

Dr. Bo Yuan

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Research Interests

Data Mining, Evolutionary Computation and GPU Computing

Education

Ph.D., Computer Science 10/2002 – 04/2006
 The University of Queensland, Brisbane, Australia

M.Sc., Computer Science 03/2001 – 07/2002
 The University of Queensland, Brisbane, Australia

B.E., Computer Science 09/1994 – 07/1998
 Nanjing University of Science and Technology, Nanjing, P.R. China

Certificate, EMI Training 07/2017 – 07/2017
 Hertford College, The University of Oxford, United Kingdom

Academic Experience

Associate Professor 12/2009 –
 Division of Informatics, Graduate School at Shenzhen,
 Tsinghua University, Shenzhen, P.R. China

Lecturer 07/2007 – 12/2009
 Division of Informatics, Graduate School at Shenzhen,
 Tsinghua University, Shenzhen, P.R. China

Research Officer 03/2006 – 04/2007
 School of Information Technology and Electrical Engineering,
 The University of Queensland, Brisbane, Australia

Visiting Student 08/1998 – 03/1999
 Multimedia Lab, Department of Computer Science,
 Tsinghua University, Beijing, P.R. China

Management Positions

- Faculty Member, Advisory Committee for Graduate Studies (2015 –)
- Deputy Director, Office of Graduate Studies (2013 –)
- Member, Steering Committee for Teaching (2013 –)
- Founding Director, Centre for Entrepreneurship Education (2014)

Awards & Highlights

Teaching

- Top 5%, Postgraduate Class Teaching Assessment, Tsinghua University (2012, 2014, 2016)
- Annual Teaching Excellence Award, Tsinghua University (2017)
- 1st Class Award for MOOC Operations in 2016 – 2017 Academic Year, XuetangX.com (2017)

- "Smart Teaching Star", Research Center for Online Education, Ministry of Education, P.R. China (2017)
- 2nd Class Award/Best Lecture Notes Award/Most Popular Teacher Award, The 10th Beijing Higher Education Young Faculty Teaching Competition, Beijing Municipal Education Commission (2017)
- 1st Class Award, The 7th Young Faculty Teaching Competition, Tsinghua University (2016)
- 2nd Class Award for Education & Teaching Achievement, Tsinghua University (2016)
- Young Faculty Award for Teaching Excellence, Tsinghua University (2015)

Research

- Advisor, Top Class "RONG" Scholarship, Institute of Data Science, Tsinghua University (2017)
- Advisor, 2nd Class Student Contribution Award for Laboratory Development, Tsinghua University (2017)
- Advisor, Award for Master's Thesis Excellence, Tsinghua University (2015, 2017)
- Best Paper Award, The 30th Australasian Joint Conference on Artificial Intelligence (2017)
- Best Paper Award, BDM Workshop at PAKDD'11 (2011)
- Instructor, The Fifth Place Team in PAKDD'09 Data Mining Competition (2009)
- A thesis award in NUST Innovation Expo for work on Genetic Algorithms (1998)

Scholarship & Grant

- Australian Postgraduate Award (2003 – 2006)
- Queensland Government Travel Grant for IEEE WCCI 2012 (2012)
- ACM SIGEVO Student Travel Grant (2005)
- IEEE Neural Networks Society Student Travel Grant (2002)

Miscellaneous

- Shenzhen Overseas High-Level Talents Certificate (2015)
- Shenzhen High-Level Professional Certificate (2009)
- Recipient of the B.E. degree at the age of 18 (1998)

Teaching

- Academic Writing in English and Conference Presentation (PG)
- Advanced Computing Techniques and Applications (PG)
- Big Data Science and Application Seminar Series (PG)
- Data Mining: Theory and Algorithms (PG, MOOC)
- Data Science: A New Way of Thinking (PG, MOOC)
- Data Visualization (PG)
- English: First Foreign Language (PG)
- Instructor, GPU Education Center at Tsinghua University, NVIDIA
- Instructor, Blended Teaching Pilot Institute (Tsinghua University), Research Center for Online Education, Ministry of Education, P.R. China

Professional Services

Membership

- Member of the IEEE (S'02 – M'07)
- Member of the IEEE Computational Intelligence Society

Journal Reviewer

- ACM Transactions on Mathematical Software
- Ad Hoc Networks

- Annals of Operations Research
- Engineering Optimization
- China Communications
- Computational Intelligence
- Connection Science
- Evolutionary Intelligence
- IEEE Computational Intelligence Magazine
- IEEE Internet of Things Journal
- IEEE Transactions on Communications
- IEEE Transactions on Evolutionary Computation
- IEEE Transactions on Parallel and Distributed Systems
- IEEE Wireless Communications
- Information Sciences
- International Journal of Environmental Research and Public Health
- International Journal of Systems Science
- Knowledge-Based Systems
- Memetic Computing
- Neurocomputing
- PLOS ONE
- Sensors

Conference Organizer

- Publicity Chair, International Conference on Service Science (2013)

Thesis Examiner

- National Ph.D. Thesis Random Inspection Program, Ministry of Education, P.R. China (2016)
- Ph.D. Thesis, The University of Sydney, Australia (2009)

Grant Reviewer

- National Natural Science Foundation of China
- Research Foundation for Returned Overseas Scholars, Ministry of Education, P.R. China

Invited Speaker

- The 7th National Symposium on Higher Education Computer Software Courses, Guangzhou (2017)
- The 4th National Conference on MOOC and Higher Education Computing Courses, Xiamen (2016)
- The 10th National Conference on Control Engineering Postgraduate Education, Xi'an (2016)
- The 2nd China Quantitative Investment International Summit, Shenzhen (2012)

Media Appearance

- Approaching Business and Politics (Da Zheng Shang Dao), Phoenix TV (12/03/2017)

Supervision

Postdoc

- In Progress: Dr. Jun Jiang (2017), Dr. Deshan Meng (2017)
- Completed: Dr. Xuanbin Si (2017), Dr. Feng Xu (2017)

PhD Students

- In Progress: Mr. Zhuo Chen (2017), Miss Xiaojuan Cheng (2014)

Master Students

- In Progress (15): Mr. Chenhui Li, Miss Haimei Zhao (2017)
Miss Yanbin Niu, Miss Jiamei Yang, Mr. Yantao Yu, Mr. Kaiyu Zhou (2017)
Mr. Hao Yu, Mr. Dong Wang (2016)
Mr. Daochang Chen, Mr. Chenjue Wang, Mr. Zhen Wang (2016)
Mr. Yuanlong Qin, Mr. Tao Meng, Mr. Yinghao Ren, Miss Tiantian Zhang (2015)
- Awarded (25): Miss Xin Li, Miss Qiuhui Tong*, Mr. Jian Xu (2017)
Mr. Yunchang He, Mr. Pengtao Huang, Miss Yuxin Zhang, Miss Na Zhao (2016)
Mr. Yan Ji, Mr. Fei Wang*, Mr. Shiquan Yang (2015)
Mr. Jianqiang Dong, Mr. Chunyang Wang, Mr. Zhibo Yang, Miss Yanmin Zhu (2014)
Mr. Hequn Liu, Mr. Tianle Ma (2013)
Mr. Wei Chen, Mr. Ze Huang, Mr. Cheng Li, Ms. Xiaoli Ma (2012)
Miss Xiuyun Qu, Miss Xinzhu Yang (Co-Advisor, 2009)
Mr. Bohan Liu, Mr. Jian Wang, Mr. Tao Zhang (Co-Advisor, 2008)

* Award for Master's Thesis Excellence, Tsinghua University

Research Funding

Chief Investigator

- "Experimental and Online Course Platforms for Big Data Master's Program", Postgraduate Education Reform Program, Tsinghua University, RMB 30K, 2016 – 2017.
- "User Behavior Analysis for Online Education Platforms", Research Center for Online Education, Ministry of Education, P.R. China, RMB 60K, 2016 – 2017.
- "Ubiquitous Robot: Technical Framework and Conceptual Design", National High-Tech Research and Development Program (863 Program), No. 2015AAXX46201, RMB 900K+1.2M (top-up), 2015 – 2016.
- "GPU-Accelerated Data Mining Platform", Academic Partnership Program, NVIDIA, 2011 – 2012.
- "Ensemble Algorithms Based on Dynamic Model Credibility", National Natural Science Foundation of China, No. 60905030, RMB 180K+50K (top-up), 2010 – 2012.
- "Parameter Tuning Methods for Evolutionary Algorithms", Research Foundation for Returned Overseas Scholars, Ministry of Education, P.R. China, RMB 25K, 2009 – 2011.
- "Evolutionary Algorithms Based on Statistical Models", Research Seed Grants Program, Graduate School at Shenzhen, Tsinghua University, RMB 50K, 2008 – 2010.

Co-Investigator

- "Environment Perception and Object Recognition of Service Robots", National Natural Science Foundation of China, No. U1713214, RMB 3M, 2018 – 2021.
- "Vision-Based Robot Simultaneous Localization and Mapping", Shenzhen Science and Technology Innovation Commission, RMB 3M, 2017 – 2020.
- "Cyberinfrastructure Techniques for the Big Data Research Environment of Ocean Observatory", Interdisciplinary Research and Innovation Program, Graduate School at Shenzhen, Tsinghua University, RMB 350K, 2014 – 2016.
- "Key Laboratory for Space Robotics and Telescience", Shenzhen Science and Technology Innovation Commission, RMB 3M, 2014 – 2016.

- "Engineering Laboratory for Intelligent Semantic Mining Technologies", Shenzhen Development and Reform Commission, RMB 5M, 2012 – 2015.

Publications

Book Chapter

1. **Yuan, B.** and Gallagher, M. (2007) "Combining Meta-EAs and Racing for Difficult EA Parameter Tuning Tasks". In Lobo et al. eds. *Parameter Setting in Evolutionary Algorithms*, Studies in Computational Intelligence, vol. 54, Springer, pp. 121 – 142.

Journal

2. Meng, T. and **Yuan, B.** (2018) "Parallel Edge-Based Visual Assessment of Cluster Tendency on GPU". *International Journal of Data Science and Analytics*, Springer.
3. Tong, Q.H., Li, X. and **Yuan, B.** (2018) "Efficient Distributed Clustering Using Boundary Information". *Neurocomputing*, vol. 275, Elsevier, pp. 2355 – 2366.
4. Cheng, X.J., Lu, J.W., Feng, J.J., **Yuan, B.** and Zhou, J. (2018) "Scene Recognition with Objectness". *Pattern Recognition*, vol. 74, Elsevier, pp. 474 – 487.
5. Xu, F., Tan, J.B., Wang, X.Q., Puig, V., Liang, B. and **Yuan, B.** (2018) "Mixed Active/Passive Robust Fault Detection and Isolation Using Set-Theoretic Unknown Input Observers". *IEEE Transactions on Automation Science and Engineering*, IEEE.
6. Li, X.M., Zhang, C.P. and **Yuan, B.** (2017) "An Experimental Study on the Application of Rain Classroom — Elucidating the Fundamental Rules of the Connectivism Learning Theory". *Modern Educational Technology*, vol. 27(5), pp. 40 – 45.
7. Tong, Q.H., Li, X. and **Yuan, B.** (2017) "A Highly Scalable Clustering Scheme Using Boundary Information". *Pattern Recognition Letters*, vol. 89, Elsevier, pp. 1 – 7.
8. Si, X.B., Feng, J.J., **Yuan, B.** and Zhou, J. (2017) "Dense Registration of Fingerprints". *Pattern Recognition*, vol. 63, Elsevier, pp. 87 – 101.
9. Chen, B.C., Mak, A., Lin, F.Q., **Yuan, B.**, Liu, W.H. and Wang, H.Y. (2017) "Implementation of Radio Frequency Identification Middleware with Database". *Transactions of the Institute of Measurement and Control*, vol. 39(4), SAGE, pp. 455 – 465.
10. Xu, F., Tan, J.B., Wang, X.Q., Puig, V., Liang, B., **Yuan, B.** and Liu, H.D. (2017) "Generalized Set-Theoretic Unknown Input Observer for LPV Systems with Application to State Estimation and Robust Fault Detection". *International Journal of Robust and Nonlinear Control*, vol. 27, Wiley, pp. 3812 – 3832.
11. Wang, L.T., Hu, X.L., **Yuan, B.** and Lu, J.F. (2015) "Active Learning via Query Synthesis and Nearest Neighbour Search". *Neurocomputing*, vol. 147, Elsevier, pp. 426 – 434.
12. **Yuan, B.** (2014) "On the Gap between Graduate Course Study and Research Ability Development". *Academic Degrees & Graduate Education*, vol. 2014(4), pp. 25 – 28.
13. Cui, K., Lyu, Q., Xu, N., Liu, Q., Zhang, J., Xing, W., Bai, L., Liao, M., He, J., **Yuan, B.**, Chen, D., Xie, W. and Zhang, Y. (2014) "Characterization of the microRNA Pool and the Factors Affecting Its Regulatory Potential". *Integrative Biology*, vol. 6(12), Royal Society of Chemistry, pp. 1141 – 1152.
14. **Yuan, B.** and Liu, W.H. (2012) "Measure Oriented Training: A Targeted Approach to Imbalanced Classification Problems". *Frontiers of Computer Science*, vol. 6(5), Springer, pp. 489 – 497.

15. Shang, S., **Yuan, B.**, Deng, K., Xie, K.X., Zheng, K. and Zhou, X.F. (2012) "PNN Query Processing on Compressed Trajectories". *GeoInformatica*, vol. 16(3), Springer, pp. 467 – 496.
16. Tu, Q., Lu, J.F., **Yuan, B.**, Tang, J.B. and Yang, J.Y. (2012) "Density-Based Hierarchical Clustering for Streaming Data". *Pattern Recognition Letters*, vol. 33(5), Elsevier, pp. 641 – 645.
17. Lin, F.Q., Chen, B.C., **Yuan, B.**, Liu, W.H., Li, X.Y., Mak, A. and Wang H.Y. (2010) "Composition and Implementation of RFID Lightweight Middleware". *Computer Engineering*, vol. 36(17), pp. 77 – 80.
18. **Yuan, B.**, Orlowska, M. and Sadiq, S. (2008) "Extending a Class of Continuous Estimation of Distribution Algorithms to Dynamic Problems". *Optimization Letters*, vol. 2(3), Springer, pp. 433 – 443.
19. **Yuan, B.**, Orlowska, M. and Sadiq, S. (2007) "On the Optimal Robot Routing Problem in Wireless Sensor Networks". *IEEE Transactions on Knowledge and Data Engineering*, vol. 19(9), IEEE, pp. 1252 – 1261.
20. Gallagher, M. and **Yuan, B.** (2006) "A General-Purpose Tunable Landscape Generator". *IEEE Transactions on Evolutionary Computation*, vol. 10(5), IEEE, pp. 590 – 603.
21. Lu, J.F., **Yuan, B.** and Yang, J.Y. (1999) "A Genetic Design for Feedforward Neural Network". *Journal of Nanjing University of Science and Technology*, vol. 23(6), pp. 486 – 489.

Conference

22. **Yuan, B.** and Zhang, T.T. (2017) "Towards Solving TSPN with Arbitrary Neighborhoods: A Hybrid Solution". In *Proceedings of the 2017 Australasian Conference on Artificial Life and Computational Intelligence*, LNAI 10142, Springer, pp. 204 – 215, Geelong, Australia.
23. Meng, T. and **Yuan, B.** (2017) "Parallel Visual Assessment of Cluster Tendency on GPU". In *Proceedings of the 21st Pacific-Asia Conference on Knowledge Discovery and Data Mining*, LNAI 10235, Springer, pp. 429 – 440, Jeju, South Korea. ***Long Presentation Paper**
24. Qin, Y.L. and **Yuan, B.** (2017) "ACO-iRBA: A Hybrid Approach to TSPN with Overlapping Neighborhoods". In *Proceedings of the 11th International Conference on Simulated Evolution and Learning*, LNCS 10593, Springer, pp. 87 – 96, Shenzhen, P.R. China.
25. Zhang, T.T. and **Yuan, B.** (2017) "Density-Based Multiscale Analysis for Clustering in Strong Noise Settings". In *Proceedings of the 30th Australasian Joint Conference on Artificial Intelligence*, LNAI 10400, Springer, pp. 27 – 38, Melbourne, Australia. ***Best Paper Award**
26. Zhang, T.T. and **Yuan, B.** (2016) "Visualizing MOOC User Behaviors: A Case Study on XuetangX". In *Proceedings of the 17th International Conference on Intelligent Data Engineering and Automated Learning*, LNCS 9937, Springer, pp. 89 – 98, Yangzhou, P.R. China.
27. Zhang, T.T., **Yuan, B.**, Meng, T., Ren, Y.H., Liu, H.D. and Wang, X.Q. (2016) "Ubiquitous Robot: A New Paradigm for Intelligence". In *Proceedings of the 17th International Conference on Intelligent Data Engineering and Automated Learning*, LNCS 9937, Springer, pp. 202 – 211, Yangzhou, P.R. China.
28. Zhang, Y.X. and **Yuan, B.** (2016) "Supervised Online Dictionary Learning for Image Separation Using OMP". In *Proceedings of the 2016 International Conference on Intelligent Computing*, LNCS 9772, Springer, pp. 557 – 568, Lanzhou, P.R. China.
29. He, Y.C., Xu, J. and **Yuan, B.** (2016) "Community Structure Analysis Using Label Propagation and Flow-Based Ensemble Learning". In *Proceedings of the 2016 International Joint Conference on Neural Networks*, IEEE, pp. 720 – 726, Vancouver, Canada.

30. Xu, F., Tan, J.B., Wang, X.Q., Puig, V., Liang, B., **Yuan, B.** and Liu, H.D. (2016) "Analysis of Set-Theoretic Unknown Input Observer and Interval Observer in Robust Fault Detection". In *Proceedings of the 55th IEEE Conference on Decision and Control*, IEEE, pp. 1291 – 1296, Las Vegas, USA.
31. Xu, F., Tan, J.B., Wang, X.Q., Puig, V., Liang, B. and **Yuan, B.** (2016) "A Novel Design of Unknown Input Observers Using Set-Theoretic Methods for Robust Fault Detection". In *Proceedings of the 2016 American Control Conference*, IEEE, pp. 5957 – 5961, Boston, USA.
32. Xu, F., Tan, J.B., Liu, H.D., Puig, V., Wang, X.Q., Liang, B. and **Yuan, B.** (2016) "Robust State Estimation and Fault Detection Combining Unknown Input Observer and Set-Membership Approach". In *Proceedings of the 3rd International Conference on Control and Fault-Tolerant Systems*, IEEE, pp. 67 – 72, Barcelona, Spain.
33. Huang, P.T. and **Yuan, B.** (2015) "Mining Massive-Scale Spatiotemporal Trajectories in Parallel: A Survey". In *Proceedings of the 19th Pacific-Asia Conference on Knowledge Discovery and Data Mining – Workshop Papers*, LNAI 9441, Springer, pp. 41 – 52, Ho Chi Minh City, Vietnam.
34. Huang, P.T., Li, X. and **Yuan, B.** (2015) "A Parallel GPU-Based Approach to Clustering Very Fast Data Streams". In *Proceedings of the 24th ACM International Conference on Information and Knowledge Management*, ACM, pp. 23 – 32, Melbourne, Australia.
35. Tong, Q.H., **Yuan, B.** and Li, X. (2014) "Cyberinfrastructure: Applications and Challenges". In *Proceedings of the 2014 International Conference on Smart Computing*, IEEE, pp. 74 – 80, Hong Kong, P.R. China.
36. Wang, C.Y. and **Yuan, B.** (2014) "Robust Fingertip Tracking with Improved Kalman Filter". In *Proceedings of the 2014 International Conference on Intelligent Computing*, LNCS 8588, Springer, pp. 619 – 629, Taiyuan, P.R. China.
37. Wang, F. and **Yuan, B.** (2014) "Parallel Frequent Pattern Mining without Candidate Generation on GPUs". In *Proceedings of the 2014 International Conference on Data Mining Workshops*, IEEE, pp. 1046 – 1052, Shenzhen, P.R. China.
38. Zhu, Y.M. and **Yuan, B.** (2014) "Real-Time Hand Gesture Recognition with Kinect for Playing Racing Video Games". In *Proceedings of the 2014 International Joint Conference on Neural Networks*, IEEE, pp. 3240 – 3246, Beijing, P.R. China.
39. Xin, X.Y., Guo, Z.H., **Yuan, B.** and Zhou, J. (2014) "Improved Post-Processing for Human Detection in Railroad Surveillance". In *Proceedings of the 2014 International Conference on Service Sciences*, IEEE, pp. 271 – 276, Wuxi, P.R. China.
40. Yang, S.Q., Dong, J.Q. and **Yuan, B.** (2014) "An Efficient Parallel ISODATA Algorithm Based on Kepler GPUs". In *Proceedings of the 2014 International Joint Conference on Neural Networks*, IEEE, pp. 2444 – 2449, Beijing, P.R. China.
41. Yang, Z.B., Zhu, Y.M. and **Yuan, B.** (2014) "Effective Palm Tracking with Integrated Tracker and Offline Detector". In *Proceedings of the 2014 International Conference on Intelligent Computing*, LNAI 8589, Springer, pp. 318 – 327, Taiyuan, P.R. China.
42. Dong, J.Q. and **Yuan, B.** (2013) "GPU-Accelerated Standard and Multi-Population Cultural Algorithms". In *Proceedings of the 2013 International Conference on Service Science*, IEEE, pp. 129 – 133, Shenzhen, P.R. China.

43. Wang, C.Y., **Yuan, B.** and Liu, G.W. (2013) "A Decision Support System Based on SSH and DWR for the Retail Industry". In *Proceedings of the 2013 International Conference on Service Science*, IEEE, pp. 234 – 238, Shenzhen, P.R. China.
44. Yang, Z.B. and **Yuan, B.** (2013) "Vision Based Multi-Pedestrian Tracking Using Adaptive Detection and Clustering". In *Proceedings of the 14th International Conference on Intelligent Data Engineering and Automated Learning*, LNCS 8206, Springer, pp. 58 – 66, Hefei, P.R. China.
45. Dong, J.Q., Wang, F. and **Yuan, B.** (2013) "Accelerating BIRCH for Clustering Large Scale Streaming Data Using CUDA Dynamic Parallelism". In *Proceedings of the 14th International Conference on Intelligent Data Engineering and Automated Learning*, LNCS 8206, Springer, pp. 409 – 416, Hefei, P.R. China.
46. Wang, F., Dong, J.Q. and **Yuan, B.** (2013) "Graph-Based Substructure Pattern Mining Using CUDA Dynamic Parallelism". In *Proceedings of the 14th International Conference on Intelligent Data Engineering and Automated Learning*, LNCS 8206, Springer, pp. 342 – 349, Hefei, P.R. China.
47. Xie, Q., Shang, S., **Yuan, B.**, Pang C. and Zhang, X. (2013) "Local Correlation Detection with Linearity Enhancement in Streaming Data". In *Proceedings of the 22nd ACM International Conference on Information and Knowledge Management*, ACM, pp. 309 – 318, San Francisco, USA.
48. Zhu, Y.M., Yang, Z.B. and **Yuan, B.** (2013) "Vision Based Hand Gesture Recognition". In *Proceedings of the 2013 International Conference on Service Science*, IEEE, pp. 260 – 265, Shenzhen, P.R. China.
49. Hu, X.L., He, X., Zhang, J.W. and **Yuan, B.** (2013) "Mining Human Attractiveness from Chinese Dating Game Show If You Are The One". In *Proceedings of the 2013 International Conference on Service Science*, IEEE, pp. 271 – 276, Shenzhen, P.R. China.
50. **Yuan, B.** and Ma, X.L. (2012) "Sampling + Reweighting: Boosting the Performance of AdaBoost on Imbalanced Datasets". In *Proceedings of the 2012 International Joint Conference on Neural Networks*, IEEE, pp. 2680 – 2685, Brisbane, Australia.
51. Huang, Z., **Yuan, B.** and Hu, X.L. (2012) "Understanding the Top Grass Roots in Sina-Weibo". In *Proceedings of the 2012 International Workshop on Intelligence Science and Intelligent Data Engineering*, LNCS 7751, Springer, pp. 17 – 24, Nanjing, P.R. China.
52. Huang, Z. and **Yuan, B.** (2012) "Mining Google Scholar Citations: An Exploratory Study". In *Proceedings of the 2012 International Conference on Intelligent Computing*, LNCS 7389, Springer, pp. 182 – 189, Huangshan, P.R. China.
53. Liu, H.Q., **Yuan, B.** and Li, C. (2012) "Music Recommendation Based on Label Correlation". In *Proceedings of the Joint Conference of the Sixth Chinese Semantic Web Symposium and the First Chinese Web Science Conference*, Springer, pp. 143 – 152, Shenzhen, P.R. China.
54. Ma, X.L. and **Yuan, B.** (2012) "Enhancing Software Search with Semantic Information from Wikipedia". In *Proceedings of the Joint Conference of the Sixth Chinese Semantic Web Symposium and the First Chinese Web Science Conference*, Springer, pp. 1 – 9, Shenzhen, P.R. China.
55. Hu, X.L., Wang, L.T. and **Yuan, B.** (2012) "Querying Representative Points from a Pool Based on Synthesized Queries". In *Proceedings of the 2012 International Joint Conference on Neural Networks*, IEEE, pp. 1734 – 1739, Brisbane, Australia.
56. Shang, S., Ding, R.G., **Yuan, B.**, Xie, K.X., Zheng, K. and Kalnis, P. (2012) "User Oriented Trajectory Search for Trip Recommendation". In *Proceedings of the 15th International Conference on Extending Database Technology*, ACM, pp. 156 – 167, Berlin, Germany.

57. Ma, T.L., Yang, Y.J., Wang, L.W. and **Yuan, B.** (2012) "Recommending People to Follow Using Asymmetric Factor Models with Social Graphs". In *Proceedings of the 17th Online World Conference on Soft Computing in Industrial Applications*, AISC 223, Springer, pp. 265 – 276.
58. **Yuan, B.** and Liu, W.H. (2011) "A Measure Oriented Training Scheme for Imbalanced Classification Problems". In *Proceedings of the 15th Pacific-Asia Conference on Knowledge Discovery and Data Mining – Workshop Papers*, LNAI 7104, Springer, pp. 293 – 303, Shenzhen, P.R. China. ***Best Paper Award**
59. Shang, S., **Yuan, B.**, Deng, K., Xie, K.X. and Zhou, X.F. (2011) "Finding the Most Accessible Locations – Reverse Path Nearest Neighbor Query in Road Networks". In *Proceedings of the 19th International Conference on Advances in Geographic Information Systems*, ACM, pp. 181 – 190, Chicago, USA.
60. **Yuan, B.**, Li, C. and Chen, W. (2010) "Training a Pac-Man Player with Minimum Domain Knowledge and Basic Rationality". In *Proceedings of the 2010 International Conference on Intelligent Computing*, CCIS 93, Springer, pp. 169 – 177, Changsha, P.R. China.
61. **Yuan, B.** and Gallagher, M. (2009) "Convergence Analysis of UMDA_C with Finite Populations: A Case Study on Flat Landscapes". In *Proceedings of the 2009 Genetic and Evolutionary Computation Conference*, ACM, pp. 477 – 482, Montreal, Canada.
62. **Yuan, B.** and Gallagher, M. (2009) "An Improved Small-Sample Statistical Test for Comparing the Success Rates of Evolutionary Algorithms". In *Proceedings of the 2009 Genetic and Evolutionary Computation Conference*, ACM, pp.1879 – 1880, Montreal, Canada.
63. Han, S.L., **Yuan, B.** and Liu, W.H. (2009) "Rare Class Mining: Progress and Prospect". In *Proceedings of the 2009 Chinese Conference on Pattern Recognition*, IEEE, pp. 137 – 141, Nanjing, P.R. China.
64. Qu, X.Y., **Yuan, B.** and Liu, W.H. (2009) "A Novel Two-Phase Method for the Classification of Incomplete Data". In *Proceedings of the 2009 International Conference on Information Management, Innovation Management and Industrial Engineering*, IEEE, vol. 3, pp. 452 – 455, Xi'an, P.R. China.
65. Qu, X.Y., **Yuan, B.** and Liu, W.H. (2009) "A Predicative Model for Identifying Possible MCI to AD Conversions in the ADNI Database". In *Proceedings of the 2nd International Symposium on Knowledge Acquisition and Modeling*, IEEE, vol. 3, pp. 102 – 105, Wuhan, P.R. China.
66. Yang, X.Z., **Yuan, B.** and Liu, W.H. (2009) "Dynamic Weighting Ensembles for Incremental Learning". In *Proceedings of the 2009 Chinese Conference on Pattern Recognition*, IEEE, pp. 98 – 102, Nanjing, P.R. China.
67. Yang, X.Z., **Yuan, B.** and Liu, W.H. (2009) "An Empirical Study of the Convergence of RegionBoost". In *Proceedings of the 2009 International Conference on Intelligent Computing*, LNAI 5755, Springer, pp. 527 – 535, Ulsan, South Korea.
68. Yang, X.Z., **Yuan, B.** and Liu, W.H. (2009) "The Effect of Distance Metrics on Boosting with Dynamic Weighting Schemes". In *Proceedings of the 6th International Conference on Fuzzy Systems and Knowledge Discovery*, vol. 1, pp. 320 – 324, IEEE, Tianjin, P.R. China.
69. Liu, B.H., **Yuan, B.** and Liu, W.H. (2008) "Classification and Dimension Reduction in Bank Credit Scoring System". In *Proceedings of the Fifth International Symposium on Neural Networks*, LNCS 5263, Springer, pp. 531 – 538, Beijing, P.R. China.
70. Wang, J., **Yuan, B.** and Liu, W.H. (2008) "Application of Decision Trees in Mining High-Value Credit Card Customers". In *Proceedings of the 11th Joint Conference on Information Sciences*, AISR 7, Atlantis Press, Shenzhen, P.R. China.

71. Zhang, T., **Yuan, B.** and Liu, W.H. (2008) "Predicting Credit Card Customer Loyalty Using Artificial Neural Networks". In *Proceedings of the 11th Joint Conference on Information Sciences, AISR 7*, Atlantis Press, Shenzhen, P.R. China.
72. **Yuan, B.**, Orłowska, M. and Sadiq, S. (2007) "Finding the Optimal Path in 3D Spaces Using EDAs – The Wireless Sensor Networks Scenario". In *Proceedings of the 8th International Conference on Adaptive and Natural Computing Algorithms, LNCS 4431*, Springer, pp. 536 – 545, Warsaw, Poland.
73. **Yuan, B.** and Gallagher, M. (2006) "A Mathematical Modelling Technique for the Analysis of the Dynamics of a Simple Continuous EDA". In *Proceedings of the 2006 Congress on Evolutionary Computation, IEEE*, pp. 1585 – 1591, Vancouver, Canada. Also in *Dagstuhl Seminar Proceedings: Theory of Evolutionary Algorithms 2006*.
74. **Yuan, B.**, Orłowska, M. and Sadiq, S. (2006) "Real-Time Acquisition of Buyer Behaviour Data – The Smart Shop Floor Scenario". In *Proceedings of the First International Workshop on Business Intelligence for the Real Time Enterprise (with VLDB'06), LNCS 4365*, Springer, pp. 106 – 117, Seoul, South Korea.
75. **Yuan, B.** and Gallagher, M. (2005) "A Hybrid Approach to Parameter Tuning in Genetic Algorithms". In *Proceedings of the 2005 Congress on Evolutionary Computation, IEEE*, pp. 1096 – 1103, Edinburgh, UK.
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