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A. Academic Appointments

- Professor, (01/2016 — present), Department of Computer Science and Engineering, **Washington University in St. Louis**.
- Associate Professor, (07/2010 — 12/2015), Department of Computer Science and Engineering, **Washington University in St. Louis**.
- Assistant Professor, (08/2005 — 06/2010), Department of Computer Science and Engineering, **Washington University in St. Louis**.

B. Education History

- **University of Illinois at Urbana-Champaign**, Computer Science, Ph.D., October 2005.
- **University of Illinois at Urbana-Champaign**, Computer Science, M.Sc., May 2001.
- **University of Science and Technology of China**, Computer Science, B.Sc., May 1999.

C. Honors and Awards

Fellow, Asia-Pacific Artificial Intelligence Association (AAIA), 2023.

Fellow, Institute of Electrical and Electronics Engineers (IEEE), 2022.

Best Paper Award Honorable Mention, ACM CHI Conference on Human Factors in Computing Systems (CHI-18), 2018.

Best Paper Award, 17th International Conference on Intelligent Data Engineering and Automated Learning (IDEAL-16), 2016.

Distinguished Paper Award, American Medical Informatics Annual Fall Symposium (AMIA-15), 2015.

Best Student Paper Runner-up Award, the 20th ACM SIGKDD Conference on Knowledge Discovery and Data Mining, 2014.

Best Paper Award Nomination, IEEE International Conference on Data Mining, 2013. Invited to a best paper issue in the Knowledge and Information Systems Journal.

Best Paper Award Nomination, IEEE Real-Time and Embedded Technology and Applications Symposium, 2012. Invited to a best paper issue in the ACM Transactions on Embedded Computing Systems.

Outstanding Paper Award, AAAI Conference on Artificial Intelligence, 2010. The only Outstanding Paper Award in the main technical track out of 982 submissions.

Best Paper Award Nomination, ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, 2009. 12 nominations out of 583 submissions.

Undergraduate Professor of the Year Award Nomination, Undergraduate Student Government (EnCouncil), School of Engineering, Washington University in St. Louis, 2009.

Microsoft Research New Faculty Fellow, only five awardees annually selected from assistant professors in the US and Canada, 2007.

Allocation Awards, National Energy Research Scientific Computing Center, 2008.

Startup Allocation Awards, National Energy Research Scientific Computing Center, 2007.

Department of Energy Early Career Principal Investigator Award, about twenty awardees annually selected from assistant professors in the US, July 2006.

First Prize, Optimal Track, 5th International Planning Competition, International Conference on Automated Planning and Scheduling, June 9, 2006.

First Prize, Satisficing Track, 5th International Planning Competition, International Conference on Automated Planning and Scheduling, June 9, 2006.

Best Paper Award, 17th IEEE International Conference on Tools for Artificial Intelligence, 2005.

Lotfi Zadeh Outstanding Paper Award, 3rd International Conference on Machine Learning and Cybernetics, 2004.

Best Paper Award Nomination, IEEE/WIC/ACM International Conference on Intelligent Agent Technology, 2004.

First Prize, Suboptimal Temporal Metric Track, 4th International Planning Competition, International Conference on Automated Planning and Scheduling, June 6, 2004.

Second Prize, Suboptimal Propositional Track, 4th International Planning Competition, International Conference on Automated Planning and Scheduling, June 6, 2004.

Chancellor's List, University of Illinois at Urbana-Champaign, 2004

Admission to the Special Class of Gifted Young, University of Science and Technology of China, 1995.

D. Refereed Publications

Journal Articles

1. Z. Xiao, W. Li, H. Moon, G. Roell, **Y. Chen**, Y. Tang, "Generative Artificial Intelligence GPT-4 Accelerates Knowledge Mining and Machine Learning for Synthetic Biology", *ACS Synthetic Biology*, DOI: 10.1021/acssynbio.3c00310, 2023.

2. G. Zou, S. Lin, S. Hu, S. Duan, Y. Lan, B. Zhang, **Y. Chen**, "FHC-DQP: Federated Hierarchical Clustering for Distributed QoS Prediction", *IEEE Transactions on Services Computing*, accepted, 2023.

3. Z. Dong, **Y. Chen**, P. Payne, F. Li, "Interpreting the Mechanism of Synergism for Drug Combinations Using Attention-Based Hierarchical Graph Pooling", *Cancers*, in press, 2023.

4. M. Abdelhack, J. Zhang, S. Tripathi, B.Fritz, D. Felsky, M. Avidan, **Y. Chen**, C. King, "A Modulation Layer to Increase Neural Network Robustness Against Data Quality Issues", *Transactions on Machine Learning Research*, accepted, 2023.

5. G. Zou, S. Wu, X. Sheng, C. Cao, Y. Gan, B. Zhang, **Y. Chen**, "NCRL: Neighborhood-based Collaborative Residual Learning for Adaptive QoS Prediction", *IEEE Transactions on Services Computing*, accepted, 2022.

6. Y. Shao, L. Chen, **Y. Chen**, W. Liu, "Social Influence Source Locating Based on Network Sparsification and Stratification", *Expert Systems With Applications*, accepted, 2022.

7. G. Zou, T. Li, M. Jiang, S. Hu, C. Cao, B. Zhang, Y. Gan, **Y. Chen**, "DeepTSQP: Temporal-aware service QoS prediction via deep neural network and feature integration", *Knowledge-Based Systems*, accepted, 2022.

8. B. Chen, W. Jiang, **Y. Chen**, L. Chen, R. Wang, S. Han, J. Lin, Y. Zhang, "Influence Blocking Maximization on Networks: Models, Methods and Applications", *Physics Reports*, accepted, 2022.

9. L. Chen, Y. Wang, **Y. Chen**, B. Li, W. Liu, "Random walk based algorithm for distance-aware influence maximization on multiple query locations", *Knowledge Based Systems*, in press, 2022.

10. G. Zou, S. Duan, C. Cao, B. Zhang, Y. Gan, **Y. Chen**, "DeepLTSC: Long-tail Service Classification via Integrating Category Attentive Deep Neural Network and Feature Augmentation", *IEEE Transactions on Network and Service Management*, accepted, 2021.

11. G. Zou, T. Li, M. Jiang, C. Cao, B. Zhang, Y. Gan, **Y. Chen**, "Temporal-aware Service QoS Prediction via Deep Neural Network and Feature Integration", *Knowledge Based Systems*, in press, 2021.

12. C. King, J. Abraham, B. Fritz, Z. Cui, W. Galanter, **Y. Chen**, and T. Kannampallil, "Predicting self-intercepted medication ordering errors using machine learning", *PLOS One*, accepted, 2021.

13. W. Ju, L. Chen, B. Li, **Y. Chen**, X. Sun, "Node deletion based algorithm for blocking maximization on negative influence from uncertain sources", *Knowledge Based Systems*, 231:107451, 2021.

14. L. Chen, Y. Zhang, **Y. Chen**, B. Li, and W. Liu, "Negative Influence Blocking Maximization with Uncertain Sources under the Independent Cascade Model", *Information Sciences*, 564:343-367, 2021.

15. H. Zhang, **Y. Chen**, and F. Li, "Predicting anti-cancer drug response with deep learning constrained by signaling pathways", *Frontiers in Bioinformatics, section Network Bioinformatics*, accepted, 2021.

16. S. Jia, L. Chen, **Y. Chen**, B. Li, and W. Liu, "Minimizing the seed set cost for influence spreading with probabilistic guarantees", *Knowledge Based Systems*, accepted, 2021.

17. Z. Yao, J. Li, Z. Guan, Y. Ye, and **Y. Chen**, "Liver Disease Screening based on Densely Connected Deep Neural Networks", *Neural Networks*, 123:299-304, 2020.

18. J. Shen, L. Chen, **Y. Chen**, B. Li, and W. Liu, "Positive Influence Maximization in Signed Social Networks under Independent Cascade Model", *Soft Computing*, 24(19): 14287-14303, 2020.

19. W. Liu, J. He, L. Chen, B. Joen, **Y. Chen**, "A Random Walk Approach for Avoiding Unwanted Users in Competitive Social Networks", *IEEE Access*, accepted, 2020.

20. L. Chen, Y. Zhang, **Y. Chen**, B. Li, and W. Liu, "Negative Influence Blocking Maximization with Uncertain Sources under the Independent Cascade Model", *Information Sciences*, 2020.

21. Y. Mao, Y. Li, and Y. Chen, "Real-Time Medical Electronic Data Mining based on Hierarchical Attention Mechanism", *ICIC Express Letters*, accepted, 2020.

22. B. Fritz, Z. Cui, M. Zhang, Y. He, **Y, Chen**, A. Kronzer, A. Abdallah, C. King, and M. Avidan, "Deep-learning model for predicting 30-day postoperative mortality", *British Journal of Anaesthesia*, in press, DOI: 10.1016/j.bja.2019.07.025, 2019.

23. H. Wang, Q. Zhang, J. Wu, S. Pan, and **Y. Chen**, "Discriminative Feature Learning from Labeled and Unlabeled Time Series Data", *Pattern Recognition*, 89(1):55-66, 2019.

24. C. Fang, P. Si, **Y. Chen**, X. Wang, F. Yu, "Edge Cache-Based ISP-CP Collaboration Scheme for Content Delivery Services", *IEEE Access*, 7: 5277-5284, 2019.

25. H. Wang, J. Wu, P. Zhang, and **Y. Chen**, "Learning Shapelet Patterns from Network-based Time Series Data", *IEEE Transactions on Industrial Informatics*, in press, DOI: 10.1109/TII.2018.2885700, 2018.

26. H. Wang, Z. Cui, **Y. Chen**, M. Avidan, A. Abdallah, A. Kronzer, "Predicting Hospital Readmission via Cost-sensitive Deep Learning", *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, 15(6): 1968-1978, 2018.

27. H. Wang, J. Wu, X. Zhu, **Y. Chen**, and C. Zhang, "Time-Variant Graph Classification", *IEEE Transactions on Systems, Man, and Cybernetics*, accepted, 2018.

28. B. Fritz, **Y. Chen**, Murray-Torres, S. Gregory, A. Abdallah, A. Kronzer, S. McKinnon, T. Budelier, D. Helsten, T. Wildes, A. Sharma, and M. Avidan, "Using machine learning techniques to develop forecasting algorithms for postoperative complications: protocol for a retrospective study", *BMC Open*, accepted, DOI:10.1136/bmjopen-2017-020124, 2018.

29. X. Xie, Y. Wang, D. Yan, **Y. Chen**, Z. Peng, Y. He, and X. Ma,"Long-term effects of ambient PM2.5 on hypertension and blood pressure and attributable risk among reproductive-age adults in China", *Journal of the American Heart Association*, accepted, DOI: 10.1161/JAHA.118.008553, 2018.

30. Z. Yao, J. Bi, and Y. Chen, "Applying Deep Learning to Individual and Community Health Monitoring Data: a Survey", *International Journal of Automation and Computing*, accepted, 2018.

31. Q. Lv, **Y. Chen**, Z. Li, Z. Cui, L. Chen, X. Zhang, H. Shen, "Achieving data-driven actionability by combining learning and planning", *Frontiers of Computer Science*, DOI:10.1007/s11704-017-6315-2, 2018.

32. D. Picker, M. Dans, K. Heard, T. Bailey, **Y. Chen**, C. Lu, M. Kollef, "A randomized trial of palliative care discussions linked to an automated early warning system alert", *Critical Care Medicine*, 45(2): 234-240, 2017.

33. X. Xie, L. Lin, S. Fan, W. Zhou, F. Lin, L. Wang, T. Guo, X. Ma, Y. He, **Y. Chen**, "Internet hospital in China: a cross-sectional survey", *J. Med Internet Res.*, 19(7):e239, 2017.

34. T. Oyetunde, M. Zhang, **Y. Chen**, Y. Tang, and C. Lo, "BoostGAPFILL: Improving the fidelity of metabolic network reconstructions through integrated constraint and pattern-based methods", *Bioinformatics*, 33(4):608-611, 2017.

35. M. Kollef, K. Heard, **Y. Chen**, C. Lu, N. Martin, and T. Bailey, "Mortality and Length of Stay Trends Following Implementation of a Rapid Response System and Real-Time Automated Clinical Deterioration Alerts", *American Journal of Medical Quality*, 32(1): 12-18, 2017.

36. S. Micek, M. Samant, T. Bailey, **Y. Chen**, C. Lu, K. Heard, M. Kollef, "Real-time automated clinical deterioration alerts predict thirty-day hospital readmission", *Journal of Hospital Medicine*, 45(2): 234-240, 2017.

37. P. Tiwari, Y. Xie, **Y. Chen**, and J. Deasy, "Efficiency and Plan Quality Improvements for Intensity-Modulated Radiation Therapy Treatment Planning using an Open-source Interior Point Optimization Solver", *Medical Physics*, accepted, 2016.

38. L. He, S. Wu, M. Zhang, **Y. Chen**, and Y. Tang, " WUFlux: an open-source platform for 13C metabolic flux analysis of bacterial metabolism", *BMC Bioinformatics*, accepted, 2016.

39. Q. Lu, Z. Cui, **Y. Chen**, X. Chen, "Extracting Optimal Actionable Plans from Additive Tree Models", *Frontiers of Computer Science*, accepted, 2016.

40. G. Zou, Y. Gan, **Y. Chen**, B. Zhang, "Dynamic composition of Web services using efficient planners in large-scale service repository", *Knowledge-Based Systems*, accepted, 2015.

41. G. Zou, Y. Gan, **Y. Chen**, B. Zhang, R. Huang, Y. Xu, Y. Xiang, "Towards automated choreography of Web services using planning in large scale service repositories", *Applied Intelligence*, accepted, 2015.

42. B. Li, H. Gonzalez, S. Abu, M. Sha, D. Gunatilaka, C. Wu, L. Nie, C. Lu, and **Y. Chen**, "Real-Time Wireless Sensor-Actuator Networks for Industrial Cyber-Physical Systems", *Proceedings of the IEEE*, accepted, 2015.

43. W. Chen, **Y. Chen**, and D. Levine, "A Unifying Learning Framework for Building Artificial Game-Playing Agents", *Annals of Mathematics and Artificial Intelligence*, DOI:10.1007/s10472-015-9450-1, 2015.

44. Y. He, Y. Mao, W. Chen, and **Y. Chen**, "Nonlinear Metric Learning with Kernel Density Estimation", *IEEE Transactions on Knowledge and Data Engineering*, accepted, 2015.

45. A. Leavey, Y. Fu, M. Sha, A. Kutta, C. Lu, W. Wang, B. Drake, **Y. Chen**, and P. Biswas, "Air quality metrics and wireless technology to maximize the energy efficiency of HVAC in a working auditorium", *Building and Environment*, 85:287-297, 2015.

46. A. Saifullah, Y. Xu, C. Lu, and **Y. Chen**, "End-to-End Communication Delay Analysis in Industrial Wireless Networks", *IEEE Transactions on Computers*, doi:10.1109/TC.2014.2322609, 2014.

47. A. Saifullah, Y. Xu, C. Lu, and **Y. Chen**, "Distributed Channel Allocation Protocols for Wireless Sensor Networks", *IEEE Transactions on Parallel and Distributed Systems*, 25(9):2264 - 2274, 2014.

48. G. Zou, Q. Lu, **Y. Chen**, R. Huang, Y. Xu, X. Yang, "QoS-Aware Dynamic Composition of Web Services using Numerical Temporal Planning", *IEEE Transactions on Services Computing*, 7(1):18 - 31, 2014.

49. X. Wang, G. Xing, J. Chen, C. Lin, and **Y. Chen**, "Intelligent Sensor Placement for Hot Server Detection in Data Centers", *IEEE Transactions on Parallel and Distributed Systems*, 24(8):1577 - 1588 , 2014.

50. Q. Lu, J. Wilson, L. Thomas, C. Gill, **Y. Chen**, G-C. Roman, G. Chen, "Situation-Aware Composition and Execution in Dynamic Environments by Automated Planning", *Engineering Applications of Artificial Intelligence*, 35:215-236, 2014.

51. Q. Lu, R. Huang, **Y. Chen**, Y. Xu, W. Zhang, G. Sun, and G. Chen, "A SAT-based Approach to Cost Sensitive Temporally Expressive Planning", *ACM Transactions on Intelligent Systems and Technology*, 5(1):No. 18, 2013.

52. X. Cheng, P. Du, J. Guo, X. Zhu, and **Y. Chen**, "Ranking on Data Manifold with Sink Points", *IEEE Transactions on Knowledge and Data Engineering*, 25(1):177-191, 2013.

53. A. Saifullah, C. Wu, P. Tiwari, Y. Xu, Y. Fu, C. Lu, and **Y. Chen**, "Near Optimal Rate Selection for Wireless Control Systems", *IEEE Transactions on Embedded Computing Systems*, 13(4s): No. 128, 2013.

54. B. Chen, L. Chen, and **Y. Chen**, "Efficient ant colony optimization for image feature selection", *Signal Processing*, 93(6):1566–1576, 2013.

55. T. Bailey, **Y. Chen**, Y. Mao, C. Lu, G. Hackmann, K. Faulkner, K. Heard, and M. Kollef, "A trial of a real-time alert for clinical deterioration in patients hospitalized on general hospital wards", *Journal of Hospital Medicine*, 8(5):236-242, 2013.

56. X. Feng, Y. Xu, **Y. Chen**, and Y. Tang, "MicrobesFlux: a web platform for drafting metabolic models from the KEGG database", *BMC Systems Biology*, doi:10.1186/1752-0509-6-94, 2012.

57. R. Huang, **Y. Chen**, and W. Zhang, "SAS+ Planning as Satisfiability", *Journal of Artificial Intelligence Research*, 43:293-328, 2012.

58. X. Feng, Y. Xu, **Y. Chen**, and Y. Tang, "Integrating Flux Balance Analysis into Kinetic Models to Decipher the Dynamic Metabolism of Shewanella oneidensis MR-1", *PLoS Computational Biology*, 8(2): e1002376, 2012.

59. Y. Mao, **Y. Chen**, G. Hackmann, M. Chen, C. Lu, M. Kollef, and T. Bailey, "Early Deterioration Warning for Hospitalized Patients by Mining Clinical Data", *Journal of Knowledge Discovery in Bioinformatics*, 2(3):1-20, 2012.

60. J. Chen, **Y. Chen**, E. Xu, R. Huang, and Z. Chen, "Multiple Goal Recognition Based on Planning", *International Journal of Intelligent Systems*, 3:1386 - 1390, 2012.

61. H. Shen, X. Cheng, Y. Wang, **Y. Chen**, "A Dimensionality Reduction Framework for Detection of Multiscale Structure in Heterogeneous Networks", *Journal of Computer Science and Technology*, 27(2):341-357, 2012.

62. X. Chang, R. Tan, G. Xing, Z. Yuan, L. Lu, **Y. Chen**, and Y. Yang, "Sensor Placement Algorithms for Fusion-based Surveillance Networks", *IEEE Transactions on Parallel and Distributed Systems*, 22(8):1407-1414, 2011.

63. R. Xi, N. Lin, **Y. Chen**, and Y. Kim, "Compression and Aggregation of Bayesian Estimates for Data Intensive Computing", *Knowledge and Information Systems*, 29:1-22, 2011.

64. G. Zou, Y. Xiang, Y. Gan, and **Y. Chen**, "A novel approach to annotating web service based on interface concept mapping and semantic expansion", *Soft Computing*, 15(5):929-938, 2011.

65. **Y. Chen** and M. Chen, "Extended Duality for Nonlinear Programming", *Computational Optimization and Applications*, 47(1):33-59, 2010.

66. T. Schiller, **Y. Chen**, I. El Naqa, and J. Deasy, "Modeling Radiation-Induced Lung Injury Risk with an Ensemble of Support Vector Machines", *Neurocomputing*, 73(10):1861-1867, 2010.

67. R. Xi, N. Lin, and **Y. Chen**, "Compression and Aggregation for Logistic Regression Analysis in Data Cubes", *IEEE Transactions on Knowledge and Data Engineering*, 21(4): 479-492, 2009.

68. T. Li and **Y. Chen**, "Stream Data Clustering Based on Grid Density and Attraction", *ACM Transactions on Knowledge Discovery from Data*, 3(3): 12:1-12:26, 2009.

69. **Y. Chen**, R. Huang, and W. Zhang, "Long-Distance Mutual Exclusion for Planning", *Artificial Intelligence*, 173(2): 365-391, 2009.

70. **Y. Chen**, D. Hua, and F. Liu, "Theory and Algorithms of Generalized Latent Class Models", *International Journal on Artificial Intelligence Tools*, 18(5):739-756, 2009.

71. B. Wah, **Y. Chen**, and T. Wang, "Simulated Annealing with Asymptotic Convergence for Nonlinear Discrete Constrained Global Optimization", *Journal of Global Optimization*, 39(1): 1-37, 2007.

72. V. Clark, **Y. Chen**, J. Wilkens, J. Alaly, K. Zakaryan, and J. Deasy, "IMRT optimization using prioritized prescription optimization and mean tail dose", *Linear Algebra and its Applications*, 428(5): 1345-1364, 2007.

73. C. Hsu, **Y. Chen**, and B. Wah, "Subgoal Ordering and Granularity Control for Incremental Planning", *International Journal on Artificial Intelligence Tools*, 16(4): 707-723, 2007.

74. **Y. Chen**, G. Dong, J. Han, J. Pei, B. Wah, and J. Wang, "Regression Cubes with Lossless Compression and Aggregation", *IEEE Transactions on Knowledge and Data Engineering*, vol. 18, no. 12, pp. 1585-1599, 2006.

75. B. Wah and **Y. Chen**, "Constrained Partitioning in Penalty Formulations for solving Temporal Planning Problems", *Artificial Intelligence*, 170(3):187-231, 2006.

76. **Y. Chen**, C. Hsu and B. Wah, "Temporal Planning using Subgoal Partitioning and Resolution", *Journal Artificial Intelligence Research*, 26(1):323-369, 2006.

77. C. W. Hsu, **Y. Chen**, and B. Wah, "Temporal Planning by Subgoal Ordering and Partitioning", *International Journal on Artificial Intelligence Tools*, 2006.

78. **Y. Chen**, A. Wan, and W. Liu, "A Fast Parallel Algorithm for Finding the Longest Common Sequence of Multiple Biosequences", *BMC Bioinformatics*, 7:S4, 2006.

79. L. Qin, **Y. Chen**, Y. Pan, and L. Chen, "A Novel Approach to Phylogenetic Tree Construction using Stochastic Optimization and Clustering", *BMC Bioinformatics*, 7:S4, 2006.

80. I. El Naqa, V.H. Clark, **Y. Chen**, M. Vicic, D. Khullar, S. Shimpi, A. Hope, J. Bradley and J.O. Deasy, "Treatment Outcome-based Objective Functions for IMRT Treatment Planning", *International Journal of Radiation Oncology*Biology*Physics*, 66:S687-S688, 2006.

81. V. Clark, I. E. Naqa, **Y. Chen**, and J. Deasy, "Can Dose-Volume Parameters be Replaced with gEUD in the Treatment Planning Process?", *Medical Physics*, 33(6): 2294-2294, 2006.

82. J. Han, **Y. Chen**, G. Dong, J. Pei, B. Wah, J. Wang, and Y. D. Cai, "Stream Cube: An Architecture for Multi-Dimensional Analysis of Data Streams", *Distributed and Parallel Databases*, 18(2): 173-197, 2005.

83. **Y. Chen**, J. Shen, L. Chen, "An ant colony algorithm based on Immunogenetics", *Journal of Systems Science and Information*, 3(2):313-326, 2005.

84. B. Wah and **Y. Chen**, "Partitioning of Temporal Planning Problems in Mixed Space using the Theory of Extended Saddle Points", *International Journal on Artificial Intelligence Tools*, 13(4):767-790, 2004.

85. L. Chen, Y. Pan, **Y. Chen**, and X. Xu, "Efficient Parallel Algorithms for Euclidean Distance Transform", *The Computer Journal*, 47(6):694-700, 2004.

86. L. Chen, H. Chen, Y. Pan, and **Y. Chen**, "A Fast Efficient Parallel Hough Transform Algorithm on LARPBS", *Journal of Supercomputing*, 29(2):185-195, 2004.

87. B. Wah and **Y. Chen**, "Hybrid Evolutionary and Annealing Algorithms for Nonlinear Discrete Constrained Optimization", *International Journal of Computational Intelligence and Applications*, 3(4):331-355, 2003.

88. J. Sheng, J. Cheng, and **Y. Chen**, "Solving and Applying a Class of Block-Diagonal Structured Large Linear Programming", *Journal of Systems Science and Systems Engineering*, Springer-Verlag, 7(2):221-227, 1998.

Conference Papers

1. L. Kong, J. Feng, H. Liu, D. Tao, **Y. Chen**, and M. Zhang, "MAG-GNN: Reinforcement Learning Boosted Graph Neural Network", *Proc. Thirty-sixth Conference on Neural Information Processing Systems (NeurIPS-23)*, 2023.

2. J. Feng, L. Kong, H. Liu, D. Tao, F. Li, M. Zhang, and **Y. Chen**, "Towards Arbitrarily Expressive GNNs in O(N^2) Space by Rethinking Folklore Weisfeiler-Lehman", *Proc. Thirty-sixth Conference on Neural Information Processing Systems (NeurIPS-23)*, 2023.

3. Z. Dong, W. Cao, M. Zhang, D. Tao, **Y. Chen**, X. Zhang, "CktGNN: Circuit Graph Neural Network for Electronic Design Automation", *Proc. International Conference on Learning Representations (ICLR-23)*, 2023.

4. A. Tang, Y. Luo, H. Hu, F. He, K. Su, B. Du, **Y. Chen**, D. Tao, "Improving Heterogeneous Model Reuse by Density Estimation", *Proc. International Joint Conference on Artificial Intelligence (IJCAI-23)*, 2023.

5. H. Liu. C. King, J. Abraham, L. Konzen, J. White, J. Bertrand, A. Drewry, **Y. Chen**, B. Fritz, "Predicting ICU Length of Stay Prior to ICU Admission Using Meta-Learning", *The 2023 Critical Care Congress*, 2023.

6. J. Feng, **Y. Chen**, F. Li, A. Sarkar, and M. Zhang, "How Powerful are K-hop Message Passing Graph Neural Networks", *Proc. Thirty-sixth Conference on Neural Information Processing Systems (NeurIPS-22)*, 2022.

7. L. Kong, M. Zhang, and **Y. Chen**, "Geodesic Graph Neural Network for Efficient Graph Representation Learning", *Proc. Thirty-sixth Conference on Neural Information Processing Systems (NeurIPS-22)*, 2022.

8. Z. Dong, M. Zhang, F. Li, **Y. Chen**, "PACE: A Parallelizable Computation Encoder for Directed Acyclic Graphs ", *Proc. International Conference on Machine Learning (ICML-22)*, 2022.

9. H. Liu. C. King, B. Fritz, **Y. Chen**, "Algorithmic Bias in Machine Learning Based Delirium Prediction", *Proc. Machine Learning for Health Conference (ML4H-22)*, 2022.

10. S. Hu, G. Zou, B. Zhang, S. Wu, S. Lin, Y. Gan, and **Y. Chen**, "Temporal-aware QoS Prediction via Dynamic Graph Neural Collaborative Learning", *Proc. International Conference on Service-Oriented Computing (ICSOC-22)*, 2022.

11. Z. Dong, H. Zhang, **Y. Chen**, F. Li, "Interpretable Drug Synergy Prediction with Graph Neural Networks for Human-AI Collaboration in Healthcare", *Proc. International Conference on Intelligent Biology and Medicine (ICIBM-22)*, 2022.

12. Z. Yao, Y. Tu, **Y. Chen**, "Trend analysis neural networks for interpretable analysis of longitudinal data", *Proc. IEEE Conference on Big Data (BigData-21)*, 2021.

13. G. Zou, T. Li, M. Jiang, C. Cao, B. Zhang, Y. Gan, **Y. Chen**, "Temporal-aware QoS Prediction of Service Recommendation via Deep Neural Network and Feature Integration", *Proc. IEEE Conference on Big Data (BigData-21)*, 2021.

14. Z. Yao, Q. Xu, Y. Chen, Y. Tu, H. Zhang, **Y. Chen**, "Internet Traffic Forecasting using Temporal-Topological Graph Convolutional Networks", *Proc. International Joint Conference on Neural Networks (IJCNN-21)*, 2021.

15. S. Tripathi, B. Fritz, M. Abdelhack, M. Avidan, **Y. Chen**, C. King, "(Un)fairness in Post-operative Complication Prediction Models", CoRR abs/2011.02036, 2021.

16. M. Zhang, C. King, M. Avidan, **Y. Chen**, "Hierarchical Attention Propagation for Healthcare Representation Learning", *Proc. ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD-20)*, 2020.

17. M. Zhang and **Y. Chen**, "Inductive Matrix Completion based on Graph Neural Networks", *Proc. International Conference on Learning Representations (ICLR-20)*, 2020.

18. Q. Xu, Z. Yao, Y. Tu, **Y. Chen**, "Attention-Based Multi-component LSTM for Internet Traffic Prediction", *Proc. International Conference on Neural Information Processing (ICONIP-20)*, 2020.

19. R. Zhang, C. Yi, and **Y. Chen**, "Explainable Machine Learning for Regime-Based Asset Allocation", *Proc. IEEE Conference on Big Data (BigData-20)*, 2020.

20. K. Kong, R. Liu, Y. Zhang, and **Y. Chen**, "Predicting Liquidity Ratio of Mutual Funds via Ensemble Learning", *Proc. IEEE Conference on Big Data (BigData-20)*, 2020.

21. Y. Zhang, H. Zhao, X. Li, S. Gao, and **Y. Chen**, "ETF Clustering via Metric Learning", *Proc. IEEE Conference on Big Data (BigData-20)*, 2020.

22. Y. Zhu, C. Yi, and **Y. Chen**, "Utilizing Macroeconomic Factors for Sector Rotation based on Interpretable Machine Learning and Explainable AI", *Proc. IEEE Conference on Big Data (BigData-20)*, 2020.

23. X. Wang, Y. Zhang, and **Y. Chen**, "A Novel Lasso Regression Model for Sector Rotation Trading Strategies with Economy-Policy Cycles", *Proc. IEEE Conference on Big Data (BigData-20)*, 2020.

24. L. Shen, K. Kong, C. Yi, and **Y. Chen**, "An Evaluation of Pairs Trading in Commodity Futures Markets", *Proc. IEEE Conference on Big Data (BigData-20)*, 2020.

25. L. Shen, K.Kong, C. Yi, and **Y. Chen**, "Regression and Hidden Markov Models for Gold Price Prediction", *Proc. IEEE Conference on Big Data (BigData-20)*, 2020.

26. M. Abdelhack, C. King, B. Fritz, S. Tripath, **Y. Chen**, and M. Avidan, "Postoperative Mortality Prediction with and Without the Use of Intraoperative Features", *Proc. American Medical Informatics Annual Fall Symposium (AMIA-20)*, 2020.

27. J. Zhang, Z. Yao, Y. Tu, and **Y. Chen**, "A survey of TCP congestion control algorithm", *Proc. IEEE 5th International Conference on Signal and Image Processing (ICSIP)*, 2020.

28. M. Zhang, S. Jiang, Z. Cui, R. Garnett, and **Y. Chen**, "D-VAE: A Variational Autoencoder for Directed Acyclic Graphs", *Proc. 33nd Conference on Neural Information Processing Systems (NeurIPS-19)*, 2019.

29. Z. Cui, B. Fritz, C. King, M. Avidan, and **Y. Chen**, "A Factored Generalized Additive Model for Clinical Decision Support in the Operating Room", *Proc. American Medical Informatics Annual Fall Symposium (AMIA-19)*, 2019.

30. M. Zhang and **Y. Chen**, "Link Prediction based on Graph Neural Networks", *Proc. 32nd Conference on Neural Information Processing Systems (NIPS-18)*, spotlight paper, 2018.

31. K. Xu, S. Guo, N. Cao, D. Gotz, A. Xu, H. Qu, Z. Yao, and **Y. Chen**, "ECGLens: Interactive Visual Exploration of Large Scale ECG Data for Arrhythmia Detection", *Proc. ACM CHI Conference on Human Factors in Computing Systems (CHI-18)*, 2018. **Best Paper Award Honorable Mention**.

32. M. Zhang, Z. Cui, M. Neumann, and **Y. Chen**, "An End-to-End Deep Learning Architecture for Graph Classification", *Proc. Association for the Advancement of Artificial Intelligence (AAAI-18)*, 2018.

33. M. Zhang, Z. Cui, S. Jiang, and **Y. Chen**, "Beyond Link Prediction: Predicting Hyperlinks in Adjacency Space", *Proc. Association for the Advancement of Artificial Intelligence (AAAI-18)*, 2018.

34. Z. Yao and **Y. Chen**, "Arrhythmia Classification from Single Lead ECG by Multi-Scale Convolutional Neural Networks", *Proc. the 40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC-18)*, 2018.

35. Z. Cui, M. Zhang, and **Y. Chen**, "Deep Embedding Logistic Regression", *Proc. IEEE International Conference on Big Knowledge (ICBK-18)*, 2018.

36. M. Zhang and **Y. Chen**, "Weisfeiler-Lehman Neural Machine for Link Prediction", *Proc. ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD-17)*, oral presentation, 2017.

37. Z. Yao, Z. Zhu, and **Y. Chen**, "Atrial Fibrillation Detection by Multi-scale Convolutional Neural Networks", *Proc. 20th International Conference on Information Fusion (Fusion-17)*, 2017.

38. H. Wang, Z. Cui, **Y. Chen**, A. Abdallah, A. Kronzer, M. Avidan, "Cost-sensitive Deep Learning for Early Readmission Prediction at A Major Hospital", *Proc. International Workshop on Data Mining in Bioinformatics (BIOKDD-17)*, 2017.

39. J. Chen, **Y. Chen**, and Qiang Lv, "Fault Analysis of Multiple Transmission Lines Based on Density-based Logistic Regression", *Proc. 5-th International Conference on Emerging Internetworking, Data and Web Technologies (EIDWT-17)*, 2017.

40. W. Chen, J. Wilson, S. Tyree, K. Weinberger, and **Y. Chen**, "Compressing Convolutional Neural Networks in the Frequency Domain", *Proc. ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD-16)*, 2016.

41. Q. Lv, Y. Xu, **Y. Chen**, R. Huang, and L. Chen, "Enhancing State Space Search for Planning by Monte-Carlo Random Walk Exploration", *Proc. the 17th International Conference on Intelligent Data Engineering and Automated Learning (IDEAL-16)*, 2016. **Best Paper Award.**

42. C. Wu, D. Gunatilaka, A. Saifullah, M. Sha, P. Tiwari, C. Lu, and **Y. Chen**, "Maximizing Network Lifetime of WirelessHART Networks under Graph Routing", *Proc. IEEE International Conference on Internet-of-Things Design and Implementation (IoTDI-16)*, 2016.

43. A. Saifullah, D. Gunatilaka, P. Tiwari, M. Sha, C. Lu, B. Li, C. Wu, and **Y. Chen**, "Schedulability Analysis under Graph Routing in WirelessHART Networks", *Proc. IEEE Real-Time Systems Symposium (RTSS-15)*, 2015.

44. Y. Wang, W. Chen, K. Heard, M. Kollef, T. Bailey, Z. Cui, Y. He, C. Lu, and **Y. Chen**, "Mortality Prediction in ICUs Using A Novel Time-Slicing Cox Regression Method", *Proc. American Medical Informatics Annual Fall Symposium (AMIA-15)*, 2015. **Distinguished Paper Award.**

45. Z. Cui, W. Chen, Y. He, and **Y. Chen**, "Optimal Action Extraction for Random Forests and Ensemble Trees", *Proc. ACM SIGKDD Conference (KDD-15)*, 2015.

46. W. Chen, J. Wilson, S. Tyree, **Y. Chen**, and K. Weinberger, "HashedNets: Neural Networks with Limited Model Size", *Proc. International Conference on Machine Learning (ICML-15)*, 2015.

47. W. Chen, **Y. Chen**, and K. Weinberger, "Filtered Search for Submodular Maximization with Controllable Approximation Bounds", *Proc. the 18th International Conference on Artificial Intelligence and Statistics (AISTATS-15)*, 2015.

48. Q. Zhou, W. Chen, S. Song, J. Gardner, K. Weinberger and **Y. Chen**, "A Reduction of the Elastic Net to Support Vector Machines with an Application to GPU Computing", *Proc. AAAI Conference on Artificial Intelligence (AAAI-15)*, 2015.

49. W. Chen, **Y. Chen**, K. Weinberger, "Fast Flux Discriminant for Large-Scale Sparse Nonlinear Classification", *Proc. ACM SIGKDD Conference (KDD-14)*, 2014. **Best Student Paper Runner-up Award**.

50. M. Kusner, W. Chen, Q. Zhou, Z. Xu, K. Weinberger, and **Y. Chen**, "Feature-Cost Sensitive Learning with Submodular Trees of Classifiers", *Proc. AAAI Conference on Artificial Intelligence (AAAI-14)*, 2014.

51. Y. Fu, M. Sha, C. Wu, A. Kutta, C. Lu, H. Gonzalez, A. Leavey, W. Wang, B. Drake, **Y. Chen**, P. Biswas, "Thermal Modeling for a HVAC Controlled Real-life Auditorium", *Proc. International Conference on Distributed Computing Systems (ICDCS-14)*, 2014.

52. M. Hossain, A. Ali, E. Ertin, D. Epstein, K. Preston, **Y. Chen**, and S. Kumar, "Identifying Drug (Cocaine) Intake Events from Acute Physiological Response in the Presence of Free-living Physical Activity", *Proc. The International Conference on Information Processing in Sensor Networks (ISPN-14)*, 2014.

53. W. Chen, K. Weinberger, and **Y. Chen**, "Maximum Variance Correction with Application to A* Search", *Proc. International Conference on Machine Learning (ICML-13)*, 2013.

54. W. Chen, **Y. Chen**, Y. Mao, and B. Guo, "Density-Based Logistic Regression", *Proc. ACM SIGKDD Conference (KDD-13)*, 2013.

55. Q. Lu, W. Chen, **Y. Chen**, K. Weinberger, and X. Chen, "Utilizing Landmarks in Euclidean Heuristics for Optimal Planning", *Late Breaking Track, Proc. AAAI Conference on Artificial Intelligence (AAAI-13)*, 2013.

56. W. Chen, **Y. Chen**, K. Weinberger, Q. Lu, and X. Chen, "Goal-Oriented Euclidean Heuristics with Manifold Learning", *Proc. AAAI Conference on Artificial Intelligence (AAAI-13)*, 2013.

57. Y. He, W. Chen, Y. Mao, and **Y. Chen**, "Kernel Density Metric Learning", *Proc. IEEE International Conference on Data Mining (ICDM-13)*, 2013. **Best Paper Award Nomination.**

58. S. Padmanabhan, **Y. Chen**, and R. Chamberlain, "Decomposition Techniques for Optimal Design-Space Exploration of Streaming Applications", *Proc. ACM SIGPLAN Principles and Practice of Parallel Computing (PPoPP-13)*, 2013.

59. Y. Mao, W. Chen, **Y. Chen**, C. Lu, M. Kollef, and T. Bailey, "An Integrated Data Mining Approach to Real-time Clinical Monitoring and Deterioration Warning", *Proc. ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD-12)*, 2012.

60. G. Zou, **Y. Chen**, Y. Xu, R. Huang, and Y. Xiang, "Towards Automated Choreographing of Web Services using Planning", *Proc. AAAI Conference on Artificial Intelligence (AAAI-12)*, 2012.

61. A. Saifullah, C. Wu, P. Tiwari, Y. Xu, Y. Fu, C. Lu, and **Y. Chen**, "Near Optimal Rate Selection for Wireless Control Systems", *Proc. 18th IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS-12)*, 2012. **Nominated for the Best Paper Award.**

62. S. Padmanabhan, **Y. Chen**, and R. Chamberlain, "Convexity in Non-convex Optimizations of Streaming Applications", *Proc. International Conference on Parallel and Distributed Systems (ICPADS-12)*, 2012.

63. C. Wu, Y. Xu, **Y. Chen**, and C. Lu, "Submodular Game for Distributed Application Allocation in Shared Sensor Networks", *Proc. IEEE International Conference on Computer Communications (Infocom'12)*, 2012.

64. R. Dor, G. Hackmann, Z. Yang, C. Lu, **Y. Chen**, M. Kollef, and T. Bailey, "Experiences with an End-To-End Wireless Clinical Monitoring System", *Proc. Wireless Health (WH-12)*, 2012

65. P. Tiwari, Y. Xie, **Y. Chen**, and J. Deasy, "Computational boundary sampling to accelerate IMRT optimization", *Proc. American Association of Physicists in Medicine Conference (AAPM'12)*, 2012.

66. M. Chen, **Y. Chen**, and K. Weinberger, "Automatic Feature Decomposition for Single View Co-training", *Proc. International Conference on Machine Learning (ICML'11)*, 2011.

67. M. Chen, J. Sun, **Y. Chen**, and X. Ni, "Improving Context-Aware Query Classification via Adaptive Self-training", *Proc. ACM Conference on Information and Knowledge Management (CIKM'11)*, 2011.

68. Q. Lu, Y. Xu, R. Huang, **Y. Chen**, and G. Chen, "Can Cloud Computing be Used for Planning? An Initial Study", *Proc. IEEE CloudCom (CloudCom-11)*, 2011.

69. G. Hackmann , M. Chen, O. Chipara, C. Lu, **Y. Chen**, M. Kollef, and T. Bailey, "Toward a Two-Tier Clinical Warning System for Hospitalized Patients", *Proc. American Medical Informatics Association Annual Sympoisum (AMIA'11)*, 2011.

70. L. Chen, B. Chen, and **Y. Chen**, "Image Feature Selection Based on Ant Colony Optimization", *Proc. 24th Australasian Joint Conference on Artificial Intelligence (AI'11)*, 2011.

71. S. Padmanabhan, **Y. Chen**, and R. Chamberlain, "Optimal Design-Space Exploration of Streaming Applications", *Proc. 22nd IEEE International Conference on Application-specific Systems, Architectures and Processors (ASAP'11)*, 2011.

72. A. Saifullah, Y. Xu, C. Lu, and **Y. Chen**, "Priority Assignment for Real-Time Flows in WirelessHART Networks", *Proc. Euromicro Conference on Real-Time Systems (ECRTS'11)*, 2011.

73. X. Wang, X. Wang, G. Xing, J. Chen, C. Lin, and **Y. Chen**, "Towards Optimal Sensor Placement for Hot Server Detection in Data Centers", *Proc. International Conference on Distributed Computing Systems (ICDCS'11)*, 2011.

74. A. Saifullah, Y. Xu, C. Lu and **Y. Chen**, "End-to-End Delay Analysis for Fixed Priority Scheduling in WirelessHART Networks", *Proc. 17th IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS'11)*, 2011.

75. R. Huang, **Y. Chen**, and W. Zhang, "A Novel Transition Based Encoding Scheme for Planning as Satisfiability", **Outstanding Paper Award**, *Proc. AAAI Conference on Artificial Intelligence (AAAI'10)*, 2010.

76. A. Saifullah, Y. Xu, C. Lu, and **Y. Chen**, "Real-Time Scheduling for WirelessHART Networks", *Proc. IEEE Real-Time Systems Symposium (RTSS'10)*, 2010.

77. S. Padmanabhan, **Y. Chen**, and R. Chamberlain, "Design Space Optimization for Automatic Acceleration of Streaming Applications", *Proc. Symposium on Application Accelerators in High Performance Computing (SAAHPC'10)*, 2010.

78. Y. Xu, A. Saifullah, **Y. Chen**, C. Lu, and S. Bhattacharya, "Near Optimal Multi-Application Allocation in Shared Sensor Networks", *Proc. ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc'10)*, 2010.

79. G. Zou, **Y. Chen**, Y. Yang, R. Huang, and Y. Xu, "AI Planning and Combinatorial Optimization for Web Service Composition in Cloud Computing", *International Conference on Cloud Computing and Virtualization (CCV'10)*, 2010.

80. R. Sowell, **Y. Chen**, J. Buhler, S. Goldman, C. Grimm, K. Goldman, "Experiences with Active Learning in C3", *Consortium/Journal of Computing Sciences in Colleges (CCSC'10)*, 2010.

81. T. Schiller, **Y. Chen**, I. El Naqa, and J. Deasy, "Improving Clinical Relevance in Ensemble Support Vector Machine Models of Radiation Pneumonitis Risk", *Proc. IEEE International Conference on Machine Learning and Applications (ICMLA'09)*, 2009.

82. R. Huang, **Y. Chen**, and W. Zhang, "An Optimal Temporally Expressive Planner: Initial Results and Application to P2P Network Optimization", *Proc. International Conference on Automated Planning and Scheduling, (ICAPS'09)*, 2009. (Acceptance rate = 33%)

83. M. Chen, **Y. Chen**, M. Brent, and A. Tenney, "Constrained Optimization for Validation-Guided Conditional Random Field Learning", *Proc. ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD'09)*, **One of 12 nominated for Best Paper Award (538 papers submitted)**, 2009. (Acceptance rate = 20%)

84. **Y. Chen** and G. Yao, "Completeness and Optimality Preserving Reduction for Planning", *Proc. International Joint Conference on Artificial Intelligence (IJCAI'09)*, 2009. (Acceptance rate = 25%)

85. **Y. Chen**, Y. Xu, and G. Yao, "Stratified Planning", *Proc. International Joint Conference on Artificial Intelligence (IJCAI'09)*, 2009. (Acceptance rate = 25%)

86. M. Chen, **Y. Chen**, M. Brent, and A. Tenney, "Gradient-Based Feature Selection for Conditional Random Fields and Its Applications in Computational Genetics", *IEEE International Conference on Tools for Artificial Intelligence (ICTAI'09)*, 2009.

87. **Y. Chen**, R. Huang, and W. Zhang, "Fast Planning by Search in Domain Transition Graphs", *Proc. AAAI Conference on Artificial Intelligence (AAAI'08)*, 2008. (Acceptance rate = 24%)

88. M. Chen and **Y. Chen**, "CRF-OPT: An Efficient High-Quality Conditional Random Field Solver", *Proc. AAAI Conference on Artificial Intelligence (AAAI'08)*, 2008. (Acceptance rate = 24%)

89. Z. Yuan, R. Tan, G. Xing, C. Lu, **Y. Chen**, and J. Wang, "Fast Sensor Deployment for Fusion-Based Target Detection", *Proc. IEEE Real-Time Systems Symposium (RTSS'08)*, 2008. (Acceptance rate = 23%)

90. Y. Xu and **Y. Chen**, "A Framework for Parallel Nonlinear Optimization by Partitioning Localized Constraints", *Proc. International Symposium on Parallel Architectures, Algorithms and Programming (PAAP'08)*, 2008.

91. **Y. Chen**, D. Hua, and F. Liu, "Dominance of Bayesian Networks and Efficient Learning of Generalized Latent Class Models", *Proc. International Conference on Tools with Artificial Intelligence (ICTAI'08)*, 2008.

92. **Y. Chen** and H. Sun, "Convergence of Ant Colony Optimization on First-Order Deceptive Systems", *IEEE International Conference on Granular Computing (GrC'08)*, 2008.

93. **Y. Chen** and L. Tu, "Density-Based Clustering for Real-Time Stream Data", *The Thirteenth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD'07)*, 2007. (Acceptance rate = 40/518 = 8%).

94. V. Clark, I. E. Naqa, **Y. Chen**, and J. Deasy, Automated IMRT treatment planning using prioritized prescription optimization, *the XVth International Conference on the Use of Computers in Radiation Therapy (ICCR'07)*, Toronto, Canada, 2007.

95. **Y. Chen**, X. Zhao, and W. Zhang, "Long Distance Mutual Exclusion for Propositional Plannning", *Proc. International Joint Conference on Artificial Intelligence (IJCAI'07)*, pp. 1840-1845, 2007. (Acceptance rate = 212/1353 = 16%).

96. C. Hsu, B. Wah, R. Huang, and **Y. Chen**, "Constraint Partitioning for Solving Planning Problems with Trajectory Constraints and Goal Preferences", *Proc. International Joint Conference on Artificial Intelligence (IJCAI'07)*, pp. 1924-1929, 2007. (Acceptance rate = 212/1353 = 16%).

97. X. Zhao, **Y. Chen**, and W. Zhang, "Optimal Planning by Maximum Satisfiability and Accumulative Learning", *Proc. International Conference on Automated Planning and Scheduling (ICAPS'06)*, 2006.

98. X. Zhao, **Y. Chen**, and W. Zhang, "An Efficient and Integrated Strategy for Temporal Planning", *Proc. International Conference on Integration of AI and OR Techniques in Constraint Programming for Combinatorial Optimization Problems (CPAIOR'06)*, pp. 273-287, June 2006.

99. **Y. Chen**, L. Chen, and L. Tu, "Parallel Ant Colony Algorithm for Mining Classification Rules", *IEEE International Conference on Granular Computing (GrC'06)*, May 2006. (Acceptance rate = 15%)

100. L. Qin, **Y. Chen**, L. Chen, and Y. Yuan, "A New Optimization Algorithm Based on the Ant Colony System with Density Control Strategy", *Third International Symposium on Neural Networks (ISNN'06)*, 2006. (Acceptance rate = 25%)

101. **Y. Chen**, "Temporal Planning by a Continuous and Differentiable Nonlinear Optimization Formulation and Constraint Partitioning", *Proc. 9th International Symposium on Artificial Intelligence and Mathematics (SAIM'06)*, 2006.

102. V. Clark, I. E. Naqa, **Y. Chen**, and J. Deasy, Can Dose-Volume "Parameters be Replaced with gEUD in the Treatment Planning Process?", *American Association of Physicists in Medicine (AAPM'06) Conference*, 2006.

103. I. E. Naqa, V. Clark, **Y. Chen**, M. Vicic, D. Khullar, S. Shimpi, A. Hope, J. Bradley, and J. Deasy, "Treatment Outcome-based Objective Functions for IMRT Treatment Planning", *American Society for Therapeutic Radiology and Oncology (ASTRO'06) Conference*, 2006.

104. B. Wah and **Y. Chen**, "Solving Large-Scale Nonlinear Programming Problems by Constraint Partitioning", *Eleventh Int'l Conf. on Principles and Practice of Constraint Programming (CP'05)*, pp. 697-711, October 2005.

105. C. W. Hsu, **Y. Chen**, and B. Wah, "Subgoal Ordering and Granularity Control for Incremental Planning", *Proc. IEEE Int'l Conf. on Tools with Artificial Intelligence (ICTAI'05)*, pp. 507-514, Nov. 2005. **Best Paper Award**.

106. L. Chen, X. Xu, and **Y. Chen**, "An Adaptive Ant Colony Clustering Algorithm", *Proc. Third International Conference on Machine Learning and Cybernetics (ICMLC'04)*, pp. 1387-1392, 2004. **Lotfi Zadeh Best Paper Award**.

107. L. Chen, X. Xu, and **Y. Chen**, "A Novel Ant Clustering Algorithm Based on Cellular Automata", *Proc. IEEE/WIC/ACM International Conference on Intelligent Agent Technology (IAT'04)*, 2004. **Nominated for the Best Paper Award**.

108. B. Wah and **Y. Chen**, "Partitioning of Temporal Planning Problems in Mixed Space using the Theory of Extended Saddle Points", *Proc. 15th IEEE International Conference on Tools with Artificial Intelligence (ICTAI'03)*, pp. 266-273, 2003.

109. **Y. Chen** and B. Wah, "Automated Planning and Scheduling using Calculus of Variations in Discrete Space", *Proc. International Conference on Automated Planning and Scheduling (ICAPS'03)*, pp. 2-11, June 2003.

110. C. Liu, M. Zhang, M. Zheng, and **Y. Chen**, "Step-By-Step Regression: A More Efficient Alternative for Polynomial Multiple Linear Regression in Stream Cube", *Proc. the Seventh Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD'03)*, pp. 437-448, 2003.

111. **Y. Chen**, G. Dong, J. Han, B. Wah, and J. Wang, "Multi-Dimensional Regression Analysis of Time-Series Data Streams", *Proc. the 28th Int'l Conference on Very Large Data Bases (VLDB'02)*, pp. 323-334, 2002.

112. **Y. Chen** and B. Wah, "Calculus of Variations in Discrete Space for Constrained Nonlinear Dynamic Optimization", *Proc. 14th IEEE International Conference on Tools with Artificial Intelligence (ICTAI'02)*, pp. 67-74, 2002.

113. B. Wah and **Y. Chen**, "Hybrid Constrained Simulated Annealing and Genetic Algorithms for Nonlinar Constrained Optimization", *Proc. IEEE Congress on Evolutionary Computation (CEC'01)*, pp. 925-932, 2001.

114. B. Wah and **Y. Chen**, "Optimal Anytime Constrained Simulated Annealing for Constrained Global Optimization", *Proc. Principles and Practice of Constraint Programming (CP'00)*, pp. 425-440, 2000.

115. B. Wah and **Y. Chen**, "Constrained Genetic Algorithms and their Applications in Nonlinear Constrained Optimization", *Proc. 11th IEEE Int'l Conf. on Tools with Artificial Intelligence (ICTAI'00)*, pp. 286-293, 2000.

Workshop Papers

1. H. Zhou, Y. Mao, D. Lei, A. Kidd, K. Ohlemiller, D. Ding, **Y. Chen**, and J. Bao, "Synaptic Mechanisms Underlying A Combination Therapy for Noise-Induced Hearing Loss", *Proc. 35th MidWinter Meeting of the Association for Research in Otolaryngology (ARO'12)*, 2012.

2. Y. Mao, **Y.Chen**, G. Hackmann, M. Chen, C. Lu, M. Kollef, and T. Bailey, "Medical Data Mining for Early Deterioration Warning in General Hospital Wards", *Proc. ICDM Workshop on Biological Data Mining and its Applications in Healthcare (BioDM'11)*, 2011.

3. Q. Lu, **Y. Chen**, M. Haitjema, C. Gill, C. Roman, and G. Chen, "Temporal Planning for Co-Design of Host Scheduling and Workflow Allocation in Mobile Environments", *Proc. ICAPS International Scheduling and Planning Applications Workshop (SPARK'11)* 2011.

4. **Y. Chen**, Y. Pan, and L. Tu, "Multiple Sequence Alignment by Ant Colony Optimization and Divide-and-conquer", *2nd International Workshop on Bioinformatics Research and Applications (IWBRA'06)*, 2006. (Acceptance rate = 37%).

5. **Y. Chen**, Y. Pan, L. Chen, and J. Chen, "Partitioned Optimization Algorithms for Multiple Sequence Alignment", *Proc. Second IEEE Workshop on High Performance Computing in Medicine and Biology (HipComb'06)*, April 2006.

6. **Y. Chen**, B. Wah and R. Morris, "Discrete-Space Lagrangian Optimization for Multi-Objective Temporal Planning", *Proc. of 4th Int'l Workshop on Distributed Constraint Reasoning (IWDCR'03)*, pp. 115-121, 2003.

7. **Y. Chen**, G. Dong, J. Han, J. Pei, B. Wah, and J. Wang, "OLAPing Stream Data: Is It Feasible?", *Proc. Workshop on Research Issues in Data Mining and Knowledge Discovery, ACM SIGMOD, (DMKD'02)*, pp. 53-58, 2002.

Book

1. Q. Yang, L. Fan, **Y. Chen**, S. Zhu, D. Tao, C. Peng, *Introduction to Explainable Artificial Intelligence*, Publisher of Electronics Industry, ISBN: 9787121431876, 2022.

Book Chapters

1. **Y. Chen**, "Clustering Parallel Data Streams", *Data Mining: From Data to Knowledge*, I-Tech Education and Publishing, 2009.

2. B. Wah, **Y. Chen**, and T. Wang, "Theory, Algorithms, and Applications of Simulated Annealing for Nonlinear Constrained Optimization", *Simulated Annealing*, ARS Publishing, 2008.

3. B. Wah and **Y. Chen**, "The Evaluation of Partitioned Temporal Planning Problems in Discrete Space and its Application in ASPEN", *Frontiers in Artificial Intelligence and Applications*, vol. 112, W. X. Zhang and V. Sorge (ed.), IOS Press, pp. 109-123, 2004.

4. B. Wah and **Y. Chen**, "Constrained Genetic Algorithms and their Applications in Nonlinear Constrained Optimization", *Evolutionary Computation*, X. Yao and R. Sarker (ed.), Kluwer Academic Publishers, pp. 253-273, 2001.

E. Invited Lectures

- "*Interpretable machine learning and its applications in computational finance*", **keynote speech**, ACM SIGKDD Conference on the Applications of Big Data, Chengdu, China, Nov 3, 2019.
- "*Interpretable machine learning and explainable artificial intelligence*", **keynote speech**, Workshop on Federated Learning, International Joint Conference on Artificial Intelligence (IJCAI), Macau, Aug 16, 2019.
- "*Interplay between machine learning and artificial intelligence*", **keynote speech**, International Symposium on Artificial Intelligence and Mathematics (ISAIM), Fort Lauderdale, FL, Jan 5, 2016.
- "*Big Data Meeting AI*", **keynote speech**, The 2nd International Conference on Data Sciences, Sydney, Australia, Aug 9, 2015.
- "*Big Data Meeting AI*", **keynote speech**, The 13th Australasian Data Mining Conference, Sydney, Australia, Aug 8, 2015.
- "*Big Data Algorithms for Clinical Prediction*", **invited talk**, Harvard University, Cambridge, MA, March 11, 2015.
- "*Big Data Applications and Practice*", **keynote speech**, Big Data Technology Conference, Beijing, China, December 14, 2014.
- "*Big Data in the Mobile Internet Era: Opportunities and Challenges*", **keynote speech**, China Internet Conference, Beijing, China, August 15, 2013.
- "*Data Mining Algorithms for Medical Applications*", **keynote speech**, National Database Conference of China, Hefei, China, October 13, 2012.
- "*Real-time Clinical Warning for Hospitalized Patients via Data mining*", **grand rounds speaker**, Memorial Sloan-Kettering Cancer Center, New York, NY, June 19, 2012.
- "*Data Mining Algorithms for Medical Applications*", Microsoft Research, Bellevue, WA, May 4, 2011. (invited talk)
- "*Nonlinear Optimization for Conditional Random Fields*", **keynote speech**, IEEE International Symposium on Intelligent Information Processing (ISIIP-10), August 2010.
- "*Conditional Random Fields: Introduction, Training Algorithms, and Extension to Semi-Supervised Learning*", Nanyang Institute of Technology, Singapore, May 2010 (invited lecture)
- "*Conditional Random Fields: Introduction, Training Algorithms, and Extension to Semi-Supervised Learning*", National University of Singapore, Singapore, May 2010. (invited lecture)

- "*Search Reduction for Artificial Intelligence*", **keynote speech**, IEEE International Conference on Computational Intelligence and Natural Computing, Wuhan, China, June 6, 2009.
- "*Completeness and Optimality Preserving Reduction for Search*", Chinese University of Hong Kong, May 14, 2009. (invited lecture)
- "*Completeness and Optimality Preserving Reduction for Search*", The Hong Kong Polytechnic University, May 13, 2009. (invited lecture)
- "*Completeness and Optimality Preserving Reduction for Search*", Hong Kong University, May 12, 2009. (invited lecture)
- "*Completeness and Optimality Preserving Reduction for Search*", Hong Kong Baptist University, May 12, 2009. (invited lecture)
- "*Completeness and Optimality Preserving Reduction for Search*", Hong Kong University of Science and Technology, May 11, 2009. (invited lecture)
- "*Partitioning Search for Large-Scale Mixed-Integer Nonlinear Programming*", Argonne Chicago Northwestern Wisconsin Workshop on Optimization, Chicago, IL, June 11, 2007. (invited speech)
- "*Large-Scale Nonlinear Optimization by Constraint Partitioning*", Division of Mathematics and Computer Science, Argonne National Laboratory, Argonne, IL, June 21, 2006. (invited seminar)
- "*Large-Scale Nonlinear Optimization: New Applications and Approaches*", Department of Computer Science, Nanjing University, Nanjing, China, June 2, 2006. (invited lecture)
- "*Large-Scale Nonlinear Optimization: New Applications and Approaches*", Department of Computer Science, University of Science and Technology of China, Hefei, China, May 30, 2006. (invited lecture)
- "*Nonlinear Optimization in Computer Science*", Institute of Computing Technology, Chinese Academy of Science, Beijing, China, May 25, 2006. (invited lecture)
- "*Large-Scale Nonlinear Optimization: New Applications and Approaches*", Department of Computer Science, Tsinghua University, Beijing, China, May 24, 2006. (invited lecture)
- "*Solving Constrained Nonlinear Optimization Problems Through Constraint Partitioning*", 9th International Symposium on Artificial Intelligence and Mathematics, Fort Lauderdale, FL, January 4, 2006. (invited speech)

F. List of Courses Taught

Sole instructor for all the following courses, unless otherwise marked.

- Fall 2005 CSE505A: Data Security, ongoing, graduate level: 31 students (8 undergrad/23 grad).
- Spring 2006 CSE511A: Research Seminar Artificial Intelligence, graduate level: 12 students (0 undergrad/12 grad).
- Fall 2006 CSE543T: Algorithms for Nonlinear Optimization, newly developed, graduate level: 14 students (0 undergrad/14 grad).
- Spring 2007 CSE241: Algorithms and Data Structures, ongoing, undergraduate level: 27 students (26 undergrad/1 grad).
- Fall 2007 CSE511A: Introduction to Artificial Intelligence, ongoing, graduate level: 45 students (19 undergrad/26 grad).

- Spring 2008 CSE543T: Algorithms for Nonlinear Optimization, developed, graduate level: 17 students (6 undergrad/11 grad).
- Fall 2008 CSE511A: Introduction to Artificial Intelligence, ongoing, graduate level: 23 students (5 undergrad/18 grad).
- Spring 2009 CSE241: Algorithms and Data Structures, ongoing, undergraduate level: 40 students (38 undergrad/2 grad).
- Fall 2009 CSE511A: Introduction to Artificial Intelligence, ongoing, graduate level: 42 students (27 undergrad/15 grad).
- Spring 2010 CSE543T: Algorithms for Nonlinear Optimization, ongoing, graduate level: 11 students (4 undergrad/7 grad).
- Fall 2010 CSE241: Algorithms and Data Structures, ongoing, undergraduate level: 63 students (53 undergrad/8 grad).
- Spring 2011 CSE543T: Algorithms for Nonlinear Optimization, ongoing, graduate level: 22 students (4 undergrad/18 grad).
- Fall 2011 CSE131/501N: Computer Science I, ongoing, undergraduate/graduate level: 263 students (232 undergrad/31 grad).
- Fall 2011 CSE131R: Computer Science I Seminar, ongoing, undergraduate level: 33 students (33 undergrad/0 grad).
- Fall 2012 CSE131/501N: Computer Science I, ongoing, undergraduate/graduate level: 264 students. (229 undergrad/35 grad).
- Fall 2012 CSE131R: Computer Science I Seminar, ongoing, undergraduate level: 35 students (35 undergrad/0 grad).
- Spring 2013 CSE131/501N: Computer Science I, ongoing, undergraduate/graduate level: 166 students (132 undergrad/34 grad)
- Spring 2014 CSE131/501N: Computer Science I, ongoing, undergraduate/graduate level: 212 students (189 undergrad/23 grad)
- Spring 2015 CSE131/501N: Computer Science I, ongoing, undergraduate/graduate level: 253 students (198 undergrad/55 grad)
- Spring 2016 CSE543T: Algorithms for Nonlinear Optimization, ongoing, graduate level: 45 students (7 undergrad/38 grad).
- Fall 2016 CSE543T: Algorithms for Nonlinear Optimization, ongoing, graduate level: 50 students (6 undergrad/44 grad).
- Fall 2017 CSE543T: Algorithms for Nonlinear Optimization, ongoing, graduate level: 60 students (8 undergrad/52 grad).
- Fall 2018 CSE543T: Algorithms for Nonlinear Optimization, ongoing, graduate level: 52 students (7 undergrad/45 grad).
- Fall 2020 CSE543T: Algorithms for Nonlinear Optimization, ongoing, graduate level: 37 students (5 undergrad/32 grad).

- Fall 2020 CSE591: Introduction to Graduate Study in CSE, ongoing, graduate level: 8 students (0 undergrad/8 grad).
- Spring 2021 CSE591: Introduction to Graduate Study in CSE, ongoing, graduate level: 5 students (0 undergrad/5 grad).
- Spring 2021 CSE543T: Algorithms for Nonlinear Optimization, ongoing, graduate level: 59 students (6 undergrad/53 grad).
- Fall 2021 CSE543T: Algorithms for Nonlinear Optimization, ongoing, graduate level: 73 students (9 undergrad/64 grad).
- Spring 2022 CSE543T: Algorithms for Nonlinear Optimization, ongoing, graduate level: 77 students (7 undergrad/70 grad).

G. Graduate Students Supervised

- **Graduated students**
  - Vanessa Clark (Ph.D. 2008), primary advisor. Co-advisor: Joseph Deasy. (female)
    Thesis: *Automation of Radiation Therapy Treatment Planning Using Hierarchical Optimization.*
    Placement: Postdoctoral Researcher, University of Pennsylvania School of Medicine.
  - Zhao Xing (Ph.D. 2008), co-advisor. Primary advisor: Weixiong Zhang.
    Thesis: *Searching for Optimization Through Satisfiability.*
    Placement: Research Analyst, Bank of America.
  - Minmin Chen, (M.Sc. 2008), sole advisor. (female)
    Thesis: *Efficient and High-Quality Learning of Conditional Random Fields.*
    Placement: Doctoral Student, Washington University.
  - Todd Schiller (M.Sc. 2009), sole advisor.
    Thesis: *Modeling Radiation-Induced Lung Injury Risk with an Ensemble of Support Vector Machines*
    Placement: Doctoral Student, University of Washington.
  - Yoongjin Kim (M.Sc. 2009), sole advisor.
    Thesis: *Implementing the Clustering Markov Process Using the Gibbs Sampling Algorithm*
    Placement: Google Inc.
  - Ruoyun Huang (Ph.D. 2011), primary advisor. Co-advisor: Weixiong Zhang.
    Thesis: *Automated Planning by New Formulations*
    Placement: Google Inc.
  - Hang Xie (M.Sc. 2013), sole advisor.
    Project: *Recency Effects in Game-Theory Learning Models*
  - Xiaodong Wu (M.Sc. 2014), sole advisor.
    Project: *Link Prediction for Social Networks*
  - Yao Xie (Ph.D. 2014), Primary advisor. Co-advisor: Victor Wickerhauser.
    Thesis: *Applications of Nonlinear Optimization*
    Placement: Monsanto Inc.
  - Eric You Xu (Ph.D. 2014), sole advisor.
    Thesis: *Accelerating Heuristic Search for Automated Planning*
    Placement: Google Inc.

- Paras Tiwari (Ph.D. 2015), sole advisor.
  Thesis: *Automation of Intensity-Modulated Radiation Therapy Treatment Planning using Prioritized Optimization*
  Placement: Philips Inc.
- Wenlin Chen (Ph.D. 2016), sole advisor.
  Thesis: *Machine Learning with Scalability and Compactness*
  Placement: Data Scientist, Facebook.
- Zhicheng Cui (Ph.D. 2019), sole advisor.
  Thesis: *Interpretable Machine Learning and Its Applications to Clinical Decision Support*
  Placement: Google.
- Muhan Zhang, (Ph.D. 2019), sole advisor.
  Thesis: *Graph Deep Learning*
  Placement: Data Scientist, Facebook.
- Di Huang, (M.Sc. 2023), sole advisor.
  Project: *Visual Transformer for Newborn Pose Estimation.*

- **Current Ph.D. students**
  - Zehao Dong, sole advisor. Expects to graduate in May 2023.
    Topic: graph learning and explainable AI
  - Jiarui Feng, sole advisor. Expects to graduate in May 2025.
    Topic: deep learning and bioinformatics
  - Hao Liu, sole advisor. Expects to graduate in May 2024.
    Topic: machine learning and medical applications
  - Jerry Kong, sole advisor. Expects to graduate in May 2025.
    Topic: graph learning and large-scale learning

- **Postdoctoral Researchers**
  - Dr. Yuan Wang, sole advisor, September 2014 - August 2015. (female)
  - Dr. Haishuai Wang, sole advisor, September 2016 - August 2017.
  - Dr. Christopher Ryan King, primary advisor, September 2017 - present.
  - Dr. Bradley Fritz, primary advisor, March 2018 - present.

- **Visiting Scholars**
  - Guohui Yao, sole advisor, September 2007 - May 2009.
  - Jianxia Chen, sole advisor, February 2008 - July 2010. (female)
  - Guobing Zou, sole advisor, September 2009 - August 2011.
  - Qiang Lv, sole advisor, September 2009 - August 2011.
  - Yi Mao, sole advisor, September 2010 - August 2012. (female)
  - Zhifeng Wu, sole advisor, November 2012 - October 2013.

- **Awards and Honors of Advisees**
  - AAAI Conference Travel Award, Muhan Zhang, 2018.
  - Microsoft Research Ph.D. Forum invitee, Wenlin Chen, 2015.
  - ACM SIGKDD Conference Best Student Paper Runner-up Award, Wenlin Chen, 2014.

- AAAI Conference Fellowship, Wenlin Chen, 2013.
- ACM SIGKDD Conference Fellowship, Wenlin Chen, 2013.
- IEEE ICDM Conference Fellowship, Yujie He, 2013.
- Outstanding Paper Award, AAAI Conference, Ruoyun Huang, 2010.
- AAAI Conference Fellowship, Ruoyun Huang, 2010.
- ICAPS Summer School Fellowship, You Xu, 2008.
- ICAPS Summer School Fellowship, Ruoyun Huang, 2008.
- AAAI Conference Fellowship, Minmin Chen, 2008.
- AAAI Conference Fellowship, Ruoyun Huang, 2008.
- Grace Hopper Conference Fellowship, Vanessa Clark, 2007.
- AAAI Conference Fellowship, Vanessa Clark, 2007.
- Graduate Student Research Symposium, 2nd Place in Engineering, Vanessa Clark, 2006.

H. Research Grants

- "**Unleashing photosynthesis and nitrogen fixation for carbon neutral production of N-rich compounds**", Department of Energy, Co-PI (PI: H. Pakrasi), total: $6,000,000, 10/15/2023 - 10/15/2026. My share: $300,000. Current annual direct cost: $-. Percent effort: 8% based on salary charge, 8% based on actual effort.
- "**Artificial Intelligence to Support Postoperative Nurse Handoffs**", National Institute of Health R01, Co-PI (PI: C. King), total: $3,649,785, 12/01/2023 - 11/30/2028. Total direct cost: $-. Current annual direct cost: $-. Percent effort: 3% based on salary charge, 3% based on actual effort.
- "**AI models of multi-omic data integration for mining longevity core signaling pathways**", National Institute of Health R21/R33, Co-PI (PI: F. Li), total: $2,065,067, 07/01/2023 - 06/30/2028. Total direct cost: $-. Current annual direct cost: $-. Percent effort: 3% based on salary charge, 5% based on actual effort.
- "**Modeling and Targeting Tumor-immune Signaling Interactions in Tumor Microenvironment**", National Institute of Health R01, Co-PI (PI: F. Li), total: $1,402,504, 07/01/2023 - 06/30/2027. Total direct cost: $-. Current annual direct cost: $-. Percent effort: 3% based on salary charge, 5% based on actual effort.
- "**Development of a Machine Learning Pipeline for Assisting Strain Design of Nonmodel Yeasts**", National Science Foundation, Co-PI (PI: Y. Tang), total: $943,286, 10/01/2022 - 09/30/2025. Total direct cost: $0. Current annual direct cost: $0. Percent effort: 8% based on salary charge, 10% based on actual effort.
- "**Harnessing Data Science for Health Discovery and Innovation in Africa (DS-I Africa)**", National Institute of Health, Co-I (PI: V. Davila-Roman, P. Payne), total: $3,500,000, 10/01/2021 - 09/30/2026. Total direct cost: $0. Current annual direct cost: $0. Percent effort: 0% based on salary charge, 0% based on actual effort.
- "**Telemedicine Control Tower for the OR: Navigating Information, Care and Safety (TECTONICS)**", National Institute of Health R01, Co-PI (PI: M. Avidan), total: $4,370,000, 07/01/2019 - 06/30/2024. Total direct cost: $0. Current annual direct cost: $0. Percent effort: 0% based on salary charge, 5% based on actual effort.

- "**AHRQ: Anesthesiology Control Tower: Feedback Alerts to Supplement Treatment (ACT-FAST)**", National Institute of Health R21, Co-PI (PI: M. Avidan), total: $300,000, 09/01/2017 - 08/31/2019. Total direct cost: $0. Current annual direct cost: $0. Percent effort: 0% based on salary charge, 0% based on actual effort.

- "**Combined Computational and Experimental Analyses of Gene Regulation by MicroRNAs**", National Institute of Health R01, Co-PI (PI: X. Wang), total: $1,372,2500, 09/01/2016 - 08/31/2020. Total direct cost: $0. Current annual direct cost: $0. Percent effort: 0% based on salary charge, 0% based on actual effort.

- "**SCH: INT: Anesthesiology Control Tower: Forecasting Algorithms to Support Treatment (ACTFAST)**", National Science Foundation, Co-PI (PI: M. Avidan), total: $589,998, 09/01/2016 - 08/31/2018. Total direct cost: $0. Current annual direct cost: $0. Percent effort: 0% based on salary charge, 0% based on actual effort.

- "**Output HR, activity, and sleep monitoring in PTS at risk of hospital readmission**", Washington University Institute of Clinical and Translational Sciences (ICTS) Foundation, co-PI (PI:Tom Bailey), total: $25,000, 06/01/2016 - 05/31/2017. Total direct cost: $25,000. Current annual direct cost: $0. Percent effort: 0% based on salary charge, 0% based on actual effort.

- "**Development of Hardware-Friendly Learning Algorithms for Recurrent Neural Networks**", Fujitsu Laboratories of America, Inc., sole PI, total: $100,000, 04/01/2016 - 03/31/2018. Total direct cost: $80,000. Current annual direct cost: $0. Percent effort: 0% based on salary charge, 0% based on actual effort.

- "**III: Small: Collaborative Research: Towards Interpretable Machine Learning**", National Science Foundation, PI, total: $248,790, 09/01/2015 - 08/31/2018. Total direct cost: $163,141. Current annual direct cost: $0. Percent effort: 0% based on salary charge, 0% based on actual effort.

- "**ABI innovation: Integration of flux balance analyses with data mining and 13C-labeling experiments to decipher microbial metabolisms**", National Science Foundation, Co-PI, (PI: Yinjie Tang), total: $486,510, 07/01/2014 - 06/30/2017. Total direct cost: $320,072. Current annual direct cost: $103,500. Percent effort: 8% based on salary charge, 12% based on actual effort.

- "**SCH: EXP: Integrated Real-Time Clinical Deterioration Prediction for Hospitalized Patients and Outpatients**", National Science Foundation, PI, (Co-PI: Chenyang Lu, Thomas Bailey, Marin Kollef), total: $718,042, 09/15/2013 - 9/14/2016. Total direct cost: $460,000. Current annual direct cost: $158,000. Percent effort: 8% based on salary charge, 12% based on actual effort.

- "**NeTS: Real-time wireless control networks**", National Science Foundation, Co-PI, (PI: Chenyang Lu), total: $500,000, 10/01/2013 - 9/31/2016. Total direct cost: $334,000. Current annual direct cost: $66,675. Percent effort: 8% based on salary charge, 12% based on actual effort.

- "**Sepsis prediction based on temperature data mining**", University Research Strategy Alliance (URSA) grant, PI (Co-PI: Anne Drewry), total: $25,000, 08/01/2013 - 7/31/2014. Total direct cost: $25,000.

- "**ICES:Small:Artificial Human Agents for Virtual Economies**", National Science Foundation, PI, (Co-PI: David Levine), total: $199,823, 08/01/2012 - 7/31/2014. Total direct cost: $135,152. Current annual direct cost: $66,675. Percent effort: 8% based on salary charge, 12% based on actual effort.

- "**Data Mining for ICU Sepsis Prediction**", The Foundation for Barnes-Jewish Hospital, Co-PI, (PI: Thomas Bailey) total: $27,500, 08/01/2012 - 7/31/2013. Total direct cost: $27,500. Current annual direct cost: $27,500. Percent effort: 0% based on salary charge, 5% based on actual effort.

- "**Data Mining Algorithms for Internet and TV Services**", China Cable Networks Co. Ltd., sole PI, total: $266,000, 09/01/2012 - 8/31/2017. Current annual direct cost: $34,539. Percent effort: 3% based on salary charge, 5% based on actual effort.
- "**Development of a Drug Therapy to Ameliorate Permanent Hearing Loss**", National Institute of Health, co-PI, (PI: Jianxin Bao), total: $1,194,600, 09/01/2011 - 8/31/2014. Total direct cost: $785,921. Current annual direct cost: $261,973. Percent effort: 7.4% based on salary charge, 12% based on actual effort.
- "**A Customized Optimization Solver for Intensity Modulated Radiotherapy**", Memorial Sloan-Kettering Cancer Institute, sole PI, total: $173,864, 01/1/2011 - 7/31/2015. Total direct cost: $114,384. Current annual direct cost: $27,626. Percent effort: 0% based on salary charge, 5% based on actual effort.
- "**Submodular Optimization for Shared Wireless Sensor Networks**", National Science Foundation NeTS Grant, PI, (Co-PI: Chenyang Lu), total: $443,190, 08/15/2010 - 08/15/2013. Total direct cost: $291,572. Current annual direct cost: $100,106. Percent effort: 8% based on salary charge, 20% based on actual effort.
- "**Planning with Complex Constraints and Preferences by Nonlinear Programming and Constraint Partitioning**", National Science Foundation IIS Grant, sole PI, total: $389,123, 08/15/2007 - 08/15/2011. Total direct cost: $274,048. Percent effort: 8% based on salary charge, 12% based on actual effort.
- "**Computational Nonlinear Programming**", Microsoft Research New Faculty Fellowship, sole PI, total: $200,000, 05/01/2007 -. Total direct cost: $200,000. Current annual direct cost: $161,084. Percent effort: 1% based on salary charge, 5% based on actual effort.
- "**Efficient Large-Scale Nonlinear Constrained Optimization by Constraint Partitioning**", Early Career Principal Investigator Award, Department of Energy, sole PI, total: $298,421, 08/15/2006 - 08/15/2009. Total direct cost: $202,699. Percent effort: 8% based on salary charge, 20% based on actual effort.
- "**Efficient Parallel Nonlinear Constrained Optimization**", Allocation Award, National Energy Research Scientific Computing Center (NERSC), sole PI, 20,000 POWER3-equivalent MPP hours on NERSC supercomputers, 01/01/2008-12/31/2008.
- "**Efficient Parallel Nonlinear Constrained Optimization**", Startup Allocation Award, National Energy Research Scientific Computing Center (NERSC), sole PI, 20,000 POWER3-equivalent MPP hours on NERSC supercomputers, 01/01/2007-12/31/2007.

I. Professional Service

- **Area Chair**, *IEEE International Conference on Data Mining (ICDM)*, 2023.
- **PC Chair**, *IEEE International Conference on Big Data*, 2021.
- **Associate Editor**, *ACM Transactions on Computing for Healthcare*, 2021 - .
- **Panelist**, National Science Foundation, IIS Division, 2023.
- **Area Chair**, *International Joint Conference on Artificial Intelligence (IJCAI-21)*, 2021
- **Vice Chair**, *IEEE P2894 Working Group on Explainable AI (XAI) Standards*, 2020 - .
- **Advisory Member**, IEEE P3652 Working Group on Federated Machine Learning, 2019 - .

- **Associate Editor**, *Journal of Artificial Intelligence Research*, 2015 - 2019.
- **Associate Editor**, *Annals of Mathematics and Artificial Intelligence*, 2014 - 2018.
- **Associate Editor**, *ACM Transactions on Intelligent Systems and Technology*, 2012 - 2017.
- **Editorial Board Member**, *Journal of Artificial Intelligence Research*, 2009 - 2016.
- **Associate Editor**, *IEEE Transactions on Knowledge Discovery and Engineering*, 2008 - 2012.
- **PC Chair**, Explainable AI (XAI) Special Track, *IEEE BigData'20 Conference*, 2020.
- **Area Chair**, IEEE International Conference on Data Mining (ICDM-18), 2018
- **Senior Program Committee Member**, *AAAI Conference on Artificial Intelligence (AAAI-17)*, 2017
- **Publicity Chair**, *AAAI Conference on Artificial Intelligence (AAAI-16)*, 2016
- **Publicity Chair**, *AAAI Conference on Artificial Intelligence (AAAI-15)*, 2015
- **Workshop Co-Chair**, *Mobile Data Mining Workshops, IEEE International Conference on Data Mining (ICDM)*, 2015.
- **Conference Co-Chair**, *The 2nd IEEE International Conference on Big Data Science*, Stanford, CA, 2014.
- **Steering Committee Member**, *18th International Computer Science and Engineering Conference*, 2013.
- **Workshop Co-Chair**, *IEEE International Conference on Big Data (BigData'13)*, Washington DC, 2013.
- **Program Co-Chair**, *IEEE International Conference on Fuzzy Systems and Knowledge Discovery*, 2009.
- **Senior Program Committee Member**, *ACM SIGKDD Conference (KDD)*, 2017.
- **Senior Program Committee Member**, *AAAI Conference on Artificial Intelligence (AAAI)*, 2017.
- **Senior Program Committee Member**, *International Joint Conference on Artificial Intelligence (IJCAI)*, 2013.
- **Best Paper Award Committee Member**, *IEEE International Conference on Data Mining (ICDM)*, 2011.
- **Senior Program Committee Member**, *International Joint Conference on Artificial Intelligence (IJCAI)*, 2011.
- **Keynote Speaker**, *National Database Conference of China (NDCC-12)*, 2012.
- **Keynote Speaker**, *IEEE International Symposium on Intelligent Information Processing (ISIIP-10)*, 2010.
- **Keynote Speaker**, *International Conference on Computational Intelligence and Natural Computing (CINC-09)*, 2009.
- **Guest Editor**, *ACM Transactions on Intelligent Systems and Technology*, special issue on planning applications, 2009.
- **Guest Editor**, *Soft Computing*, special issue on fuzzy systems, 2009.
- **Book Reviewer**, Oxford University Press, 2012

- **Grant Reviewer**, Qatar National Research Fund, 2013
- **Grant Reviewer**, Swiss National Science Foundation, 2012
- **Grant Reviewer**, Hong Kong Research Grants Council, 2012
- **Grant Reviewer**, Austrian Science Fund, 2007
- **Panel Reviewer**, National Science Foundation, 2005 –
- **Program Committee Member**
  - ACM Conference on Information and Knowledge Management (CIKM), 2017
  - ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2017
  - ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2016
  - International Conference on Automated Planning & Scheduling (ICAPS), 2016
  - International Joint Conference on Artificial Intelligence (IJCAI), 2016
  - ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2015
  - International Conference on Automated Planning & Scheduling (ICAPS), 2015
  - Twentieth National Conference on Artificial Intelligence (AAAI), 2015
  - SIAM International Conference on Data Mining (SDM), 2014
  - ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2014
  - AAAI National Conference on Artificial Intelligence (AAAI), 2014
  - International Conference on Data Mining (ICDM), 2013
  - ACM International Conference on Information and Knowledge Management (CIKM), 2013
  - International Conference on Machine Learning (ICML), 2013
  - The Fourth International Conference on Cloud Computing, GRIDs, and Virtualization (CLOUD COMPUTING), 2013
  - ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2013
  - SIAM International Conference on Data Mining (SDM), 2013
  - ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2012
  - IEEE International Conference on Data Mining (ICDM), 2011
  - Twentieth National Conference on Artificial Intelligence (AAAI), 2011
  - Twentieth National Conference on Artificial Intelligence (AAAI), Nectar Track, 2011
  - ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2011
  - IEEE International Conference on Data Mining (ICDM), 2010
  - ACM International Conference on Information and Knowledge Management (CIKM), 2010
  - Pacific Rim International Conference on Artificial Intelligence (PRICAI), 2010
  - Twentieth National Conference on Artificial Intelligence (AAAI), 2010
  - Twentieth National Conference on Artificial Intelligence (AAAI), Nectar Track, 2010
  - Twentieth National Conference on Artificial Intelligence (AAAI), Senior Paper Track, 2010
  - ACM International Workshop on Medical-Grade Wireless Networks, 2009
  - IEEE International Conference on Data Mining (ICDM), 2009
  - International Joint Conference on Artificial Intelligence (IJCAI), 2009

- IEEE Pacific Asia Conference on Knowledge Discovery and Databases (PAKDD), 2009
- ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2008
- Twentieth National Conference on Artificial Intelligence (AAAI), 2008
- IEEE International Conference on Granular Computing (GrC), 2008
- IEEE Pacific Asia Conference on Knowledge Discovery and Databases (PAKDD), 2008
- International Conference on Automated Planning & Scheduling (ICAPS), Doctoral Consortium, 2008
- International Symposium on Bioinformatics Research and Applications (ISBRA), 2008
- International Symposium on Artificial Intelligence and Mathematics (ISAIM), 2008
- Pacific-Rim International Conference on Artificial Intelligence (PRICAI), 2008
- IEEE/WIC/ACM International Conference on Web Intelligence (WI), 2007
- IEEE Pacific Asia Conference on Knowledge Discovery and Databases (PAKDD), 2007
- International Conference on Automated Planning & Scheduling (ICAPS), 2007
- ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2007
- International Symposium on Bioinformatics Research and Applications (ISBRA), 2007
- International Conference on Web-Age Information Management (WAIM), 2007
- Asia-Pacific Web Conference (APWC), 2007
- IEEE International Conference on Granular Computing (GrC), 2007
- IEEE International Conference on Tools with Artificial Intelligence (ICTAI), 2006
- International Conference on Automated Planning & Scheduling (ICAPS), 2006
- IEEE/WIC/ACM International Conference on Web Intelligence (WI), 2006
- IEEE International Conference on Data Mining (ICDM), 2006
- IEEE International Conference on Granular Computing (GrC), 2006
- Twentieth National Conference on Artificial Intelligence (AAAI), 2005

- **Paper Refereeing:**

  - Journal of Artificial Intelligence Research, 2017 (handled 16 papers as Associate Editor)
  - Artificial Intelligence Journal, 2017 (2 papers)
  - Journal of Artificial Intelligence Research, 2016 (2 papers)
  - Artificial Intelligence Journal, 2015
  - Journal of Artificial Intelligence Research, 2015
  - Journal of Artificial Intelligence Research, 2014 (2 papers)
  - Journal of Artificial Intelligence Research, 2013 (4 papers)
  - Journal of Artificial Intelligence Research, 2012 (4 papers)
  - ACM Transactions on Intelligent Systems and Technology, 2011
  - IEEE Transactions on Knowledge Discovery and Engineering, 2011
  - Journal of Artificial Intelligence Research, 2011
  - AI Communications, 2011
  - Journal of Artificial Intelligence Research, 2010
  - IEEE Transactions on Knowledge Discovery and Engineering, 2010

- Constraints, 2010
- Journal of Machine Learning Research, 2009
- IEEE Transactions on Knowledge Discovery and Engineering, 2009
- International Transactions in Operational Research, 2009
- International Journal of Bioinformatics Research and Applications, 2008
- ACM Transactions on Knowledge Discovery from Data, 2008
- IEEE Transactions on Knowledge Discovery and Engineering, 2008;
- IEEE Transactions on Intelligence Systems, 2008;
- Data Mining and Knowledge Discovery, 2008 (2 papers);
- IEEE Transactions on Systems, Man and Cybernetics, 2008 (2 papers);
- IEEE Transactions on Knowledge Discovery and Engineering, 2007;
- Artificial Intelligence, 2007;
- ACM Transactions on Sensor Networks, 2007;
- Journal of Scheduling, 2007;
- Neurocomputing, 2007;
- Journal of Artificial Intelligence Research, 2007;
- International Joint Conference on Artificial Intelligence (IJCAI-07), 2007;
- Soft Computing, 2006;
- IEEE Transactions on Evolutionary Computation, 2006;
- Artificial Intelligence, 2006;
- International Journal on Artificial Intelligence Tools, 2006;
- IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2006;
- IEEE Internet Computing, 2006;
- AI Communications, IOS Press, 2006;
- Journal of Parallel and Distributed Computing, Elsevier, 2005;
- The Computer Networks Journal, Elsevier, 2005;
- IEEE Transactions on Systems, Man and Cybernetics, Part A, 2004;
- Central European Journal of Operations Research, Springer-Verlag, 2003;
- International Conference on Tools for Artificial Intelligence, 2003;
- International Conference on Principles and Practice of Constraint Programming, 2003;
- Evolutionary Optimization, X. Yao and R. Sarker (ed.), Kluwer Academic Publishers, 2002.

J. University Service

- **University committees and responsibilities**
  - Tenure & Promotion Committee, School of Engineering, 2014-2018
  - Director of Ph.D. admission, 2012 - 2016
  - Graduate recruiting committee, 2011
  - Mathematics-Engineering seminar series committee, 2007-2009

- Preparing future faculty series committee, 2007-2008
- Graduate recruiting committee, 2007
- Faculty recruiting committee, 2006

- **Serving on exam committees**
  - Guoliang Xing (Ph.D.), 2006
  - Ping Su (Ph.D., Business School), 2006
  - Zhenxin Yu (Ph.D., Business School), 2006
  - Yingming Chen (M.Sc.), 2007
  - Sangeeta Bhattacharya (Ph.D.), 2007
  - Abdel-Karim Tamimi (M.Sc.), 2007
  - Guandong Wang (Ph.D.), 2007
  - Nuzhet Atay (Oral Exam), 2007
  - Greg Hackmann (Oral Exam), 2007
  - Jing Lu (Ph.D.), 2008
  - Andrew Reynolds (M.Sc.), 2008
  - Jinjing Jiang (M.Sc.), 2008
  - Rohan Sen (Ph.D.), 2008
  - Sangeeta Bhattacharya (Ph.D.), 2008
  - Ruibin Xi (Ph.D., Department of Mathematics), 2009
  - Nathan Jacobs (Ph.D.), 2009
  - Robert Glaubius (Ph.D.), 2009
  - Chak-Chai So (Ph.D.), 2010
  - Nathan Jacobs (Ph.D.), 2010
  - Abdel-Karim Tamimi (Ph.D.), 2010
  - Zeke Maier (Oral Exam), 2011
  - Mo Sha (Oral Exam), 2011
  - Greg Hackmann (Ph.D.), 2011
  - Yao Xie (Oral Exam), 2012
  - Hongtao Sun (Ph.D.), 2012
  - Xuefeng Zhou (Ph.D.), 2012
  - Jing Xia (Oral Exam), 2012
  - Zheng Chen (Oral Exam), 2012
  - Jianli Pan (Ph.D.), 2013
  - Chengjie Wu (M.Sc.), 2013
  - Dor Kedem (Oral Exam), 2013
  - Dolvara Gunatilaka (M.Sc.), 2013
  - Dan Sibbernsen (M.Sc.), 2013
  - Abusayeed Saifullah (Ph.D.), 2014

- You Eric Xu (Ph.D.), 2014
- Paras Tiwari (Ph.D.), 2014
- Hongtao Sun (Ph.D.), 2015
- Zheng Chen (Ph.D.), 2015
- Golnoosh Dehghanpoor (Oral Exam), 2016
- Ming Zou (Ph.D.), 2016
- Sherry Liu (Ph.D.), 2018
- Muhan Zhang (Ph.D.), 2019
- Zhicheng Cui (Ph.D.), 2019
- Jason Zhu (M.Sc.), 2020
- Nigel Kim (M.Sc.), 2020
- Zihao Deng (Ph.D.), 2021
- Hai Le (Ph.D.), 2021
- Frank Moon (M.Sc.), 2021
- Liu Ke (Ph.D.), 2022