Cho, W. Hwang, P. Pei, A. Zhang, Clustering Methods in Protein-protein Interaction Networks, in Knowledge Discovery in Bioinformatics: Techniques, Methods and Application, book edited by Yi Pan and Tony Hu, John Wiley & Sons, 2007.
- [8] M. Ramanathan, L. Zhang, A. Zhang. VizStruct: A Multidimension Visualization Algorithm for Gene Expression, in Advanced Methods of Pharmacokinetic & Pharmacodynamic Systems Analysis Volume III, Kluwer Academic Press, Norwell, MA, 2004, pp. 197-207.
- [9] A. Zhang, Guest editor: Special Issue on Bioinformatics, *the International Journal on Distributed and Parallel Databases*, Vol. 13, No. 1, January, 2003.
- [10] C. Tang, L. Zhang, A. Zhang and M. Ramanathan, Interrelated Clustering: An Approach for Gene Expression Data Analysis, in Computational Biology and Genome Informatics, book edited by Cathy H. Wu, Paul Wang, and Jason T. L. Wang, World Scientific, 2003, pp. 183-206. (invited chapter)
- [11] Guest editor (with HongJiang Zhang): special issue on Content-based Image Retrieval, *ACM Multimedia Systems Journal*, Vol. 8, No. 6, 2002.
- [12] A. Zhang, Y. Song, and R. Aygun, Streaming Multimedia Presentations in Distributed Database Environments, book edited by Borko Furht and Oge Marques, CRC Press, 2003, pp. 807-830. (invited chapter)
- [13] A. Zhang, Y. Song, and R. Aygun, Feature-based Retrieval in Visual Database Systems, in Multimedia Information Retrieval and Management, book edited by D. Feng, W. C. Siu and H.J. Zhang, Springer, 2003, pp. 226-245. (invited chapter)

- [14] Y. Song and A. Zhang, SceneryAnalyzer: a System Supporting Semantics-based Image Retrieval, in *Intelligent Multimedia Documents*, book edited by Chabane Djeraba, Kluwer Academic Publishers, 2002, pp. 43-58. (invited chapter)
- [15] A. Zhang, L. Zhu and D. Mark *WebView*: A Globally Accessible Geographic Image Database Environment, in *Advances in Digital Government: Technology, Human Factors, and Policy*, book edited by Bill McIver and Ahmed Elmagarmid, Kluwer Academic Publishers, 2002, pp. 197-214. (invited chapter)
- [16] Contributing editor, Multimedia Database Systems Chapter in *Readings in Multimedia Computing*, book edited by Kevin Jeffay and HongJiang Zhang, Morgan Kaufmann Publishers, September 2001.
- [17] A. Zhang, Wendy Chang, G. Sheikholeslami, and T.F. Syeda-Mahmood, *NetView*: Integrating Large-Scale Distributed Visual Databases, in *Readings in Multimedia Computing*, edited by Kevin Jeffay and HongJiang Zhang, Morgan Kaufmann Publishers, September 2001, pp. 438-450.
- [18] Guest editor (with Avi Silberschatz and Sharad Mehrotra): special issue on Continuous-media Databases and Applications, *the International Journal on Multimedia Tools and Applications*, Vol. 11, No. 1, May 2000.
- [19] B. Bhargava, M. Annamalai, Shalab Goel, S. Li, E. Pitoura, A. Zhang, and Y. Zhang, DL-Raid: An Environment for Supporting Digital Library Services, in *Issues in Digital Libraries: Lecture Notes in Computer Science 916*, Springer Verlag, 1995, pp. 281-300.

Refereed Journal Articles

- [20] Xiujuan Lei, Xu Huang, Lei Shi, Aidong Zhang, Clustering PPI Data Based on Improved Functional-Flow Model through Quantum-behaved PSO, *International Journal of Data Mining and Bioinformatics (IJDMB)*, Vol. 6, No. 1, 2012, pp. 42-60.
- [21] L. Shi, X. Lei, A. Zhang, Detecting protein complexes with semi-supervised learning in protein interaction networks, invited by Proteome Science, BioMed Central Ltd, United Kingdom.
- [22] Taehyong Kim, Kang Li, Aidong Zhang, Surajit Sen, and Murali Ramanathan, A Computational Model of Mitigating Disease Spread in Spatial Networks. *International Journal of Artificial Life Research (IJALR)*, Vol. 2, Issue 2, pp. 77-94, April-June 2011. (Accepted).
- [23] Taehyong Kim, Murali Ramanathan, and Aidong Zhang. BoneNET: A Network Model of Bone Microstructure and Dynamics. *International Journal of Data Mining and Bioinformatics (IJDMB)*, accepted.
- [24] T. Kim, W. Hwang, A. Zhang, S. Sen and M. Ramanathan, Multi-Agent Modeling of the South Korean Avian Influenza Epidemic, *BMC Infectious Diseases* 2010, 10:236.
- [25] Y. Cho and A. Zhang, Mining Protein Interactome Networks to Measure Interaction Reliability and Detect Hub Proteins, *International Journal of Knowledge Discovery in Bioinformatics (IJKDB)*, Vol. 2, Issue 3, pp. 22-35, 2011.
- [26] Y. Cho and A. Zhang, Identification of functional hubs and modules by converting interactome networks into hierarchical ordering of proteins, *BMC Bioinformatics*, 11(Suppl 3):S3, 2010.
- [27] L. Shi, Y. Cho, and A. Zhang, Prediction of Protein Function from Connectivity of Protein Interaction Networks, *International Journal of Computational Bioscience*, Vol.1, No. 1, 2010.

- [28] P. Chanda, L. Sucheston, S. Liu, A. Zhang, M. Ramanathan, Information-theoretic Gene-gene and Gene-environment Interaction Analysis of Quantitative Traits, *BMC Genomics* 2009, 10:509 (4 November 2009).
- [29] T. Kim, W.-C. Hwang, A. Zhang, M. Ramanathan and S. Sen, Damage Isolation via Strategic Self-destruction: A Case Study in 2D Random Networks, *Europhysics Letters*, April 2009, EPL, 86 (2009) 24002.
- [30] P. Chanda, L. Sucheston, A. Zhang, and M. Ramanathan, The Interaction Index, a Novel Information-Theoretic Metric For Prioritizing Interacting Genetic Variations and Environmental Factors, the *European Journal of Human Genetics (EJHG)*, March 18, 2009.
- [31] Y. Cho and A. Zhang, Predicting Protein Function by Frequent Functional Association Pattern Mining in Protein Interaction Networks, special section on Data Mining and Bioinformatics and Biomedicine, *IEEE Transactions on Information Technology in Biomedicine*, Vol. 14, Number 1, January 2010, pp. 30-36.
- [32] Y. Cho, L. Shi, and A. Zhang, Functional module detection by functional flow pattern mining in protein interaction networks, *BMC Bioinformatics*, 9(Suppl 10):O1, 30 October 2008.
- [33] P. Chanda, L. Sucheston, A. Zhang, D. Brazeau, J. L. Freudenheim, C. Ambrosone, and M. Ramanathan, AMBIENCE: A Novel Approach and Efficient Algorithm for Identifying Informative Genetic and Environment Interactions Associated with Complex Phenotypes, *Genetics*, September 9, 2008.
- [34] Y. Cho, L. Shi, M. Ramanathan and A. Zhang, A Probabilistic Framework to Predict Protein Function from Interaction Data Integrated with Semantic Knowledge, *BMC Bioinformatics*, 9:382, September 18, 2008.
- [35] W. Hwang, M. Ramanathan, and A. Zhang, Identification of Information Flow-Modulating Drug Targets: A Novel Bridging Paradigm for Drug Discovery, *Clinical Pharmacology and Therapeutics*, 84(5):563-572, July 9, 2008.
- [36] Y. Cho, A. Zhang and X. Xu, Semantic similarity based feature extraction from microarray expression data, *International Journal of Data Mining and Bioinformatics*, Vol. 3, No.3, pp. 333-345, 2009.
- [37] W. Hwang, Y. Cho, A. Zhang, and M. Ramanathan, CASCADE: a Novel Quasi All Paths-based Network Analysis Algorithm for Clustering Biological Interactions, *BMC Bioinformatics*, 9:64, 29 January 2008.
- [38] Y. Cho, W. Hwang, A. Zhang, and M. Ramanathan, Semantic Integration to Identify Overlapping Functional Modules in Protein Interaction Networks, *BMC Bioinformatics* 2007, 8:265.
- [39] P. Chanda, A. Zhang, D. Brazeau, L. Sucheston, Jo L Freudenheim, C. Ambrosone, M. Ramanathan, Information Theoretic Metrics for Visualizing Gene Environment Interactions, the *American Journal of Human Genetics*, 81:939-963, Vol. 81, No. 5, November 2007.
- [40] W. Hwang, Y. Cho, A. Zhang, and M. Ramanathan, A Novel Functional Module Detection Algorithm For Protein-Protein Interaction Network, *Algorithms for Molecular Biology* 2006, 1:24 (December 5 2006).
- [41] P. Pei and A. Zhang, A "Seed-Growth" Algorithm for Detecting Protein Complexes from Protein Interaction Data, *IEEE Transactions on Nanobioscience (IEEE-TNB)*, special issue on Computational NanoBioscience, Vol. 6, No. 1, March 2007, pp. 43-50.

- [42] K. Bhasi, L. Zhang, D. Brazeau, A. Zhang, and M. Ramanathan, Information-Theoretic Identification of Predictive SNPs and Supervised Visualization of Genome-wide Association Studies, *Nucleic Acids Research*, Vol. 34, No. 14, pp. e101, September 2006.
- [43] X. Xu and A. Zhang, Boost Feature Subset Selection: A New Gene Selection Algorithm for Microarray Datasets, the special issue of *IEEE/ACM Transactions on Computational Biology and Bioinformatics* (TCBB) devoted to a selection of the best papers presented at IWBRA 2006 (invited).
- [44] K. Bhasi, L. Zhang, D. Brazeau, A. Zhang, and M. Ramanathan, VizStruct for Visualization of Genome-wide SNP Analyses, *Bioinformatics*, Oxford University Press, Vol. 22, No. 13, pp. 1569-1576, 2006.
- [45] W. Wang and A. Zhang, Extracting Semantic Concepts from Images: A Decisive Feature Pattern Mining Approach, *ACM/Springer Multimedia Systems Journal*, Vol. 11, No. 4, April 2006, pp. 352-366.
- [46] R. Aygun and A. Zhang, SynchRuler: A Rule-based Flexible Synchronization Model with Model Checking, *IEEE Transactions on Knowledge and Data Engineering* (TKDE), Vol. 17, Num. 12, December 2005, pp. 1706-1720.
- [47] D. Jiang, J. Pei, M. Ramanathan, C. Lin, C. Tang, and A. Zhang, Mining Gene-Sample-Time Microarray Data: A Coherent Gene Cluster Discovery Approach, *the Knowledge and Information Systems (KAIS) journal*, Vol. 3, No. 3, pp. 305-335, November, 2007.
- [48] D. Jiang, J. Pei and A. Zhang, An Interactive Approach To Mining Gene Expression Data, *IEEE Transactions on Knowledge and Data Engineering* (TKDE), Vol. 17, No. 10, October, 2005, pp. 1363-1378.
- [49] Y. Shi, Y. Song and A. Zhang, A Shrinking-Based Clustering Approach for Multi-Dimensional Data, *IEEE Transactions on Knowledge and Data Engineering* (TKDE), Vol. 17, No. 10, October, 2005, pp. 1389-1403.
- [50] X. Xu and A. Zhang, Virtual Gene: Using Correlations Between Genes to Select Informative Genes on Microarray Datasets, Special issue of *LNCS Transactions on Computational Systems Biology II*, Springer, LNBI 3680, pp. 138-152, 2005.
- [51] L. Wang, A. Zhang and M. Ramanathan, BioStar Models of Clinical and Genomic Data for Biomedical Data Warehouse Design, *International Journal of Bioinformatics Research and Applications* (IJBRA), 2005, Vol. 1, No.1, pp. 63-80.
- [52] C. Tang and A. Zhang, Interrelated Two-way Clustering and its Application on Gene Expression Data Analysis, special issue of *the International Journal on Artificial Intelligence Tools*, Kluwer Academic Publishers, Vol. 14, No. 4, pages 577-597, 2005.
- [53] K. Bhasi, L. Zhang, A. Zhang, and M. Ramanathan, Analysis of Pharmacokinetics, Pharmacodynamics and Pharmacogenomics Data Sets Using VizStruct, A Novel Multidimensional Visualization Technique, *Pharmaceutical Research*, Vol. 21, No. 5, May 2004, pp. 777-780.
- [54] D. Jiang, J. Pei and A. Zhang, Towards Interactive Exploration of Gene Expression Patterns, *ACM SIGKDD Explorations* (Special Issue on Microarray Data Analysis), Vol. 5, No. 2, pages 79 - 90, 2003.
- [55] C. Tang, A. Zhang, and M. Ramanathan, ESPD: A Pattern Detection Model Underlying Gene Expression Profiles, *Bioinformatics*, Oxford University Press, Vol. 20, No. 6, pp. 829-838, April 2004.

- [56] D. Jiang, C. Tang, and A. Zhang, Cluster Analysis for Gene Expression Data: A Survey, *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, Vol. 16, No. 11, pp. 1370-1386, November 2004.
- [57] L. Zhang, A. Zhang, and M. Ramanathan, VizStruct: Exploratory Visualization for Gene Expression Profiling, *Bioinformatics*, Oxford University Press, Vol. 20, No. 1, 2004, pp. 85-92.
- [58] Y. Wu and A. Zhang, Interactive Pattern Analysis for Relevance Feedback, *ACM/Springer Multimedia Systems Journal*, Vol. 10, No. 1, July 2004, pp. 41-55.
- [59] L. Zhang, C. Tang, Y. Song, A. Zhang, and M. Ramanathan, VizCluster and Its Application on Classifying Gene Expression Data, in Special Issue of Bioinformatics, *the International Journal on Distributed and Parallel Databases*, Vol. 13, No.1, January, 2003, pp. 73-97.
- [60] Y. Song, W. Wang, and A. Zhang, Automatic Annotation and Retrieval of Images, special issue of *the World Wide Web (WWW) Journal*, Kluwer Academic Pub. Vol. 6, No. 3, June 2003, pp. 209-231.
- [61] Y. Song and A. Zhang, Analyzing Scenery Images by Monotonic Tree, *ACM/Springer Multimedia Systems Journal*, Vol. 8, No. 6, 2003, pp. 495-511.
- [62] A. Rao, R. Srihari, L. Zhu, and A. Zhang, A Theory for Measuring the Complexity of Image Databases, *IEEE Transactions on Multimedia*, Vol. 4, No. 2, June 2002, pp. 160-173.
- [63] L. Zhu, A. Rao and A. Zhang, Theory of Keyblock-based Image Retrieval, *ACM Transactions on Information Systems*, Vol. 20, No. 2, April 2002, pp. 224-257.
- [64] D. Yu and A. Zhang, ClusterTree: Integration of Cluster Representation and Nearest Neighbor Search for Large Datasets with High Dimensions, *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, Vol. 15, No. 5, September/October 2003, pp. 1316-1337.
- [65] M. Mielke, R. Aygun, Y. Song, and A. Zhang, PLUS: A Probe-Loss Utilization Streaming Mechanism for Distributed Multimedia Presentation Systems, *IEEE Transactions on Multimedia*, VOL. 4, NO. 4, December 2002, pp. 561-577.
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- [67] A. Zhang, Y. Song and M. Mielke, *NetMedia*: Streaming Multimedia Presentations in Distributed Environments, *IEEE Multimedia*, Vol. 9, No. 1, January-March, 2002, pp. 56-73.
- [68] G. Sheikholeslami, W. Chang, and A. Zhang, *SemQuery*: Semantic Clustering and Querying on Heterogeneous Features for Visual Data, *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, Vol. 14, No. 5, September/October, 2002, pp. 988-1002.
- [69] L. Zhu, A. Rao, and A. Zhang, Advanced Feature Extraction for Keyblock-based Image Retrieval, *Information Systems*, 27 (2002), pp. 537-557.
- [70] A. Zhang, M. Nodine, and B. Bhargava, Global Scheduling for Flexible Transactions in Heterogeneous Distributed Database Systems, *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, Vol. 13, No. 3, May/June 2001, pp. 439-450.

- [71] G. Sheikholeslami, S. Chatterjee, and A. Zhang, *WaveCluster: A Wavelet-Based Clustering Approach for Multidimensional Data in Very Large Databases*, *The VLDB Journal*, Vol. 8, No. 4, February 2000, pp. 289-304.
- [72] G. Sheikholeslami, A. Zhang and L. Bian, A Multi-Resolution Content-Based Retrieval System for Geographical Images, *GEOINFORMATICA*, An International Journal on Advances of Computer Science for Geographic Information Systems, Vol. 3, No. 2, June 1999, pp. 109-139.
- [73] W. Chang, G. Sheikholeslami, J. Wang and A. Zhang, Data Resource Selection in Distributed Visual Information Systems, *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, Vol. 10, No. 6, November/December, 1998, pp. 926–946.
- [74] T. Johnson and A. Zhang, Dynamic Playout Scheduling Algorithms for Continuous Multimedia Streams, *ACM Multimedia Systems Journal*, Vol. 7, No. 4, 1999, pp. 312–325.
- [75] A. Zhang and S. Gollapudi, QoS Management in Educational Digital Library Environments, *the International Journal on Multimedia Tools and Applications*, Vol. 10, No. 2/3, April 2000, pp. 133–156.
- [76] A. Zhang, Wendy Chang, G. Sheikholeslami, and T.F. Syeda-Mahmood, *NetView: Integrating Large-Scale Distributed Visual Databases*, *IEEE Multimedia*, Vol. 5, No. 3, July-September, 1998, pp. 47–59.
- [77] S. Gollapudi and A. Zhang, Buffer Model and Management in Distributed Multimedia Presentation Systems, *ACM Multimedia Systems Journal*, Vol. 6, No. 3, May 1998, pp. 206-218.
- [78] A. Zhang and T. Johnson, Scheduling Multimedia Presentations in Educational Digital Libraries, *the International Journal of Digital Libraries*, Vol. 1, No. 4, January, 1998, pp. 386–400.
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- [80] E. Pitoura and A. Zhang, On Relaxing Serializability by Constraining Transaction Readsets, *Information Systems*, Vol. 22, No. 6, 1997, pp 387–400.
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Refereed Conference and Workshop Articles

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- [202] G. Sheikholeslami, A. Zhang and L. Bian, Geographical Data Classification and Retrieval, in the Proceedings of *the 5th ACM International Workshop on Geographic Information Systems (ACM-GIS)*, Las Vegas, Nevada, November 1997, pp. 58-61. ACM Press.
- [203] S. Gollapudi and A. Zhang, NetMedia: A Client-Server Distributed Multimedia Database Environment, in *the 1996 International Workshop on Multi-media Database Management Systems*, Blue Mountain Lake, New York, August 1996, pp. 160-167. IEEE Computer Society Press.
- [204] E. Remias and G. Sheikholeslami and A. Zhang, Block-Oriented Image Decomposition Structures in Large Image Databases, in *the 1996 International Workshop on Multi-media Database Management Systems*, Blue Mountain Lake, New York, August 1996, pp. 85-92. IEEE Computer Society Press.
- [205] A. Zhang and S. Gollapudi, On Synchronized Presentation Management in Multimedia Database Systems, in *the ACM Multimedia'95 Workshop on Effective Abstractions in Multimedia Layout, Presentation, and Interaction*, San Francisco, November 1995. (Electronic proceedings)

- [206] A. Zhang, B. Cheng, and R. Acharya, Texture-based Image Retrieval in Image Database Systems, in *Proceedings of the 6th International Workshop on Database and Expert Systems Applications (DEXA)*, London, September 1995, pp. 349-356. (Invited paper)
- [207] A. Zhang, Impact of Multimedia Data on Workflows, position paper in *the CSCW-94 Workshop on Distributed Systems, Multimedia, and Infrastructure Support in CSCW*, October 1994 Chapel Hill, North Carolina.
- [208] A. Zhang and J. Jing, On Structural Features of Global Transactions in Multidatabase Systems, in *Proceedings of the Third International Workshop on Research Issues in Data Engineering: Interoperability in Multidatabase Systems (RIDE-IMS'93)*, Vienna, Austria, April 1993, pp. 199–206. IEEE Computer Society Press.

Conferences that required abstract or extended summary for referee

- [209] D. Ma and A. Zhang, A Dynamic Approach to Efficiently Clustering and Predicting Groups for Moving Targets, SPIE conference on Signal and Data Processing of Small Targets, the International Symposium on Defense and Security, 12-16 April 2004, Orlando, FL USA.
- [210] W. Wang, Y. Wu, and A. Zhang, SemView: A Semantic-sensitive Distributed Image Retrieval System, NSF's National Conference on Digital Government Research (dg.o2003), Boston, May 18-21, 2003. (demo paper)
- [211] R. Ma, T. Ali, X. Niu, V. Velissariou, K. Chang, C. Kuo, X. Xu, A. Elaksher, R. Li, K. Bedford, C.K. Shum, J.P. Ramirez, A. Zhang, A Spatio-Temporal Decision Making System for Coastal Change Monitoring and Coastal Management, in the proceedings of the National Science Foundation Conference dg.o 2002, May 19-22, 2002. (demo paper)
- [212] W. Wang, D. Ma, Y. Wu, A. Zhang and D. Mark, WebView: A Distributed Geographical Image Retrieval System, in the proceedings of the National Science Foundation Conference dg.o 2002, May 19-22, 2002. (demo paper)
- [213] R. Aygun and A. Zhang, Middle-Tier for Multimedia Synchronization, *ACM Multimedia'2001*, Ottawa, Ont. Canada, September 29 – October 5, 2001. (poster paper)
- [214] D. Yu and A. Zhang, ACQ: An Automatic Clustering and Querying Approach for Large Image Databases, *ACM Multimedia'99*, Orlando, Florida, November 1999, pp. 95-98. (poster paper)
- [215] G. Sheikholeslami and A. Zhang, An Approach to Clustering Large Visual Databases Using Wavelet Transform, in *Proceedings of the SPIE Conference on Visual Data Exploration and Analysis IV*, San Jose, February 1997, pp. 322-333. SPIE Press.
- [216] A. Zhang and B. Cheng and R. Acharya and R. Menon, Comparison of Wavelet Transforms and Fractal Coding in Texture-based Image Retrieval, in *Proceedings of the SPIE Conference on Visual Data Exploration and Analysis III*, pp. 116-125, San Jose, January 1996. SPIE Press.
- [217] A. Zhang and S. Multani, Implementation of Video Presentation in Database Systems, in *Proceedings of the SPIE Conference on Storage and Retrieval for Still Image and Video Databases*, pp. 228-238, San Jose, January 1996. SPIE Press.

- [218] A. Zhang, B. Cheng, and R. Acharya, An Approach to Query-by-texture in Image Database Systems, in *Proceedings of the SPIE Conference on Digital Image Storage and Archiving Systems*, pp. 338-349, Philadelphia, October 1995. SPIE Press.
- [219] A. Zhang and G. Sheikholeslami, Clustering and Indexing in Image Databases, in *1997 Western New York Image Processing Workshop*, Rochester, NY, September 1997.
- [220] J. Guan, A. Zhang, W. Lu, X. Hao, M. Chang, D. Wang, and M. Yao, A Two-level Architecture for an Oil-log Interpretation Expert System, in *Proceedings of the Seventh International Conference: Expert System and Their Applications*, France, May 1987, pp. 1002-1002.
- [221] A. Zhang and Y. Xue, An Office Intelligent Information System, in *Proceedings of International Conference on Computer and Communications*, Beijing, China, 1986, pp. 484-491.

Other Publications

- [222] M. Mielke, Y. Song, R. Aygun and A. Zhang, NetMedia: Giving Control to Distributed Multimedia Presentation Systems, *the Eleventh International Scientific and Statistical Database Management (SSDBM-99) conference*, Cleveland, Ohio, August 1999, pp. 276-276. (demo)
- [223] D. Yu, L. Zhu, A. Zhang and L. Bian, GiView: A Multi-Resolution Geographical Data Retrieval System, *the Eleventh International Scientific and Statistical Database Management (SSDBM-99) conference*, Cleveland, Ohio, August 1999, pp. 277-277. (demo)
- [224] A. Zhang, Impact of Multimedia Data on Workflows, *ACM SIGOIS Bulletin*, Vol. 15, No. 2, December 1994, pp. 57-58.
- [225] J. Guan, A. Zhang, and Z. Ma, Meta-Knowledge and Its Applications in Expert Systems, in *The Chinese Journal of Computer Science*, Vol. 1, No. 1, January 1987, pp. 21-28.

Ph.D. Dissertations Supervised as Major Professor

- [1] B. Cheng (co-advised with R. Acharya, 1996, employed at Oracle Corporation). Dissertation title: Approaches to Image Retrieval Based on Compressed Data for Multimedia Database Systems.
- [2] W. C. Chang (1998, employed at Indiana University East, Vice Chancellor of Information Technology/Chief Information Officer and Associate Professor of Computer Science). Dissertation title: A Framework for Global Integration of Distributed Visual Information Systems.
- [3] G. Sheikholeslami (1999, employed at Cisco Systems, CA). Dissertation title: Multi-resolution Content-Based Image Retrieval and Clustering in Large Visual Databases.
- [4] M. Mielke (2000, employed at Microsoft Corporation, Seattle). Dissertation title: Transmission Support for Interactive Distributed Multimedia Presentation Systems.
- [5] D. Yu (2001, employed at Brookhaven National Laboratory, Long Island). Dissertation title: Multidimensional Indexing and Management for Large-Scale Databases.
- [6] L. Zhu (2001, employed at Armstrong Atlantic State University, Savannah, Georgia). Dissertation title: Keyblock: an Approach for Content-Based Image Retrieval.
- [7] Y. Song (2002, employed at University of Michigan at Dearborn, Assistant Professor). Dissertation title: Monotonic Tree and Its Application to Multimedia Information Retrieval.
- [8] R. Aygun (2003, employed at University of Alabama in Huntsville). Dissertation title: Spatio-Temporal Browsing of Multimedia Presentations.
- [9] S. Gollapudi (2004, employed at Microsoft Research). Dissertation title: Selfish Flows: Where QoS Meets Game Theory.
- [10] W. Wang (2004, employed at Motorola research lab). Dissertation title: Automatic Semantic Indexing in Multimedia Information Retrieval.
- [11] L. Zhang (2004, employed at Eastern Michigan University, Ypsilanti, MI). Dissertation title: VizStruct: Visual Exploration for Gene Expression Profiling.
- [12] Y. Wu (2004, employed at Microsoft Corporation, Seattle). Dissertation title: High-Dimensional Pattern Analysis in Multimedia Information Retrieval and Bioinformatics.
- [13] D. Jiang (2005, employed at Nanyang University, Singapore). Dissertation title: Mining Coherent Patterns and Clusters from Genomic Data.
- [14] C. Tang (2005, employed at Oracle Corporation), Dissertation title: Automatic Phenotype Structure Mining Underlying Gene Expression Profiles.
- [15] Y. Shi (2006, employed at Kennesaw State University), Dissertation title: Dynamic Data Mining on Multidimensional Data.
- [16] X. Xu (2006, employed at Microsoft Corporation, Seattle). Dissertation title: Integrating Feature Subset Selection/Extraction with Applications in Bioinformatics.

- [17] P. Pei (2007, employed at Microsoft Corporation, Seattle). Dissertation title: Graph-based Analysis of Protein-protein Interaction Data Sets.
- [18] Young-rae Cho (2009, employed at Baylor University, Texas). Dissertation title: Functional Module Identification and Function Prediction from Protein Interaction Networks.
- [19] Woo-chang hwang (2009, employed at Johns Hopkins University). Dissertation title: Network Mining from Element Level to Group Level.
- [20] Pritam Chanda (2010, employed at Johns Hopkins University). Dissertation title: An Information Theoretic Framework for Identification and Modeling of Gene-Gene and Gene-Environment Interactions.
- [21] L. Shi (2011, employed in Industry). Dissertation title: Protein Functionality Analysis Through Protein-Protein Interaction Networks.
- [22] T. Kim (2012, postdoc, Stanford University). Dissertation title: Network Analysis by Topological Properties and Computational Modeling.

Professional Service

Editorial Board and Conference Leadership

- [1] NSF Advisory board member, NSF workshop on engaging CISE researchers in China, 2011.
- [2] Founding Chair, ACM Special Interest Group on Bioinformatics, 2010 – Present.
- [3] ACM SIGMOD Executive Committee member, Jan. 2002 – 2003.
- [4] Executive Committee member and Vice chair for Publicity, IEEE Technical Committee on Bioinformatics (TCBI) in Computer Science society, 2010-present.
- [5] Editor-in-Chief, *ACM SIGMOD DiSC (Digital Symposium Collection)*, Jan. 2002 – 2003.
- [6] Editorial Board, IEEE Transactions on Knowledge and Data Engineering, 2009 – present.
- [7] Editorial Board, International Journal of Health Information Science and Systems, BMC (BioMed Central) Publishing, 2012 – present.
- [8] Editorial Board, International Journal of Data Mining and Bioinformatics (IJDMB), Inderscience Publishers, UK, 2009-present.
- [9] Editorial Board, International Journal of Knowledge Discovery in Bioinformatics (IJKDB), IGI Global.
- [10] Member of the Honorary Editorial Board of Bioinformatics and Biology, Libertas Academica.
- [11] Editorial Board, International Journal of Bioinformatics Research and Applications (IJBRA), Inderscience Publishers, UK, 2004-present.
- [12] Editorial Board, *ACM Multimedia Systems Journal*, ACM Press/Springer, July, 2001-2005.

- [13] Editorial Board, *the Journal of Multimedia Tools and Applications*, Kluwer Academic Publishers, 1998 – present.
- [14] Editorial Board, *the International Journal of Distributed and Parallel Databases*, Kluwer Academic Publishers, 1998 – present.
- [15] Editorial Board, Bioinformatics and Biology Insights, LIBERTAS ACADEMICA, 2007 – present.
- [16] Member of Editorial Advisory Board for Book: BBiological Data Mining in Protein Interaction Networks, Editors: Dr. Xiao-Li Li and Dr. See-Kiong Ng, IGI Global, publisher of the IGI Publishing.
- [17] Editor, *ACM SIGMOD DiSC (Digital Symposium Collection)*, 1998 – 2001.
- [18] Publicity Chair, the First IEEE International Conference on Healthcare Informatics, Imaging and Systems Biology, San Jose, February 2011.
- [19] General Chair, ACM International Conference on Bioinformatics and Computational Biology (ACM-BCB), Niagara Falls, USA, August 2-4, 2010.
- [20] Keynote Speaker, the International Joint Conference on Bioinformatics, Systems Biology and Intelligent Computing (IJCBS'09), Shanghai, China, August 3rd - 6th, 2009.
- [21] Area chair, International Conference on Bioinformatics and Bioengineering (BIBE), 2010.
- [22] Track co-chair, Computers, Communications and IT Applications Conference (CCITA), AUC, Cairo, Egypt January 3 - 5, 2010.
- [23] Steering committee, the International Joint Conference on Bioinformatics, Systems Biology and Intelligent Computing (IJCBS'09), Shanghai, China, August 3rd - 6th, 2009.
- [24] Panel chair, the International Joint Conference on Bioinformatics, Systems Biology and Intelligent Computing (IJCBS'09), Shanghai, China, August 3rd - 6th, 2009.
- [25] Panel Chair, The ACM 7th International Conference on Image and Video Retrieval (CIVR 2008), July 7-9, 2008, Niagara Falls, Canada.
- [26] Area chair for Biological Data Mining and Visualization, 2008 IEEE International Conference on Bioinformatics and Biomedicine (BIBM), Philadelphia, November 7-9, 2008.
- [27] Track chair, the 2008 IEEE Conference on Bioinformatics and Bioengineering (BIBE 2008), Athens, Greece in October 8-10, 2008.
- [28] Track co-chair, the 5th IEEE International Conference on Communications, Circuits and Systems (ICC-CAS), KICC (Kitakyushu International Conference Center), Fukuoka, Japan, July 11-13, 2007.
- [29] Track co-chair, IEEE International Conference on Multimedia & Expo (ICME), Hilton Toronto, Toronto, Canada, July 9-12, 2006.
- [30] Vice program chair (in charge of Temporal, Spatial and Multimedia databases), the 20th IEEE International Conference on Data Engineering (ICDE'2004), Boston, Massachusetts, March 28-29, 2004.

- [31] Technical program co-chair, *ACM Multimedia'2001*, Ottawa, Ont. Canada, September 29 – October 5, 2001.
- [32] co-chair for ACM SIGMOD 2001 Undergraduate Scholarship Program Committee.
- [33] Treasurer, *ACM Multimedia'2000*, October 30 - November 3, 2000, Los Angeles, California.
- [34] Discussion Group Co-Chair, Information Presentation and Visualization, 1999 NSF Information and Data Management Workshop: Research Agenda for the 21st Century, March 7-9, 1999
- [35] Program Vice co-Chair for *the Eighth International Workshop on Research Issues in Data Engineering: Continuous-Media Databases and Applications (RIDE98)*, in conjunction with the 14th IEEE International Conference on Data Engineering, Orlando, Florida, February 1998.
- [36] Panel and Demos Chair for *the Eleventh International Scientific and Statistical Database Management (SSDBM-99)* conference, Cleveland, Ohio, August 1999.
- [37] Local Arrangements Chair for *the 17th IEEE Symposium on Reliable Distributed Systems (SRDS'98)*, West Lafayette, Indiana, October 1998.

Conference/Workshop Program Committee

- [38] Program committee member for the IEEE International Conference on Data Mining (ICDM'12), Brussels, Belgium, December 10-13, 2012.
- [39] Program committee member for the IEEE International Conference on Bioinformatics and Biomedicine (BIBM 2012), Philadelphia, October 4-7, 2012.
- [40] Program committee member for the 18th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining (ACMKDD), Beijing, China, August 12-16, 2012.
- [41] Program committee member for the 1st International Conference on Health Information Science (HIS 2012), Beijing, China, April 8-10, 2012.
- [42] Program committee member for the 2011 IEEE International Conference on Bioinformatics and Biomedicine (BIBM'11), Atlanta, GA, Nov. 12-15, 2011.
- [43] Program committee member for the 17th annual ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (ACM KDD), San Diego, California, August 21-24, 2011.
- [44] Program committee member for the 6th Great Lakes Bioinformatics Conference, Athens, Ohio on May 2-4, 2011.
- [45] Program committee member for the Systems Biology track at the First IEEE International Conference on Healthcare Informatics, Imaging and Systems Biology, San Jose, February 2011.
- [46] Program committee member for the 2010 IEEE International Conference on Bioinformatics and Biomedicine (BIBM), Hong Kong, Dec. 18-21, 2010.
- [47] Program committee member for the 16th International Conference on Database Systems for Advanced Applications (DASFAA 2011), Hong Kong, April 22-25, 2011.

- [48] Program committee member for the International workshop on Data Mining in Bioinformatics (BIOKDD' 10), Washington, DC, July, 2010.
- [49] Program committee member for the 10th IEEE International Conference on Data Mining (ICDM 2010), Sydney, Australia, December 13-17, 2010.
- [50] Program committee member for the 14th Pacific-Asia Conference on Knowledge Discovery and Data Mining, Hyderabad, India, June 21-24, 2010.
- [51] Program committee member for SIGMOD 2010, Indianapolis, 2010.
- [52] Program committee member for the 15th International Conference on Database Systems for Advanced Applications (DASFAA), Tsukuba Japan, April 1-4, 2010.
- [53] Program committee member for the Multimedia Systems (MMSys 2010), Scottsdale, Arizona, Feb. 22-23, 2010.
- [54] Program committee member for the 2009 IEEE International Conference on Data Mining (ICDM), Miami, Florida, December 6-9, 2009.
- [55] Program committee member for the 2009 IEEE International Conference on Bioinformatics and Biomedicine, Washington DC, USA, Nov. 1-4, 2009.
- [56] International Program Committee (IPC) for the IASTED International Conference on Internet and Multimedia Systems and Applications (EuroIMSA 2009), Cambridge, United Kingdom, July 13-15, 2009.
- [57] Program committee member for the 2009 IEEE International Conference on Granular Computing, Aug 17-19, 2009, Lushan Mountain/Nanchang, China.
- [58] Program committee member for the 15th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining (ACMKDD), June 28-July 1, 2009, Paris, France.
- [59] Program committee member for the 13th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD-09), April 27-30, 2009, Bangkok, Thailand.
- [60] Program committee member for the Ohio Collaborative Conference on Bioinformatics (OCCBIO), Connecting Ohio's Bioinformatics and Bioscience Research Leaders Case Western Reserve University, Cleveland, Ohio, June 15-17, 2009.
- [61] Program committee member for the IEEE workshop on Data Engineering Methods in Bioinformatics (DEBI), in conjunction with the IEEE 25th conference on Data Engineering (ICDE09), March 29, 2009, Shanghai, China.
- [62] International Program Committee (IPC) of the the Mobile Life Conferences and Exhibitions, Antalya, Turkey, September 15-19, 2008.
- [63] Program committee member for the 2008 IEEE International Conference on Granular Computing, Aug 26-28, 2008, Hangzhou, China.
- [64] Program committee member for *the 2008 International Conference on BioMedical Engineering and Informatics* (BMEI 2008), May 28-30, 2008, Sanya, Hainan, China.

- [65] Program committee member for *the 8th SIAM International Conference on Data Mining (SDM)*, Atlanta, Georgia, USA, April 24-26, 2008.
- [66] Program committee member for *the IEEE workshop on "Mining and Management of Biological Data (MMBD)*, October 28th, 2007, Omaha, Nebraska, in conjunction with the 7th International Conference on Data Mining (ICDM).
- [67] Program committee member for *the 2007 IEEE International Conference on Bioinformatics and Biomedicine (BIBM)*, November 2-4, 2007, San Jose, California.
- [68] Program committee member for *the 2nd VLDB data mining on bioinformatics workshop*, September 23-28 2007, University of Vienna, Austria.
- [69] Program committee member for *the 2007 IEEE International on Granular Computing (GrC 2007)*, Silicon Valley, San Jose, California, November 2-4, 2007.
- [70] Program committee member for *IEEE 7th Symposium on Bioinformatics & Bioengineering (BIBE07)*, Boston, Massachusetts, October 15-17, 2007.
- [71] Program committee member for *Sixth Computational Systems Bioinformatics Conference (CSB2007)*, San Diego, CA from August 13 - 17, 2007.
- [72] Program committee member for *the 33rd International Conference on Very Large Databases (VLDB'2007)*, September 25-28, 2007 in Vienna, Austria.
- [73] Program committee member for *the 6th International Workshop on Data Mining in Bioinformatics (BIOKDD 2006)*, in conjunction with KDD-2006: 11th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining August 20 - 23, 2006, Philadelphia, PA, USA.
- [74] Program committee member for *the International Program Committee of the MDM/KDD2006 Workshop (The Seventh International Workshop on Multimedia Data Mining*, in conjunction with KDD-2006: 11th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining August 20 - 23, 2006, Philadelphia, PA, USA.
- [75] Program committee member for *the Workshop of Data Mining in Bioinformatics (VDMB)*, to be held in cooperation with VLDB 2006, Seoul, Korea, September 11, 2006.
- [76] Program committee member for *the 2006 IEEE International Conference on Granular Computing (IEEE-GrC 2006)*, Atlanta, USA, May 10-12, 2006.
- [77] Program committee member for *the 5th IEEE Symposium on Bioinformatics and Bioengineering (BIBE05)*, Minneapolis, Minnesota, October 19-21, 2005.
- [78] Program committee member for *the Eleventh ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD2005)*, Chicago, Illinois, August 21-24, 2005.
- [79] Program committee member for *the 2005 International Workshop on Data Mining and Bioinformatics*, in conjunction with the 2005 International Conference on Computational Science and Applications, May 9-12, 2005, Singapore.

- [80] Program committee member for *the Fourth International Conference on Intelligent Multimedia Computing and Networking* (IMMCN 2005), Salt Lake City, Utah, USA, July 21-26, 2005.
- [81] International program Committee member for the First Euro Conference on Mobile Government (The EURO, mGOV 2005), Sussex University, Brighton, The United Kingdom, 10-12 July 2005.
- [82] Program committee member for *the 11th International Workshop on Multimedia Information Systems* (MIS'05), September, Sorrento, Italy.
- [83] Program committee member for *the 2005 International Conference on Very Large Databases* (VLDB2005), August 30 - Sept 2, 2005 in Trondheim, Norway.
- [84] Program committee member for *the 2nd International Workshop on Data Integration for the the Life Sciences* (DILS 2005), San Diego Supercomputer Center, University of California, San Diego, July 20-22, 2005.
- [85] Program committee member for *the Workshop of Data Mining in Bioinformatics*, held in cooperation with the IEEE International Conference on Data Mining, November 1, 2004 at Brighton, UK.
- [86] Program committee member for *The Fifth International Workshop on Multimedia Data Mining*, in conjunction with KDD-2004: 10th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, August 22 - 25, 2004, Seattle, Washington, USA.
- [87] Program committee member for *the 4th Workshop on Bioinformatics in Data Mining* (BIOKDD 2004), in conjunction with the ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, August 22-25, 2004, Seattle, USA.
- [88] Program committee member for *the Tenth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining* (KDD2004), Seattle, Washington, August 22-25, 2004.
- [89] Program committee member for *ACM SIGMOD Conference* (SIGMOD2004), June 13-18, Paris, France.
- [90] Program committee member for *Storage and Retrieval Methods and Applications for Multimedia 2004*, in SPIE/IS&T Electronic Imaging Conference San Jose, CA (Jan 2004).
- [91] Program committee member for *IEEE Pacific-Rim Conference on Multimedia* (PCM2001), 15 - 18 December 2003, Singapore.
- [92] Program committee member for *ACM Multimedia '2003*, San Francisco, Ca, Nov 2-7, 2003.
- [93] Program committee member for *IEEE International Conference on Computer Vision* (ICCV2003), Beijing, China, October 14-17, 2003.
- [94] International Program Committee (IPC) for *the 3rd International Workshop on Object Models and Multimedia Technologies* (OMMT-2003), September, 2nd 2003, in conjunction with OOIS-2003, Geneva, Switzerland, September 2-5, 2003.
- [95] International Program Committee (IPC) for *the 3rd International Workshop on Multimedia Data and Document Engineering* (MDDE-2003), September, 9th 2003, Berlin, Germany, in conjunction with VLDB-2003, Berlin, September 8, 2003.

- [96] International Program Committee (IPC) for *The Fourth International Workshop on Multimedia Data Mining (MDM/KDD2003)*, in conjunction with ACM KDD-2003, August 24 - 27, 2003, Washington, DC.
- [97] Program committee member for *14th International Conference on Database and Expert Systems Applications (DEXA2003)*, 1-5 September 2003, Prague, Czech Republic.
- [98] Program committee member for *2003 IEEE International Conference on Multimedia and Expo (ICME)*, Baltimore, Maryland, July 6-9, 2003.
- [99] Program committee member for *the Third International Conference on Intelligent Multimedia Computing and Networking (IMMCN'2003)*, in conjunction with the Seventh Joint Conference on Information Sciences (JCIS 2003), Embassy Suites Hotel, Cary, North Carolina, September 26-30, 2003.
- [100] Program committee member for *The 14th International Workshop on Research Issues on Data Engineering: Digital Government Services (RIDE-DGS'2004)*, in conjunction with the 20th IEEE International Conference on Data Engineering (ICDE'2004), Boston, Massachusetts, March 28-29, 2004.
- [101] Program committee member for *The Storage and Retrieval for Media Databases 2003*, in SPIE/IS&T Electronic Imaging Conference, San Jose, CA, Jan 2003.
- [102] Program committee member for *the 19th IEEE International Conference on Data Engineering (ICDE)*, Bangalore, India, March 5-8, 2003.
- [103] Program committee member for *ACM Multimedia'2002*, December 1-6, 2002, Juan Les Pines, France.
- [104] Program committee member for *the 8th International Workshop on Multimedia Information Systems (MIS 2002)*, Tempe, Arizona, Oct. 30 - Nov. 1, 2002.
- [105] Program committee member for *2002 IEEE International Conference on Multimedia and Expo (ICME)*, Lausanne, Switzerland, August 26-29, 2002.
- [106] Program committee member for *the International Conference on Intelligent Information Processing (ICIIT-02)*, Beijing, Sept. 22-25, 2002.
- [107] Program committee member for *the International Workshop on Bioinformatics in Data Mining (BIOKDD 2002)*, July 23, 2002, in Edmonton, Alberta, Canada.
- [108] Program committee member for *workshop on Multimedia Data and Document Engineering*, in conjunction with the 8th International Conference on Extending Database Technology Prague, Czech Republic, March 25-27, 2002.
- [109] Program committee member for *13th International Conference on Database and Expert Systems Applications (DEXA2002)*, Aix-En-Provence, France, September 2-6, 2002.
- [110] Program committee member for *The Storage and Retrieval for Media Databases 2002*, in SPIE/IS&T Electronic Imaging Conference, San Jose, CA, Jan 2002.
- [111] Program committee member for *The 3rd International Workshop on Multimedia Information Retrieval (MIR 2001)*, Ottawa, Canada, October 6, 2001.

- [112] Program committee member for *The 5th International Workshop on Query Processing and Multimedia Issues in Distributed Systems (QPMIDS'2001)*, in conjunction with the 12th International Conference on Database and Expert Systems Applications (DEXA2001), Munich, Germany, September 3-7, 2001.
- [113] Program committee member for *The Second IEEE Pacific-Rim Conference on Multimedia (PCM2001)*, Beijing, China, Oct. 24-26, 2001.
- [114] Program committee member for *The Second International Conference on Web-Age Information Management (WAIM2001)*, Xi'an, China, July 9-11, 2001.
- [115] Program committee member for *2001 IEEE International Conference on Multimedia and Expo (ICME2001)*, Tokyo, Japan, August 2001.
- [116] Demo program committee member for *26th International Conference on Very large Databases (VLDB)*, Cairo, Egypt, September 10-14, 2000.
- [117] Program committee member for *Workshop on Multimedia Computing in the World Wide Web (MCWWW 2000)*, September 14, 2000, Seattle, Washington (A satellite workshop of IEEE Symposium on Visual Languages (VL 2000)).
- [118] An Associate Chair for *ACM Multimedia'2000*, October 30 - November 3, 2000, Los Angeles, California.
- [119] An Associate Chair for *ACM Multimedia'99*, Orlando, November 1999.
- [120] Steering committee member for the NCGIA Varenus initiative on Discovering Geographic Knowledge in Data-Rich Environments, Redmond, WA, March 1999.
- [121] Program committee member for *IEEE International Conference on Multimedia & Expo 2000*, July 30 – August 2, 2000, New York City.
- [122] Program committee member for *the Third International Workshop on Query Processing and Multimedia Issues in Distributed Systems (QPMIDS'99)*, in conjunction with 10th International Conference DEXA99, Florence, Italy, September 1999.
- [123] Program committee member for *the Eighth International Workshop on Foundations of Models and Languages for Data and Objects – Transactions and Database Dynamics*, Germany, September 1999.
- [124] Program committee member for *the Eleventh International Scientific and Statistical Database Management (SSDBM-99)* conference, Cleveland, Ohio, August 1999.
- [125] Program committee member for *the IEEE International Conference on Multimedia Computing and Systems (ICMCS99)*, Florence, Italy, June 1999.
- [126] Program committee member for *the Content-Based Access of Image and Video Libraries (CBAIVL-99) Workshop*, in conjunction with the IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR'99), Fort Collins, Colorado, June 1999.
- [127] Program committee member for *the 19th International Conference on Distributed Computing Systems (ICDCS)*, Austin, Texas, May 1999.

- [128] Program committee member for *the 5th International Conference on Foundations of Data Organization and Algorithms* (FODO'98), Kobe, Japan, November 1998.
- [129] Program committee member for *the Workshop on Multimedia Networking* Held in Conjunction with the IEEE Symposium on Reliable Distributed Systems, West Lafayette, Indiana, October 1998.
- [130] Program committee member for *the Minitrack-7: Multimedia DBMS and the WWW in the 32nd Hawaii International Conference on System Sciences* (HICSS-32), Maui, Hawaii, January 1999.
- [131] Program committee member for *the ACM International Conference on Information and Knowledge Management* (CIKM98), Washington D.C., November 1998.
- [132] Program committee member for *the Second International Workshop on Query Processing and Multimedia Issues in Distributed Systems* (QPMIDS'98), in conjunction with 9th International Conference DEXA98, Vienna, Austria, August 1998.
- [133] Program committee member for *the 1998 International Workshop on Multimedia Database Management Systems*, Dayton, OH, August 1998.
- [134] Program committee member for *the Workshop on Resource Management in Computer Systems and Networks* in conjunction with the Eighth IEEE Symposium on Parallel and Distributed Processing (SPDP'96), October 1996.
- [135] Program committee member for *the First International Workshop on Query Processing in Multimedia Information Systems* in conjunction with the 8th International Conference on Database and Expert Systems Applications (DEXA), Toulouse, France, September 1997.

Session Chairs and Panel

- [136] Session chair, Paper session 13: Classification Models, the ACM Conference on Bioinformatics, Computational Biology and Biomedicine (ACM BCB), Chicago, IL, August 1-3, 2011, pp. 69-75.
- [137] Panelist, Panel on Women in Bioinformatics, the ACM Conference on Bioinformatics, Computational Biology and Biomedicine (ACM BCB), Chicago, IL, August 1-3, 2011, pp. 69-75.
- [138] Session Chair, the 15th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining (ACMKDD), June 28-July 1, 2009, Paris, France.
- [139] Session chair (Session W2b: Image Processing), *ACM Multimedia'2000*, October 30 - November 3, 2000, Los Angeles, California.
- [140] Panelist of the panel "From Minitel to the World-Wide Web and Beyond: The Ongoing Role of Multimedia Information Systems in Digital Government", in *Sixth International Workshop on MULTIMEDIA INFORMATION SYSTEMS* (MIS'2000), October 26-28, 2000, Chicago.
- [141] Session chair (Session TUA2: Video Processing and Indexing), *the ACM Multimedia'99*, Nov. 2-5, 1999, Orlando.
- [142] Panelist of the panel "Multimedia Databases: Challenges and Promises", in *Fifth International Workshop on MULTIMEDIA INFORMATION SYSTEMS* (MIS'99), October 21-23, 1999, Indian Wells, CA.

- [143] Panelist of the panel “The Role of Multimedia Database Systems in the Next Millennium”, in *the 1998 International Workshop on Multimedia Database Management Systems (IW-MMDBMS’98)*, August 1998, Dayton, Ohio.
- [144] Session chair (Session 2: Multimedia Indexing and Retrieval), *the 1998 International Workshop on Multimedia Database Management Systems*, Dayton, OH, August 1998.
- [145] Session chair (replace S.F. Chang, Session 7C: Content-based Retrieval Systems), *the ACM Multimedia’98*, Bristol, UK, September 1998.