

Wei Ding

(as of May 2009)

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Research Interests

My main research interests lie in the field of knowledge discovery, data mining, artificial intelligence, computational semantics, and machine learning, with applications to astronomy, geosciences, and environmental sciences. My current research projects are on mining geospatial discriminating patterns, on word prediction and word sense disambiguation, on discovering interesting regions of arbitrary shape and granularity from spatial datasets, on identifying novel spatial associations, and on developing scalable knowledge discovery algorithms to cope with large real-world datasets.

Education

Ph.D., Computer Science, University of Houston, TX, 2008
M.Sc., Software Engineering, George Mason University, VA, 2000
B.E., Computer Science and Applications, Xi'an Jiao Tong University, China, 1993

Honors and Awards

- 2008: Best poster-presentation award, ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM GIS 2008), Irvine, CA, November, 2008
- 2006: Excellent Teaching Piper Award Finalist, University of Houston – Clear Lake
- 2006: Phi Kappa Delta Honor Society
- 2006: Honorable Mention, NSF Graduate Research Fellowship
- 2004 – 2006: Computer Science Department Scholarship, University of Houston
- 2001: Academic Excellency Award in Software Engineering, George Mason University
- 2000: Asian Heritage Month Distinction Award, George Mason University
- 1998 – 2000: Graduate Fellowship, George Mason University
- 1992: Excellent Student Leader Award, Xi'an Jiao Tong University, China
- 1989 – 1993: Excellent Student Scholarship, Xi'an Jiao Tong University, China
- 1989: National Entrance Examination Waiver, Xi'an Jiao Tong University, China

Research Experience

Assistant Professor <i>Department of Computer Science</i> <i>University of Massachusetts-Boston</i>	Sept. 2008 – Present Boston, MA
Visiting Scientist <i>Lunar and Planetary Institute</i>	May 2008 – Aug. 2008 Houston, TX
<ul style="list-style-type: none">• Machine detection of sub-kilometer craters in high resolution planetary images• Data mining in terrestrial datasets	
Research Assistant	Aug. 2005 – May 2008

Data Mining and Machine Learning Group
Department of Computer Science, University of Houston

Houston, TX

- Constructing a region discovery framework to systematically discover regional patterns and apply it to real-world applications in astronomy, geosciences, and environmental sciences: the first project is on finding feature-based hot spots in multivariate, real-valued datasets. Our method integrates a family of clustering algorithms and is empirically evaluated on a real-world database of ground ice on Mars; the second project is on regional association rule mining and scoping, and the method is applied to the problem of arsenic contamination to identify arsenic risk patterns in the Texas water supply.
- Preparing and writing grant proposals (with Dr. Christoph Eick as PI) to the NSF Information & Intelligent Systems, the NSF Cyber-Enabled Discovery and Innovation, the Texas Advanced Research Program, and the Environmental Institute of Houston.

Summer Internship

May 2007 – Aug. 2007

Lunar and Planetary Institute

Houston, TX

- For Mars and terrestrial remote-sensing datasets, research work included discovering feature-based hot spots for two or more attributes, finding scientifically interesting regions of arbitrary shape and granularity, designing and implementing data preprocessing techniques to smooth, interpolate, and denoise real-world raster datasets.

Research Assistant

Aug. 1999 – Aug. 2000

Information & Software Engineering Department
George Mason University

Fairfax, VA

- Research work included using model checkers to test safety properties for critical systems. Specifically, used a formal method of model checking to either generate new test sets or analyze existing test sets with respect to safety properties expressed in a temporal logic, formalized notion of dangerous actions with a mutation model, and developed coverage criteria to assess test sets.

Teaching Experience

Assistant Professor

Sept. 2008 – Present

Department of Computer Science
University of Massachusetts Boston

Boston, MA

- Teaching undergraduate and graduate courses in Artificial Intelligence
- Design and teach a new course in spatial data mining

Lecturer

Jan. 2002 – Aug. 2008

Computer Science and Computer Information Systems
University of Houston-Clear Lake

Houston, TX

- Teaching undergraduate and graduate courses in Computer Science and Computer Information Systems; creating new classes in E-Commerce development and advanced web application development; designing and implementing new teaching and assessment methods using ePortfolio, distance learning, and peer evaluation on team project assessment; and preparing ABET (Accreditation Board for Engineering and Technology) accreditation including design of class exit surveys and course outcome assessment.

Courses Taught:

Title	Enrollment (total=1,466)	Semester(s)
Spatial Data Mining (UMass Boston)	9 students	Spring 2009
Artificial Intelligence (UMass Boston)	14 students	Fall 2008

Web Application Development (UHCL)	915 students	Spring 2008, Fall 2007, Spring 2007, Fall 2006, Spring 2006, Fall 2005, Spring 2005, Fall 2004, Summer 2004, Spring 2004, Fall 2003, Summer 2003, Spring 2003, Fall 2002, Summer 2002, Spring 2002
Design of Database Systems (UHCL)	172 students	Spring 2007, Fall 2006, Spring 2006, Fall 2005, Spring 2005, Summer 2004, Spring 2002
Advanced Web Application Development (UHCL)	35 students	Spring 2008, Fall 2007
E-Commerce Development (UHCL)	39 students	Spring 2006, Fall 2004
Data Structures (UHCL)	69 students	Spring 2004, Fall 2003
Advanced Data Structures and Algorithms (UHCL)	57 students	Spring 2003, Fall 2002
Independent Study in Computer Science (UHCL)	9 students	Summer 2007, Summer 2003
Fundamentals of Database Systems (invited lectures at Nankai University, Tianjin, China)	147 students	Fall 2007

Summary of Student Evaluations:

Instructor's Overall (5=excellent)	Instructor's Response to Questions (5=excellent)	Instructor's Outside Availability (5=excellent)
4.167 (mean=4.038)	4.083 (mean=4.052)	4.273 (mean=4.038)

6-year average, Spring 2002 – Fall 2007 at the University of Houston-Clear Lake

The overall quality of the course	The instructor's overall teaching capability	Simulate and challenge students to think and to question
4.25 (out of 5.0)	4.41 (out of 5.0)	4.59 (out of 5.0)

Teaching Assistant

Information & Software Engineering Department
George Mason University

Aug. 1998 – Aug. 1999
Fairfax, VA

- Assisted homework grading and provided laboratory support for two graduate courses (Software Construction and Software Testing and Maintenance).

IBM DB2 Tutor

PanSky International Holding Co. Ltd.

Nov. 1996 – May 1998
Beijing, China

- Tutor in IBM DB2 database development and administration.

Submitted Publications

- T. Stepinski, **W. Ding**, C. Eick, "Controlling Patterns of Geospatial Phenomena," submitted to a journal, 2009.
- P. Chen, **W. Ding**, C. Bowes, D. Brown, "Large-scale Lexical-Dependency Knowledge Acquisition and its Extrinsic Evaluation Through Word Sense," submitted to a conference, 2009.

3. **W. Ding**, C.F. Eick, X. Yuan, J. Wang, J.P. Nicot, "A Framework for Regional Association Rule Mining and Scoping in Spatial Datasets," under revision, 2008.

Book Chapters

4. **W. Ding**, P. Chen, "An Interactive Visualization Model for Large High-Dimensional Datasets," Data Engineering: Mining, Information, and Intelligence, to appear, Editors: Yupo Chan, John Talburt, Terry Talley, Springer, 2008.
5. P. Chen, **W. Ding**, "Knowledge Management for Agent-based Tutoring Systems," Designing Distributed Learning Environments: With Intelligent Software Agents, pp. 146-161, Ed. F. Lin, Idea Group, Inc., 2004.

Refereed Journal Publications

6. P. Chen, **W. Ding**, C. Ding, "A Connectionist-based Lexical Knowledge Model," the International Journal of Cognitive Informatics and Natural Intelligence (IJCiNi), to appear, 2009.
7. **W. Ding**, T. Stepinski, R. Parmar, D. Jiang, C. F. Eick, "Discovery of Feature-Based Hot Spots Using Supervised Clustering," to appear, the International Journal of Computers and Geosciences, Elsevier, March 2009.
8. K. Yue, A. Yang, **W. Ding**, and P. Chen, "Open Courseware and Computer Science Education," ACM Journal of Computing Sciences in Colleges, Volume 20, Issue 1, Utah, USA, October, 2004.

Refereed Conference Publications

9. **W. Ding**, P. Chen, H. Al-Mubaid, M. Pomplun, "A Gaze-Controlled Interface to Virtual Reality Applications for Motor- and Speech-Impaired Users," HCI International 2009, San Diego, CA, July 2009.
Acceptance ratio: N/A
10. P. Chen, **W. Ding**, C. Bowes, D. Brown, "A Fully Unsupervised Word Sense Disambiguation Method and Its Evaluation on Coarse-grained All-words Task," North American Chapter of the Association for Computational Linguistics - Human Language Technologies (NAACL HLT 2009), Boulder, Colorado, May 2009
Acceptance ratio: 75/260=28%
11. **W. Ding**, H. Al-Mubaid, S. Kotagiri, "Word Classification: An Experimental Approach with Naive Bayes," the ISCA 24th International Conference on Computers and Their Applications (CATA-2009), to appear, New Orleans, Louisiana, April, 2009.
12. **W. Ding**, T. F. Stepinski, J. Salazar, "Discovery of geospatial discriminating patterns from remote sensing datasets," SIAM International Conference on Data Mining (SDM), Nevada, April 2009.
Acceptance ratio: 105/351=30%
13. T. F. Stepinski, **W. Ding**, C. F. Eick, "Discovering Controlling Factors of Geospatial Variables," in Proc. of the 16th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM GIS 2008), Irvine, CA, November, 2008.
Acceptance ratio: 75/232=32%

14. C. F. Eick, R. Parmar, **W. Ding**, T. F. Stepinski, J. P. Nicot, "Finding Regional Co-location Patterns for Sets of Continuous Variables," in Proc. of the 16th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM GIS 2008), Irvine, CA, November, 2008.
Acceptance ratio: 38/232=16%
15. **W. Ding**, R. Jiamthaphaksin, R. Parmar, D. Jiang, T. Stepinski, C. Eick, "Towards Region Discovery in Spatial Datasets," in Proc. of the Pacific-Asia Conf. on Knowledge Discovery and Data Mining (PAKDD), Osaka, Japan, May, 2008.
Acceptance ratio: 37/312=11%
16. **W. Ding**, C. Eick, X. Yuan, J. Wang, J.P. Nicot, "On Regional Association Rule Scoping," in Proc. of the International workshop on Spatial and Spatio-temporal Data Mining in Cooperation with IEEE ICDM 2007, Omaha, NE, USA, October, 2007.
Acceptance ratio: 10/35=28%
17. **W. Ding**, C. Eick, J. Wang, X. Yuan, "A Framework for Regional Association Rule Mining in Spatial Datasets," in Proc. of the 6th IEEE International Conference on Data Mining (IEEE-ICDM'06), Hong Kong, China, December, 2006.
Acceptance ratio: 152/776=19%
18. P. Chen, **W. Ding**, C. Ding, "SenseNet: A Knowledge Representation Model for Computational Semantics," in Proc. of the 5th IEEE International Conference on Cognitive Informatics (ICCI), Beijing, China, July, 2006.
Acceptance ratio: 40/276 = 14%
19. I.A. Kakadiaris, I. Konstantinidis, E. Papadakis, **W. Ding**, D.J. Kouri, and D.K. Hoffman, "Parametric Surface Denoising," in Proc. of SPIE Wavelets XI, E. Papadakis, A. Laine, M. Unser (Eds), San Diego, CA, USA, July, 2005.
Acceptance ratio: N/A
20. X. Wang, P. Chen, and **W. Ding**, "Web-based Interactive Visualization of Data Cubes," in Proc. the 2005 International Conference on Modeling, Simulation and Visualization Methods (MSV'05), Las Vegas, USA, June, 2005.
Acceptance ratio: 35%
21. G. Boetticher, **W. Ding**, C. Moen, and K. Yue, "Using a Pre-Assessment Exam to Construct an Effective Concept-based Genetic Program for Predicting Course Success," In Proc. of the 36th SIGCSE Technical Symposium on Computer Science Education (ACM SIGCSE'05), pp. 500 – 504, St. Louis, Missouri, USA, Feb. 2005.
Acceptance ratio: 104/330=32%
22. K. Yue, **W. Ding**, "Design and Evolution of an Undergraduate Course on Web Application Development," in Proc. of the 9th Annual SIGCSE Conference on Innovation and Technology in Computer Science Education (ACM ITiCSE'04), pp. 22-26, Leeds, UK, June, 2004.
Acceptance ratio: 46/155=29%
23. K. Yue, A. Yang, **W. Ding**, and P. Chen, "A Model for Open Content Communities to Support Effective Learning and Teaching," in Proc. of the IADIS International Conference on Web-based Communities, pp. 533-536, Lisbon, Portugal, April 2004.
Acceptance ratio: N/A

24. P. Chen, C. Hu, **W. Ding**, and H. Lynn, "Icon-based Visualization of Large High-Dimensional Datasets," in Proc. of the 3rd IEEE International Conference on Data Mining (ICDM'03), pp. 505-508, Melbourne, Florida, Nov. 2003.
Acceptance ratio: 128/501=25%
25. P. Ammann, **W. Ding**, and D. Xu, "Using a Model Checker to Test Safety Properties," in Proc. of the 7th IEEE International Conference on Engineering of Complex Computer Systems, pp. 212-221, Skovde, Sweden, June 2001.
Acceptance ratio: 45%
26. A. Abdurazik, P. Ammann, **W. Ding**, and J. Offutt, "Evaluation of Three Specification-based Testing Criteria," in Proc. of the 6th IEEE International Conference on Engineering of Complex Computer Systems, pp. 179-187, Tokyo, Japan, Sept. 2000.
Acceptance ratio: N/A

Other Publications

27. P. Chen, **W. Ding**, T. Simmons, C. Lacayo, "Parsing Tree Matching Based Question Answering," Text Analysis Conference (TAC) Workshop, Gaithersburg, Maryland USA, November, 2008.
28. **W. Ding**, C. Eick, "Mining Regional Knowledge in Spatial Datasets," in Proc. of Grace Hopper Celebration of Women in Computing, Orlando, FL, October 2007.

Externally Sponsored Research Grants

Total External Research Grants: \$285,163

1. **Title:** Automatic Detection of Sub-Kilometer Craters in High Resolution Planetary Images
Program: NASA Applied information Systems Research
Amount: \$285,163
Duration: 09/01/2009 – 08/31/2012
Principal Investigator: Tomasz Stepinski
Co-Investigator: Wei Ding (subcontracts: \$117,383)

Internally Sponsored Research Grants

Total Internal Research Grants: \$36,595.60

1. "Toward Discriminating Pattern Discovery on Modeling Ecology of Crime," University of Massachusetts Boston Proposal Development Grant Program, PI, \$7,000, 2009.
2. "A Gaze-Controlled Interface to Virtual Reality Applications for Motor- and Speech- Impaired Users," University of Massachusetts Boston Joseph P. Healey Grant Program, Co-PI (with PI Marc Pomplun), \$4,500, 2009.
3. "Computer-aided Detection of Sub-Kilometer Craters in High Resolution Planetary Images," PI of a collaborative project awarded by the Institute for Pace Systems Operations (ISSO), Texas, \$9,936, 5/2008-8/2008.
4. "Towards Region Discovery in Spatial Datasets," Faculty Development Fund, University of Houston-Clear Lake, PI, \$1,876.60, 2008.
5. "Integrating Supervised and Adaptive Learning to improve Text Entry for People with Motion Impairments," Faculty Research and Support Fund, University of Houston-Clear Lake, PI, \$4,500, 2007.

6. "Automatic Detection and Correction of Spelling Errors Using Knowledge Modeling," Faculty Research and Support Fund, University of Houston-Clear Lake, PI, \$2,912, 2007.
7. "Developing of a Large Commonsense Knowledge Acquisition Software System," UHCL Alumni Association Program Endowment Award, University of Houston-Clear Lake, PI, \$400, 2007.
8. "On Regional Association Rule Scoping," Faculty Development Fund, University of Houston-Clear Lake, PI, \$1,300, 2007.
9. "A Framework for Regional Association Rule Mining in Spatial Datasets," Faculty Development Fund, University of Houston-Clear Lake, PI, \$2,000, 2006.
10. "SenseNet: A Knowledge Representation Model for Computational Semantics," Faculty Development Fund, University of Houston-Clear Lake, PI, \$850, 2006.
11. "Design and Evolution of an Undergraduate Course on Web Application Development," Faculty Development Fund, University of Houston-Clear Lake, PI, \$1,321, 2004

Patent

1. P. Chen, W. Ding, "Word sense disambiguation apparatus and methods," US patent pending.

Invited and Conference Presentations

1. "Effective Uses of Blackboard for course Management," UMass Boston Educational Technology Conference, May, 2009
2. "Discovery of Geospatial Discriminating Patterns from Remote Sensing Datasets," SIAM International Conference on Data Mining (SDM), April, 2009
3. "Discriminating Patterns for Empirical Discovery in Geospatial Data," Computer Science Colloquia Series, University of Massachusetts Lowell, April, 2009
4. "Discriminating Patterns for Empirical Discovery in Geospatial Data," University of Houston-Clear Lake, March, 2009
5. "Teaching with Blackboard Online System," Teaching with Technology Workshops, University of Massachusetts Boston, February, 2009
6. "Discriminating Patterns for Empirical Discovery in Geospatial Data," Software Engineering Seminar Series, George Mason University, January, 2009
7. "Discriminating Patterns for Empirical Discovery in Geospatial Data," NSF-sponsored workshop on GeoSpatial & GeoTemporal Informatics, January, 2009
8. "Discovering Controlling Factors of Geospatial Variables," 16th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM GIS 2008), Irvine, CA, November, 2008
9. "Towards region discovery in spatial datasets," Pacific-Asia Conf. on Knowledge Discovery and Data Mining (PAKDD), Osaka, Japan, May 2008
10. "Discovering regional knowledge from spatial datasets," Natural Science Seminar, University of Houston-Clear Lake, January 2008
11. "Discovering Regional Patterns," College of Software, Nankai University, Tianjin, China, December 2007
12. "Mining Regional Knowledge in Spatial Datasets," Grace Hopper Celebration of Women in Computing, Orlando, FL, October 2007
13. "On Regional Association Rule Scoping," International workshop on Spatial and Spatio-temporal Data Mining in Cooperation with IEEE ICDM 2007, Omaha, NE, USA, October 2007
14. "A Framework for Regional Association Rule Mining in Spatial Datasets," the 6th IEEE International Conference on Data Mining (IEEE-ICDM'06), Hong Kong, China, December 2006
15. "SenseNet: A Knowledge Representation Model for Computational Semantics," the 5th IEEE International Conference on Cognitive Informatics (ICCI), Beijing, China, July 2006

16. "Design and Evolution of an Undergraduate Course on Web Application Development," the 9th Annual ACM SIGCSE Conference on Innovation and Technology in Computer Science Education, University of Leeds, UK, June 2004

Industrial Experience

Software Engineer & Technical Consultant Nov. 2000 – Jan. 2002
VeriSign, Inc. Herndon, VA

- Developed Java and XML APIs using OO design patterns to communicate with remote servers using TCP/IP secure-socket communication
- Generated data reports from an Oracle database using Java, JDBC, Unix Shell Script and Perl
- Implemented Java APIs for wholesale partners
- Participated in domain-name registration system maintenance and performance tuning

QA Team Leader & Senior Software Engineer Aug. 2000 – Nov. 2000
MultiCity.com Vienna, VA

- Conducted testing on web applications in J2EE
- Designed and implemented testing standards and procedures
- Managed the QA team and analyzed testing results
- Developed software tools to test, track, and verify defects in web applications
- Tools used for the above were Java (JDK1.x, Java Servlet, RMI, JDBC), MySQL, Visual Café, Apache, Perforce, and Talisma

Project Manager & Senior Software Engineer Nov. 1996 – May 1998
PanSky International Holding Co. Ltd. Beijing, China

- Developed web applications for company website using Java (JDK1.0)
- Acted as a consultant for UDB and DB2/400 connection, SQL and CICS/6000 programming, ODBC (DB2/400), performance tuning of DB2/400, CICS communication via SDLC and APPC LU6.2 across AIX and VSE/ESA
- Designed Y2K solutions for a major accounting system of the Agricultural Bank of China in RPG III/400 on OS/400 3.2
- Designed and implemented integration- and acceptance-testing of a main accounting system of ShanDong Power Co. in RPG III/400
- Developed a communication system between AS/400, RS/6000, Sun workstation, and Windows via MQSeries 5.0
- Designed an IC Card system for Tianjin University
- Provided pre-sale technical support on Java (VisualAge) and DB2 UDB for the Foreign Exchange Department of the Bank of China

Testing Engineer Aug. 1996 – Oct. 1996
Microsoft (China) Ltd. Beijing, China

Designed testing requirements and performed alpha testing of PowerPoint (Chinese version) on Windows 95 and NT 4.0.

Software Engineer July 1993 – July 1996
Bank of China Yantai, China

- Chief developer of the major transaction processing systems of the Bank of China, which include financial data manipulation and analysis, transaction data sort, update and search, financial data report generation and telegram transmissions using DOS/VS COBOL 3.1, SQL(DL/I) and CICS 2.3 on VSE/ESA 1.3.3 at ES/9000-150

- Chief developer of the Call Center System of the Bank of China, using C, COBOL, Informix, CICS 2.3, VRU voice unit, and APPC LU 6.2 protocol across ES/9000-150 and RS/6000

Students Directed

1. Tyler Garaas, "Real-Time Active Robotic Vision using Biologically Inspired Neural Models," Ph.D. Dissertation Committee member (Chair: Dr. Mark Pomplun), University of Massachusetts Boston, 2009
2. Jue Wang, "Discriminating Patterns," Research Assistant, University of Massachusetts Boston, 2009.
3. Joshua Reyes, "Automatic Detection of Sub-Kilometer Craters in High Resolution Planetary Images," Research Assistant, University of Massachusetts Boston, 2008.
4. Josue Salazar, "Spatial Data Mining on Terrestrial Datasets," Research Assistant, University of Houston–Clear Lake, 2008
5. Simmons, Timothy R, "Question Answering Based On Structural Matching," Research Assistant, University of Houston–Clear Lake, 2008
6. Srikanth Kotagiri, "Integrating Supervised and Adaptive Learning to improve Text Entry for People with Motion Impairments," Graduate Research Assistant, University of Houston–Clear Lake, 2008
7. Sai Srinivas Pabbathi, "A Study on an ePortfolio Pilot Project," Graduate Independent Study, University of Houston–Clear Lake, 2008
8. Thanh Nguyen, "E-Commerce Web Site Development on a Real-World Case Study," Undergraduate Independent Study, University of Houston–Clear Lake, 2008
9. Ashutosh Raval, "Integrating Supervised and Adaptive Learning to improve Text Entry for People with Motion Impairments," Graduate Research Assistant, University of Houston–Clear Lake, 2008
10. Anurag Nagar, "Biomedical Information Retrieval using Multiple Ontologies," Graduate Thesis Committee member, University of Houston–Clear Lake, 2008
11. Michael Baldauf, "Domain Driven Causal Financial Engineering in the Context of Evolutionary Computing," Graduate Thesis Committee member, University of Houston–Clear Lake, 2008
12. Timothy R. Simmons, "Search Engine with Natural Language Interface," Undergraduate Independent Study, University of Houston–Clear Lake, Spring 2008
13. Georgi S. Tanev, "Design of Database Systems," Undergraduate Independent Study, University of Houston–Clear Lake, Spring 2008
14. Sasya Kodali, "Advanced Web Application Development Using ASP.NET and ADO.NET Framework," Graduate Independent Study, University of Houston–Clear Lake, Summer 2007
15. Insia Iftiqhar, "Lexical Knowledge Acquisition and Representation," Graduate Research Assistant and Graduate Independent Study, University of Houston–Clear Lake, Summer 2007
16. Sukumar Bollineni, "Advanced Web Application Development Using J2EE," Graduate Independent Study, University of Houston–Clear Lake, Summer 2007
17. Srinivas Veesam, "Web Application Development Using AJAX," Graduate Independent Study, University of Houston–Clear Lake, Summer 2007
18. Suman Tedla, "Web Bias," Graduate Thesis Committee member, University of Houston–Clear Lake, 2006
19. Tuan Anh Nguyen, Graduate Thesis Committee member, "Evaluations of Secure MANET Routing Protocols in Malicious Environments," University of Houston–Clear Lake, 2005
20. Karthik Sadasivam, Graduate Thesis Committee member, "Performance and Security in a Distributed Wireless Networking Environment," University of Houston–Clear Lake, 2004
21. Kerry K. Lawson, Graduate Thesis Committee member, "Website Re-engineering," University of Houston–Clear Lake, 2004
22. Sreenivasan Alakappan, Graduate Thesis Committee member, "A Framework of Inlining Algorithms for Mapping XML Document Type Definitions to Relational Schemas," University of Houston–Clear Lake, 2003
23. Hatal Mahendra Malkan, Undergraduate Independent Study, "Computer-Aided Library System," University of Houston–Clear Lake, Summer 2003

Professional Service

Conference and Workshop Organization:

- 2009: Co-Chair of the special session on data mining of the 8th IEEE International Conference on Cognitive Informatics (ICCI 2009), Hong Kong, China
- 2009: PC Co-Chair of the Workshop on Social Networks, Applications, and Systems, Boston, MA, USA
- 2007: Session Chair for the IEEE International Workshop on Spatial and Spatio-temporal Data Mining in cooperation with IEEE ICDM 2007, Omaha, NE, USA

Conference and Workshop Program Committee Member:

- 2010: PC member of the Second International Symposium on Data, Privacy, and E-Commerce (ISDPE'10).
- 2009: PC member of the 17th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM GIS)
- 2008: PC member of the International Workshop on Spatial and Spatiotemporal Data Mining (SSTD-08) In Cooperation with IEEE ICDM 2008
- 2008: PC member of the 20th International Conference on Tools with Artificial Intelligence, Dayton, Ohio, USA
- 2008– 2009: PC member of the 17th and 18th International Conference on Software Engineering and Data Engineering, Los Angeles, CA, USA

Grant Proposal Review:

- National Science Foundation (2009: 1 panel)

Book Review:

- 2002 – Present: Prentice Hall Publishing
- 2002 – Present: John Wiley & Sons Ltd.
- 2002 – Present: Thomson Learning (EMEA) Ltd.

Journal Review:

- 2009: IEEE Transactions on Knowledge and Data Engineering
- 2009: International Journal of Bioinformatics Research and Applications (IJBRA)
- 2009: International Journal of Rapid Manufacturing (IJRapidM)
- 2008 – Present: Journal of Computers, Environment and Urban Systems, Elsevier.
- 2005 – Present: Journal of Information Systems Education (JISE)
- 2007: Springer Volume on “Data Engineering”
- 2005: The Automated Verification of Critical Systems of the Journal Formal Aspects of Computing (FAC)
- 2005: The Internet Encyclopedia, John Wiley & Sons, Inc.
- 2004: The Scientia Iranica

Conference Review:

- 2009: SIAM International Conference on Data Mining (SDM09)
- 2009: 35th International Conference on Very Large Data Bases (VLDB)
- 2007 – 2008: IEEE International Workshop on Spatial and Spatio-temporal Data mining in cooperation with IEEE ICDM
- 2005 – Present: IEEE International Conference on Data Mining (ICDM)
- 2007: International Conference on Machine Learning and Data Mining (MLDM)

- 2005 – Present: ACM Special Interest Group on Computer Science Education (SIGCSE)
- 2005 – Present: ACM Integrating Technology into Computer Science Education (ITiCSE)

University Service:

- 2009: Budget Administrator Search Committee, University of Massachusetts Boston
- 2008 – present: Accreditation Committee, University of Massachusetts Boston
- 2008 – present: Curriculum committee, University of Massachusetts Boston
- 2006 – 2008: Computer Science Admission Committee, University of Houston–Clear Lake
- 2006 – 2008: Mentor for NSF undergraduate scholars, University of Houston–Clear Lake
- 2002 – 2008: Course Coordinator for Design of Database Systems and Web Application Development, University of Houston–Clear Lake
- 2002 – 2008: Faculty advisor of 20 undergraduate students in Computer Science and Computer Information Systems, University of Houston–Clear Lake
- 2003: Course Coordinator for Advanced Data Structures and Algorithms, University of Houston–Clear Lake

Recruitment:

- Programming Contest, San Jacinto Community College, Houston, Texas, 2008
- UHD Scholars Day, University of Houston–Clear Lake, November 2007
- Texas Work Source, Texas City, Texas, June 2007
- Deer Park High School, Deer Park, Texas, May 2007

Professional Activities

- 04/04/2009 - 04/05/2009: NSF travel award to attend an NSF-Sponsored CDC Academic Career Workshop, Portland, Oregon
- 01/08/2009 - 01/09/2009: NSF travel award to attend an NSF workshop on GeoSpatial & GeoTemporal Informatics, NSF, Washington DC
- 2007: NSF Scholarship to attend the Grace Hopper Celebration of Women in Computing
- 2005: NSF Fellowship to attend the 5th International Summer School on Biocomplexity from System to Gene, Dartmouth College
- 2004 & 2005: CRA-W Graduate Cohort Travel Award