Ruoming Jin

Assistant Professor
Computer Science Department,
Kent State University

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Research Interests

Data Mining, Databases, Complex Network Analysis,
Bio-Medical Informatics, and High Performance Computing.

Education

Ph.D. (2005) in Computer Science — CSE Dept., Ohio State University
Dissertation: New Techniques for Efficiently Discovering Frequent Patterns
M.S. (2001) in Computer Science — CIS Dept., University of Delaware
M.E. (1999), B.E. (1996) in Computer Engineering — CSE Dept., Beihang University, China

Research and Work Experience

- **Associate Professor**, Aug. 2011 -
  Computer Science Department (CS) , Kent State University
- **Visiting Researcher**, May 2011 - Jul. 2011, Jun. 2010-Jul. 2010
  Microsoft Research Asia (MSRA)
- **Assistant Professor**, Aug. 2005 - Jul. 2011
  Computer Science Department (CS) , Kent State University
- **Research Assistant**, Sep. 2002 - Aug. 2005
  Department of Computer Science and Engineering (CSE), The Ohio State University
- **Research Scientist**, Aug. 2001 - Sep. 2002
  Department of Computer Science and Engineering (CSE), The Ohio State University
- **Research Assistant**, Aug. 1999 - July 2001
  Computer Information Science Department (CIS), University of Delaware
- **Member of Technical Staff**, Feb. 1999 - June 1999
  Bell Labs, Lucent Technology (Beijing, China)
- **Research Assistant**, Sep. 1996 - Jan. 1999
  Software Engineering Institute (SEI), Beihang University

Honors

- NSF CAREER Award (**Novel Data Mining Technologies for Complex Network Analysis**), 2010-2015
- OBR Research Challenge Award, 2007-2008
- KSU Research Activity Award, 2007
- ACM KDD (Knowledge Discovery and Data Mining) student travel award, 2005
- OSU Presidential Fellowship, The Ohio State University, 2003-2004
- Winner of the "Fengru Cup" of Science & Technology Creative Contest, Beihang University, 1997
- First Prize of People's Scholarship, Beihang University, 1993, 1994, 1995
- Winner of Beijing College Programming Contest, 1993
- Champion of Computer Programming Contest of Beihang University, 1993
- First Prize of "Stone Cup" Programming Contest, Beijing, 1991
- First Prize of Programming Contest for High School Students, Beijing, 1990, 1989

Memberships

- Member of ACM (Association of Computing Machinery)
- Member of IEEE (Institute of Electrical and Electronics Engineers)

Publications

Book Chapters and Journal Papers

1. *Topic level expertise search over heterogeneous networks*, Jie Tang, Jing Zhang, **Ruoming Jin**, Zi Yang, Keke Cai, Li Zhang, and Zhong Su. Mach. Learn. 82, 2 (February 2011), 211-237, 2011.

2. *Summarizing transactional databases with overlapped hyperrectangles, theories and algorithms*, Yang Xiang, **Ruoming Jin**, Dave Fuhry, and Feodor Dragan, Data Mining and Knowledge Discovery (DMKD), 23(2): 215-251 (2011).

3. *Path-Tree: An Efficient Reachability Indexing Scheme for Very Large Directed Graphs*, **Ruoming Jin**, Yang Xiang, Ning Ruan, Haixun Wang, ACM Transactions on Database Systems (TODS), 36(1): 7 (2011).

4. *A Survey of Algorithms for Dense Subgraph Discovery*, Victor Lee, Ning Ruan, **Ruoming Jin**, and Charu Agrawal, book chapter in MANAGING AND MINING GRAPH DATA (Springer), edited by Charu Agrawal and Haixun Wang, February 2010.

5. *Predicting Biomarkers for Chronic Lymphocytic Leukemia Using Gene Co-expression Network Analyses for ZAP70* , J. Zhang, L. Ding, K. Circle, T. Borlawsky, Y. Xiang, H. Ozer, **R. Jin**, P. Payne, and K. Huang, in BMC Bioinformatics (invited publication as part of a special relationship between AMIA and BMC to recognize exceptional 2010 Translational BioInformatics Summit papers).

6. *Data Discretization Unification*, **Ruoming Jin**, Yuri Breitbart, and Chibuike Muoh, in Knowledge and Information System (KAIS journal), Volume 19, Number 1, Pages 1-29, April, 2009.

7. *MMIS07, 08: mining multiple information sources workshop report*, Xingquan Zhu, Ruoming Jin, Yuri Breitbart, Gagan Agrawal, SIGKDD Explorations 10(2): 61-65 (2008)

8. *Middleware for Data Mining Applications on Clusters and Grids*, Leonid Glimcher, **Ruoming Jin**, Gagan Agrawal, Journal of Parallel and Distributed Computing (JPDC), 68(1): 37-53 (2008).

9. *Frequent Pattern Mining in Data Streams*, **Ruoming Jin**, Gagan Agrawal, book chapter in *Data Streams: Models and Algorithms*, Ed. Charu Aggrawal, Spinger, 2007.

10. *Fast and Exact Out-of-Core and Distributed K-Means Clustering*, **Ruoming Jin**, Anjan Goswami, and Gagan Agrawal, in Knowledge and Information System (KAIS journal), 10(1): 17-40 (2006) .

11. *Communication and Memory Optimal Parallel Data Cube Construction*, **Ruoming Jin**, Karthik Vaidyanathan, Ge Yang, and Gagan Agrawal, in the IEEE transactions on Parallel and Distributed Systems (TPDS), 16(12): 1105-1119 (2005).

12. *A Methodology for Detailed Performance Modeling of Reduction Computations on SMP Machines*, **Ruoming Jin** and Gagan Agrawal, in Performance Evaluation, Vol. 60(1-4), p. 73-105, 2005.

13. *Shared Memory Parallelization of Data Mining Algorithms: Techniques, Programming Interface, and Performance*, **Ruoming Jin**, Ge Yang, and Gagan Agrawal, in the IEEE Transactions on Knowledge & Data Engineering (TKDE), Vol. 17, No. 1, January, 2005

14. *Implementing Data Cube Construction Using a Cluster Middleware: Algorithms, Implementation Experience, and Performance Evaluation*, Ge Yang, **Ruoming Jin**, and Gagan Agrawal, in Future Generation Computer Systems (FGCS), v. 19, i. 4, p. 533 - 550, 2003 .

15. *Research on Static Prediction and Visual Analysis of Program Execution Time*, Changai Sun, Maozhong Jin, Chao Liu, and **Ruoming Jin**, Journal of Software (Chinese), Vol. 14, No. 1, 2003, p: 68-75.

16. *Testing Technology of Real-time and Embedded Software*, Changai Sun, **Ruoming Jin**, Chao Liu, and Maozhong Jin, Journal of Mini Micro Systems (Chinese), Vol. 21, No. 9, 2000, p: 920-924.

Conference and Referred Workshop Papers

17. *Axiomatic Ranking of Role Similarity*, **Ruoming Jin**, Victor Lee, and Hui Hong, to appear in SIGKDD'11.

18. *Discovering Highly Reliable Subgraphs in Uncertain Graphs*, **Ruoming Jin**, Lin Liu, and Charu Agrawal, conditionally accepted at SIGKDD'11.

19. *Computing Distance-Constraint Reachability in Uncertain Graphs*, **Ruoming Jin**, Lin Liu, Bolin Ding, and Haixun Wang, to appear in PVLDB'11.

20. *Neighborhood-Privacy Protected Shortest Distance Computing in Cloud*, Jun Gao, Jeffrey Xu Yu, **Ruoming Jin**, Jiashuai Zhou, Tengjiao Wang, and Dongqing Yang, to appear in SIGMOD'11.

21. *On Dense Pattern Mining in Graph Streams*, Charu Aggrawal, Yao Li, Philip Yu, and **Ruoming Jin**, in VLDB'10 (Full Paper, Acceptance Rate: 16.1%.)

22. *Computing Label Constraint Reachability in Graph Databases*, **Ruoming Jin**, Hui Hong, Haixun Wang, Ning Ruan and Yang Xiang, in the Proceedings of ACM SIGMOD conference (SIGMOD'10), June, 2010, pages 123-134 (Full Paper, Acceptance Rate: 20.8%).

23. *Communication Motifs: A Tool to Characterize Social Communications*, Qiankun Zhao, Yuan Tian, Qi He, Nuria Oliver, **Ruoming Jin**, and Wang-Chien Lee, in CIKM'10.

24. *Block Interaction: A Generative Summarization Scheme for Frequent Patterns*, **Ruoming Jin**, Yang Xiang. Hui Hong, and Kun Huang, in KDD'10 workshop UP'10 (Useful Patterns).

25. *Predicting biomarkers for chronic lymphocytic leukemia using gene co-expression network analyses for ZAP70*, Zhang J, Ding L, Keen-Circle K, Borlawsky T, Xiang Y, Ozer HG, **Jin R**, Payne PRO, Huang K. in the Proceedings of the AMIA Summit of Translational Bioinformatics, 2010.

26. *A Tree-Based Framework for Difference Summarization*, **Ruoming Jin**, Yuri Breitbart, and Rong Li, in the Proceeding of IEEE International Conference on Data Mining (ICDM'09), pages 209-218 (Full Paper, Acceptance rate: 8.9%).

27. *A Sparsification Approach for Temporal Graphical Model Decomposition*, Ning Ruan, **Ruoming Jin**, Victor Lee, and Kun Huang, in the Proceeding of IEEE International Conference on Data Mining (ICDM'09), pages 447-456 (Full Paper, Acceptance rate: 8.9%).

28. *Cartesian Contour: A Concise Representation for a Collection of Frequent Sets*, **Ruoming Jin**, Yang Xiang, and Lin Liu, in the Proceedings of the 15th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD'09), pages 417-426 (Full Paper, Long Presentation, Acceptance rate: 10%) .

29. *Migration Motif: A spatial-temporal pattern mining approach for financial market*, Xiaoxi Du,**Ruoming Jin**, Ling Ding, Victor Lee, and John Thornton, in the Proceedings of the 15th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD'09), pages 1135-1144 (Industry/Application Track, Full Paper, Short Presentation, Acceptance rate: 27%).

30. *Multiple Information Sources Cooperative Learning*, Xingquan Zhu and **Ruoming Jin**, in the Proceedings of the 21st International Joint Conference on Artificial Intelligence (IJCAI), pages 1369-1375, Pasadena, California, USA (Full Paper, Acceptance rate: 25%).

31. *3-HOP: A High-Compression Indexing Scheme for Reachability Query*, **Ruoming Jin**, Yang Xiang, Ning Ruan, and Dave Fuhry, in the Proceedings of ACM SIGMOD conference (SIGMOD'09), pages 813-826 (Full Paper, Acceptance rate: 15.9%).

32. *Identify Dynamic Network Modules with Temporal and Spatial Constraints*, **Ruoming Jin**, Scott McCallen, Chun-Chi Liu, Yang Xiang, Eivind Almaas, and Xianghong Jasmine Zhou, in the Proceedings of Pacic Symposium on Biocomputing (PSB'09) pages 14:203-214.

33. *Using Frequent Co-expression Network to Identify Gene Clusters for Breast Cancer Prognosis*, Jie Zhang, Yang Xiang, **Ruoming Jin**, Kun Huang, in Proceedings of the ISIBM International Joint Conferences on Bioinformatics, Systems Biology and Intelligent Computing, pages 428-434, IEEE Press, 2009.

34. *Efficient Skyline Computation in Metric Space*, Dave Fuhry, **Ruoming Jin**, and Donghui Zhang, in the Proceedings of 12th International Conference on Extending Database Technology (EDBT'09), pages 1042-1051, March, 2009 (Full Paper, Acceptance rate: 32%).

35. *Estimating the Number of Frequent Itemsets in a Large Database*, **Ruoming Jin**, Scott Mccallen, Yuri Breitbart, Dave Fuhry, and Dong Wang, in the Proceedings of 12th International Conference on Extending Database Technology (EDBT'09), pages 505-516, March, 2009 (Full Paper, Acceptance rate: 32%).

36. *Overlapping Matrix Pattern Visualization: a Hypergraph Approach*, **Ruoming Jin**, Yang Xiang, Dave Fuhry, and Feodor Dragan, in International Conference on Data Mining (ICDM'08), pages 313-322 (Full Paper, Acceptance rate: 9.7%).

37. *A Topic Modeling Approach and its Integration into the Random Walk Framework for Academic Search*, Jie Tang, **Ruoming Jin**, Jing Zhang, in International Conference on Data Mining (ICDM'08), pages 1055-1060 (Short Paper, Acceptance rate: 19.9%).

38. *Effective and efficient itemset pattern summarization: regression-based approaches*, **Ruoming Jin**, Muad Abu-Ata, Yang Xiang, and Ning Ruan, in the Proceedings of the 14th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD'08), August, 2008, Pages 399-407 (Full Paper, Acceptance rate: 18.5%).

39. *Succinct summarization of transactional databases: an overlapped hyperrectangle scheme*, Yang Xiang, **Ruoming Jin**, Dave Fuhry, and Feodor Dragan, in the Proceedings of the 14th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD'08), August, 2008, Pages 758-766 (Full Paper, Acceptance rate: 18.5%).

40. *Efficiently Answering Reachability Query on Very Large Directed Graphs*, **Ruoming Jin**, Yang Xiang, Ning Ruan, and Haixun Wang, in the Proceedings of ACM SIGMOD conference (SIGMOD'08), June, 2008, Pages 595-608 (Full Paper, Acceptance rate: 18%).

41. *Query Planning for Searching Inter-dependent Deep-Web Databases*, Fan Wang, Gagan Agrawal, and **Ruoming Jin**, in the Proceedings of 20th International Conference on Scientific and Statistical Database Management (SSDBM'08), July, 2008, pages 24-41 (Full Paper, Acceptance rate: 34.5%).

42. *Cost-Based Query Optimization for Complex Pattern Mining on Multiple Databases*, **Ruoming Jin**, Dave Fuhry, and Abdulkareem Alali, in the Proceedings of 11th International Conference on Extending Database Technology (EDBT'08), March, 2008, pages 380-391 (Full Paper, Acceptance rate: 17.5%).

43. *Data Discretization Unification*, **Ruoming Jin**, Yuri Breitbart, and Chibuike Muoh, in the Proc. of the Seventh IEEE International Conference on Data Mining (ICDM'07), Oct. 2007, pages 183-192, (Full Paper, Acceptance rate: 7%, received two best paper nomination).

44. *Trend Motif: A Graph Mining Approach for Analysis of Dynamic Complex Networks*, **Ruoming Jin**, Scott McCallen, and Eivind Almaas, in the Proc. of the Seventh IEEE International Conference on Data Mining (ICDM'07), Oct. 2007, pages 541-546 (Short Paper, Acceptance rate: 19%).

45. *SNPMiner: A Domain-Specific Deep Web Mining Tool*, Fan Wang, Gagan Agrawal, **Ruoming Jin**, and Helen Piontkivska. in IEEE 7th Symposium in Bioinformatics and Bioengineering (BIBE), Oct. 2007, pages 192-199. (Acceptance rate: 13%).

46. *Graph and Topological Structure Mining on Scientific Articles*, Fan Wang, **Ruoming Jin**, Gagan Agrawal, and Helen Piontkivska. in IEEE 7th Symposium in Bioinformatics and Bioengineering (BIBE), Oct. 2007, pages 1318-1322.

47. *Assigning Schema Labels Using Ontology and Heuristics*, Xuan Zhang, **Ruoming Jin**, and Gagan Agrawal, in IEEE 6th Symposium in Bioinformatics and Bioengineering (BIBE), pages 269-280, Oct. 2006.

48. *Exploratory Tools for Follow-Up Studies to Microarray Experiments*, Kaushik Sinha, **Ruoming Jin**, Gagan Agrawal, and Helen Piontkivska, in IEEE 6th Symposium in Bioinformatics and Bioengineering (BIBE), pages 81-85, Oct. 2006.

49. *FREERIDE-G: Supporting Applications that Mine Remote FREERIDE-G: Supporting Applications that Mine Remote*, Leo Glimcher, **Ruoming Jin**, and Gagan Agrawal, in the Proc. of International Conference on Parallel Processing (ICPP), pages 109-118, August 2006.

50. *A New Robust Estimation Technique for Approximate Processing of OLAP Queries*, **Ruoming Jin**, Leo Glimcher, Chris Jermaine, and Gagan Agrawal, in the Proc. of 22nd International Conference on Data Engineering (ICDE), 18, April 2006.

51. *A Systematic Approach for Optimizing Complex Mining Tasks on Multiple Databases*, **Ruoming Jin** and Gagan Agrawal, in the Proc. of 22nd International Conference on Data Engineering (ICDE), 17, April 2006.

52. *A Decomposition-Based Probabilistic Framework for Estimating the Selectivity of XML Twig Queries*, Chao Wang, Srinivasan Parthasarath, and **Ruoming Jin**, in the Proc. of 10th International Conference on Extending Database Technology (EDBT), pages 533-551, March 2006.

53. *An Algorithm for In-Core Frequent Itemset Mining on Streaming Data*, **Ruoming Jin** and Gagan Agrawal, in the Proc. of the Fifth IEEE International Conference on Data Mining (ICDM), pages 210-217, Nov. 2005.

54. *Using Data Mining Techniques to Learn Layouts of Flat-File Biological Datasets*, Kaushik Sinha, Xuan Zhang, **Ruoming Jin**, and Gagan Agrawal, in the IEEE 5th Symposium on Bioinformatics & Bioengineering (BIBE), pages 177-184, Oct. 2005.

55. *Simultaneous Optimization of Complex Mining Tasks with a Knowledgeable Cache*, **Ruoming Jin**, Kaushik Sinhak, and Gagan Agrawal, in the Proc. of 11th International Conference on Knowledge Discovery and Data Mining (SIGKDD), pages 600-605, Aug. 2005.

56. *Discovering Frequent Topological Patterns from Graph Datasets*, **Ruoming Jin**, Chao Wang, Dmitrii Polshako, Srinivasan Parthasarathy, Gagan Agrawal, in the Proc. of 11th International Conference on Knowledge Discovery and Data Mining (SIGKDD), pages 606-611, Aug. 2005.

57. *A Framework to Support Multiple Query Optimization for Complex Mining Tasks*, **Ruoming Jin**, Kaushik Sinhak, and Gagan Agrawal, in the Sixth International Workshop on Multimedia Data Mining in conjunction with KDD (MDM/KDD2005), Aug. 2005.

58. *Learning Layouts of Biological Datasets Semi-Automatically*, Kaushik Sinha, Xuan Zhang, **Ruoming Jin**, and Gagan Agrawal, in the Proc. of 2nd International Workshop on Data Integration in the Life Sciences (DILS), Jul. 2005.

59. *Parallelizing a Defect Detection and Categorization Application*, Leo Glimcher, Gagan Agrawal, Sameep Mehta, **Ruoming Jin**, and Raghu Machiraju, in the Proc. of International Parallel and Distributed Processing Symposium (IPDPS), April 2005

60. *Fast and Exact Out-of-Core K-Means Clustering*, Anjan Goswami, **Ruoming Jin**, and Gagan Agrawal, in the Proc. of International Conference on Data Mining (ICDM), pages 83-90, Nov. 2004.

61. *Using Tiling to Scale Parallel Data Cube Construction*, **Ruoming Jin**, Karthik Vaidyanathan, Ge Yang, and Gagan Agrawal, in the Proc. of International Conference on Parallel Processing (ICPP), pages 365-372, August 2004.

62. *Parallel Data Cube Construction: Algorithms, Theoretical Analysis, and Experimental Evaluation*, **Ruoming Jin**, Ge Yang, and Gagan Agrawal, in the Prof. of 10th International Conference on High Performance Computing (HiPC), pages 74-84, Dec. 2003.

63. *Efficient Decision Tree Construction on Streaming Data*, **Ruoming Jin** and Gagan Agrawal, in the Proc. of 9th International Conference on Knowledge Discovery and Data Mining (SIGKDD), pages 571-576, Aug. 2003.

64. *Communication and Memory Optimal Parallel Data Cube Construction*, **Ruoming Jin**, Ge Yang, Gagan Agrawal, and Karthik Vaidyanathan, in the Proc. of International Conference on Parallel Processing (ICPP), pages 573-580, Aug. 2003.

65. *Communication and Memory Efficient Parallel Decision Decision Tree Construction*, **Ruoming Jin** and Gagan Agrawal, in the Third SIAM International Conference on Data Mining (SDM), May 2003.

66. *Combining Distributed Memory and Shared Memory Parallelization for Data Mining Algorithms*, **Ruoming Jin** and Gagan Agrawal, in the 6th International Workshop on High Performance Data Mining: Pervasive and Data Stream Mining (HPDM:PDS'03) in conjunction with SDM, April 2003.

67. *A Compilation Framework for Distributed Memory Parallelization of Data Mining Algorithms*, Xiaogang Li, **Ruoming Jin**, and Gagan Agrawal, in the Proc. of International Parallel and Distributed Processing Symposium (IPDPS), May, 2003.

68. *Impact of Data Distribution, Level of Parallelism and Communication Frequency on Parallel Data Cube Construction*, Ge Yang, **Ruoming Jin**, and Gagan Agrawal, in the Proc. of International Parallel and Distributed Processing Symposium (IPDPS), May, 2003.

69. *Compiler and Runtime Support for Shared Memory Parallelization of Data Mining Algorithms*, Xiaogang Li, **Ruoming Jin**, and Gagan Agrawal, in the Proc. of Languages and Compilers for Parallel Computing (LCPC), pages 265-279, 2002.

70. *Shared Memory Parallelization of Decision Tree Construction Using a General Data Mining Middleware*, **Ruoming Jin** and Gagan Agrawal, in the Proc. of EuroPar (EuroPar), pages 346-354, 2002.

71. *Performance Prediction for Random Write Reduction: A Case Study in Modeling Shared Memory Programs*, **Ruoming Jin** and Gagan Agrawal, in ACM Sigmetrics (SIGMETRICS), pages 117-128, 2002.

72. *Implementing Data Cube Construction Using a Cluster Middleware: Algorithms, Implementation Experience, and Performance Evaluation*, Ge Yang, **Ruoming Jin**, and Gagan Agrawal, in 2nd IEEE International Symposium on Cluster Computing and the Grid (CCGrid), pages 84-92, 2002.

73. *Shared Memory Parallelization of Data Mining Algorithms: Techniques, Programming Interface, and Performance*, **Ruoming Jin** and Gagan Agrawal, in Second SIAM International Conference on Data Mining (SDM), 2002.

74. *Compiler and Middleware Support for Scalable Data Mining*, Gagan Agrawal, **Ruoming Jin**, and Xiaogang Li, in 9th Workshop on Compilers for Parallel Computers, pages 33-51, June 2001.

75. *An Efficient Association Mining Implementation on Cluster of SMPs*, **Ruoming Jin** and Gagan Agrawal, in 4th International Workshop on Parallel and Distributed Data Mining, April 2001.

76. *A Middleware for Developing Parallel Data Mining Applications*, **Ruoming Jin** and Gagan Agrawal, in First SIAM International Conference on Data Mining (SDM), April 2001.

77. *Compiling Data Intensive Applications with Spatial Coordinates*, Renato Ferreira, Gagan Agrawal, **Ruoming Jin**, and Joel Saltz, in Proc. of Languages and Compilers for Parallel Computing (LCPC), pages 339-354, 2000.

78. *High-level Programming Methodologies for Data Intensive Computing*, Gagan Agrawal, Renato Ferreira, Joel Saltz, and **Ruoming Jin**, in Proc. of Languages, Compilers and Runtime Systems for Scalable Machines, pages 32-43, 2000.

Invited Talks and Colloquium

1. *Answering Reachability Query in Graph Database*, invited talks at University of Oregon (Nov. 2010) and Northwestern University (Nov. 2010).

2. *Computing Label-Constraint Reachability in Graph Databases*, presentation at SIGMOD'10 (June 2010), invited talk at Tencent Research Lab, Beijing (July, 2010).

3. *Mining Temporal Complex Network*, Biomedical Informatics Distinguished Guest Lecture, The OSU Center for Clinical and Translational Science, May, 2009.

4. *Efficiently Answering Reachability Query on Very Large Directed Graphs*, presentation at SIGMOD'08 (June 2008), invited talk at Penn State (Oct. 2008), Oakland University (Sep. 2008), Beihang University, IBM China Research Lab, AOL Beijing Research Lab (July, 2008).

5. *Database Supports for Efficient Frequent Pattern Mining*, invited talks at IBM T.J. Watson Research Center (May, 2008), Colloquium at Department of Computer Science, Wayne State University (March, 2008), invited talk at Max-Planck-Institut fcken, Germany, (August, 2007).

6. *Scalable Data Mining: System Support and Algorithms*, invited talk at Beihang University and Mathematics and Systems Institute of Chinese Academy of Sciences, June, 2007.

7. *Towards a Systematic Approach for Genome-Wide Rice Gene Annotation*, invited talk on the 3rd Rice Annotation Project Meeting (RAP3), Tsukuba, Japan, Dec. 9-10, 2006.

8. *Frequent Pattern Mining: Algorithms, Research Issues, and Applications*, talk at Department of Computer Science, Kent State University, Nov. 2005.

9. *Scalable Data Mining: System Support and Algorithms*, talk at IBM T.J. Watson, Dec. 2004.

10. *Efficiently and Accurately Mining Out-of-Core Datasets by Sampling*, talk at CMU AutonLab, Aug. 2004

11. *A Systematic Approach to Mine Multiple Datasets*, Ruoming Jin, System Group Seminar, OSU, April. 2004

12. *Developing Data Intensive Applications on SMP Clusters*, talk in First SIAM Conference on Computational Science and Engineering, September 2000.

Funding

1. *Mining across Multiple Related Data Streams*, National Nature Science Fundation of China (NSFC), 61003167, co-PI (PI: Peng Zhang), 200,000 (Yuan), 2011-2014.

2. *CAREER: Novel Data Mining Technologies for Complex Network Analysis*, NSF IIS-0953950, sole PI, $523,859.00, 2010-2015.

3. *OBR Research Challenge Award (2007-2008)*, $50,000, Principle Investigator, (Co-PI: Helen Piontkivska, B.S., KSU).

4. *KSU Research Activity Award, 2007*, Two-course release.

Professional Service

KDD, ICDM are the top (rank-1) computer science conferences;
SDM, PKDD, PAKDD, EDBT are the rank-2 computer science conferences.

1. Workshop Co-Chair for International Workshop on Mining Multiple Information Sources, in conjunction with KDD'07, KDD'08, ICDM'09, ICDM'10.

2. Senior Program Committee Member for SDM'10, SDM'11.

3. Sponsorship Co-Chair for SIAM Conference on Data Mining (SDM), 2009.

4. Program Committee Member for ACM conference on knowledge discovery and data mining (KDD), 2009, 2010.

5. Program Committee Member for International Conference on Data Mining (ICDM), 2009, 2010, 2011.

6. Program Committee Member for SIAM Conference on Data Mining (SDM), 2007, 2009, 2010.

7. Program Committee Member for International Conference on Extending Database Technology (EDBT), 2009.

8. Program Committee Member for Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD), 2007, 2008, 2009, 2010.

9. Program Committee Member for the European Conference on Machine Learning / Principles and Practice of Knowledge Discovery in Databases (ECML PKDD), 2008.

10. Program Committee Member for European First International Conference on Data Mining (ECDM), 2007.

11. Program Committee Member for IEEE International Conference on Granular Computing, 2006, 2007, 2008.

12. Program Committee Member for International Conference on Information Systems, Technology, and Management (ICISTM), 2007, 2009.

13. Program Committee Member for 8th ACIS International Conference on Software Engineering, Artificial Intelligence, Networking, and Parallel/Distributed Computing (SNPD), 2007.

14. Program Committee Member for 2nd CIKM workshop of Data and Text Mining Methods in Bioinformatics (DTMbio), 2007.

15. Program Committee Member for International Workshop on High Performance Data Mining and Application (HPDMA), 2007, in Conjuction with PAKDD 2007.
16. Program Committee Member for 2006 ECML PKDD Workshop on Parallel Data Mining.
17. Program Committee Member for 9th International Workshop on High Performance and Distributed Mining, 2006.
18. Reviewer for International Conferences: VLDB'06, PODS'07, ICDCS'07.
19. Journal Reviewer for BMC Bioinformatics, IEEE Transactions on Knowledge and Data Engineering (TKDE), IEEE Transactions on Parallel and Distributed Systems (TPDS), and IEEE Transactions on Computers (TC), ournal of Machine Learning Research (JMR).

Teaching & Course Development

1. St: Application Development for Mobile Devices, CS4/59995 (Spring, 2011, New Course)
2. Advanced Database System Design, CS 6/73005 (Spring, 2006, & Fall, 2010)
3. St: Data Mining for Complex Network, CS6/79995 (Spring, 2010, New Course)
4. Database System Design, CS 4/53005 (Spring, 2009 & Fall, 2009)
5. Discrete Structures for Computer Science (CS 23022), (Spring 2010)
6. St: Graph Mining and Management, CS 6/79995 (Spring, 2007 & Spring, 2009, New Course)
7. Data Mining Techniques, CS 6/73015 (Fall, 2006, & Fall, 2007 & Fall, 2008)
8. Computer Architecture, CS 35101 (Fall, 2005)

Current Advisees

1. Victor Lee (Ph.D. Candidate, Expected Graduation: Spring 2012)
2. Ning Ruan (Ph.D. Candidate, Expected Graduation: Spring 2012)
3. Muad Abuata (Ph.D. Student, co-advising with Dr. Feodor Dragan, Passed Preliminary, Expected Graduation: Summer 2012)
4. Lin Liu(Ph.D. Candidate, Expected Graduation: Summer 2013)
5. Salem Othman (Ph.D. Student, Passed Preliminary)
6. Saikat Dey (Ph.D. Student)
7. Yelong Sheng (Ph.D. Student)
8. Guan Wang (M.S. Student)
9. Yufan Liu (M.S. Student)
10. Daniel Gur (Undergraduate)

Graduated Advisees

1. Chibuike Muoh (M.S., Nov. 2009)
2. Xiaoxi Du (M.S., April 2009)
3. Dong Wang (M.S., Nov. 2008)
4. Dave Furhy (M.S., April 2008)
5. Dave Stanfill, (B.S., Honors thesis, April 2008)
6. Scott McCallen (M.S., Dec. 2007)