

Ping Chen

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Research Interests

Developing architectures and techniques that intelligently analyze data and natural languages. Current research projects focus on AI, Machine Learning, Natural Language Processing.

Education

Doctor of Philosophy in Information Technology (Fall 1997 - Spring 2001)

George Mason University, Fairfax, VA

Advisor: Dr. Daniel Barbara

Dissertation title: Fractal clustering and its applications to projected clustering and deviation detection

Master of Science (*with honors*) in Computer science (Fall 1994 - Spring 1997) Institute of Automation, Chinese Academy of Sciences, Beijing, China.

Advisor: Dr. Ruwei Dai, an academican of Chinese Academy of Science

Dissertation title: Automatic Chinese Poem Generation

Bachelor of Science (*with honors*) in Information Systems (Fall 1990 - Spring 1994) Xi'an Jiaotong University, Xi'an, China

Professional Experience

Professor

September 2021 ~ present, Department of Engineering
Director, Artificial Intelligence Lab
University of Massachusetts Boston

Associate Professor

June 2013 ~ 2021, Department of Engineering
Director, Artificial Intelligence Lab
University of Massachusetts Boston

Associate Professor

September 2007 ~ May 2013, Department of Computer and Mathematical Sciences
Director, Artificial Intelligence Lab
University of Houston-Downtown

Assistant Professor

September 2001 ~ August 2007, Department of Computer and Mathematical Sciences
University of Houston-Downtown

Research Assistant

September 1997 ~ June 2001, Department of Information and System Engineering
George Mason University

Senior Software Developer

March 1997 ~ August 1997, sohu.com

Research Assistant

September 1995 ~ May 1997, Institute of Automation, Chinese Academy of Sciences

Journal Publications

1. T. Kang, W. Ding, **P. Chen**. CRESPR: Modular Sparsification of DNNs to Improve Pruning Performance and Model Interpretability. To appear in Neural Networks Journal.
2. Weihua Ding, Liuyue Yang, Eleanor Shi, Bowon Kim, Sarah Low, Kun Hu, Lei Gao, **Ping Chen**, Wei Ding, David Borsook, Andrew Luo, Jee Hyun Choi, Changning Wang, Oluwaseun Akeju, Jun Yang, Chongzhao Ran, Kristin Schreiber, Jianren Mao, Qian Chen, Guoping Feng, Shiqian Shen. The endocannabinoid N-arachidonoyl dopamine is critical for hyperalgesia induced by chronic sleep disruption. Nature Communications 14, 6696 (2023). <https://doi.org/10.1038/s41467-023-42283-6>
3. W. Li, C. Gu, J. Chen, C. Ma, X. Zhang, B. Chen, **P. Chen**. DW-GAN: Towards High-Fidelity Color-Tones of GAN-Generated Images with Dynamic Weights. IEEE Transactions on Neural Networks and Learning Systems, 9/2023, doi: 10.1109/TNNLS.2023.3311545.
4. W. Li, J. Chen, P. Flynn, W. Ding, **P. Chen**. Reducing Mode Collapse With Monge-Kantorovich Optimal Transport for Generative Adversarial Networks. IEEE Transactions on Cybernetics, 8/2023. doi: 10.1109/TCYB.2023.3296109
5. W. An, F. Tian, W. Ding, **P. Chen**, Q. Zheng. New User Intent Discovery with Robust Pseudo Label Training and Source Domain Joint-training. IEEE Intelligent Systems vol. 38, no. 4, pp. 21-31, July-Aug. 2023, doi: 10.1109/MIS.2023.3283909.
6. Yurun Cai, Suzanne G Leveille, Ling Shi, O. Andreeva, **P. Chen**, Tongjian You, Characterizing Fall Circumstances in Community-Dwelling Older Adults: A Mixed Methods Approach, Journal of Gerontology: Medical Sciences, 2023 Aug 27;78(9):1683-1691. doi: 10.1093/gerona/glad130.
7. J. Yu, Y. Chen, Q. Zheng, Y. Wu, **P. Chen**. Full Span Named Entity Recognition with Boundary Regression. Connection Science Journal 35:1, DOI: 10.1080/09540091.2023.2181483

8. Y. Chen, R. Huang, L. Pan, R. Huang, Q. Zheng, **P. Chen**. A Controlled Attention for Nested Named Entity Recognition. *Cognitive Computation*, 15, 132–145 (2023). <https://doi.org/10.1007/s12559-023-10112-z>, Springer.
9. Y. Chen, Wu, Q. Zheng, R. Huang, J. Liu, L. Deng, J. Yu, **P. Chen**. A Boundary Regression Model for Nested Named Entity Recognition. *Cognitive Computation*, 15, 534–551 (2023). <https://doi.org/10.1007/s12559-022-10058-8>, Springer.
10. W. Li, J. Chen, **P. Chen**. EID-GAN: Generative Adversarial Nets for Extremely Imbalanced Data Augmentation, *IEEE Transactions on Industrial Informatics*, vol. 19, no. 3, pp. 3208–3218, March 2023, doi: 10.1109/TII.2022.3182781.
11. Z. Li, K. Amaral, W. Ding, S. Crouter, **P. Chen**. SummerTime: Variable-length Time Series Summarization with Applications to Physical Activity Analysis. *ACM Transactions on Computing for Healthcare Volume 3 Issue 4 Article No.:* 47pp 1–15 <https://doi.org/10.1145/3532628>
12. O. Andreeva, M. Almeida, W. Ding, S. Croute, **P. Chen**. Maximizing Fairness in Deep Neural Networks via Mode Connectivity. *IEEE Intelligent Systems* vol. 37, no. 3, pp. 36–44, 1 May–June 2022, doi: 10.1109/MIS.2022.3168514.
13. W. An, F. Tian, **P. Chen**, Q. Zheng. Aspect-Based Sentiment Analysis With Heterogeneous Graph Neural Network. *IEEE Transactions on Computational Social Systems*, FEBRUARY 2023, Volume: 10, Issue: 1, Page(s): 403–412, Print ISSN: 2329-924X, Online ISSN: 2329-924X, Digital Object Identifier: 10.1109/TCSS.2022.3148866
14. O. Andreeva, W. Ding, S. Leveille, Y. Cai, P. Chen. Fall Risk Assessment through a Synergistic Multi-Source DNN Learning Model. *Artificial Intelligence In Medicine*. Volume 127, May 2022.
15. Yurun Cai, Suzanne G Leveille, Ling Shi, **P. Chen**, Tongjian You, Chronic pain and circumstances of falls in community-living older adults: an exploratory study, *Age and Ageing*, Volume 51, Issue 1, January 2022.
16. Y. Zhang, S. Smith, A. Mueller, M. Eckelman, S. Wylie, E. Sweet, **P. Chen**, W. Niemerier. Pollution Inequality 50 years after the Clean Air Act: the Need for Hyperlocal Data and Action. *Environmental Research Letters*, 16 071001DOI 10.1088/1748-9326/ac09b1.
17. W. Li, J. Chen, **P. Chen***, L. Yu*, X. Cui, Y. Li, F. Cheng, W. Ouyang. NIA-Network: Towards Improving Lung CT Infection Detection for COVID-19 Diagnosis. *Artificial Intelligence in Medicine Journal*, 2021 Jul;117:102082. doi: 10.1016/j.artmed.2021.102082. Epub 2021 May 2. PMID: 34127245; PMCID: PMC8153959.
18. W. Li, Z. Liang, R. Wang, P. Ma, X. Cui, **P. Chen**. Hausdorff GAN: Improving GAN Generation Quality With Hausdorff Metric. *IEEE Transactions on Cybernetics* vol. 52, no. 10, pp. 10407–10419, Oct. 2022, doi: 10.1109/TCYB.2021.3062396.
19. Y. Chen, Y. Hu, Y. Li, R. Huang, Y. Qin, Y. Wu, Q. Zheng, **P. Chen**. A Boundary Assembling Method for Nested Biomedical Named Entity Recognition, *IEEE Access*,

Nov. 2020. On page(s): 1-12. Print ISSN: 2169-3536. Online ISSN: 2169-3536
Digital Object Identifier: 10.1109/ACCESS.2020.3040182

20. M. Almeida, Y. Zhuang, W. Ding, S. Crouter, **P. Chen**. Mitigating Class-Boundary Label Uncertainty to Reduce Both Model Bias and Variance. *ACM Transactions on Knowledge Discovery from Data*, Volume 15 Issue 2 Article No.: 27 pp 1–18 <https://doi.org/10.1145/3429447>
21. Y. Cai, L. Shi, T. You, **P. Chen**, S. Leveille. Chronic Pain and Risk of Injurious Falls in Community-Dwelling Older Adults. *Journal of Gerontology: Medical Sciences*, 2021 Aug 13;76(9):e179-e186. doi: 10.1093/gerona/glaa249.
22. J. Qiang, W. Ding, M. Kuijter, J. Quackenbush, **P. Chen**. Clustering Sparse Data with Feature Correlation with Application to Discover Subtypes in Cancer, *IEEE Access*, vol. 8, 2020,
23. Y. Chen, Y. Wu, Y. Qin, Y. Hu, Z. Wang, R. Huang, X. Cheng, **P. Chen**, Recognizing Nested Named Entity Based on the Neural Network Boundary Assembling Model, in *IEEE Intelligent Systems*, vol. 35, no. 1, pp. 74-81, 1 Jan.-Feb. 2020.
24. Y. Chen, G. Wang, Q. Zheng, Y. Qin, R. Huang, **P. Chen**. A Multi-Channel Deep Neural Network for Relation Extraction. *IEEE Access*. Volume 8, Issue 1, 2020. On page(s): 1-9. Print ISSN: 2169-3536. Online ISSN: 2169-3536. Digital Object Identifier: 10.1109/ACCESS.2020.2966303
25. Y. Chen, G. Wang, Q. Zheng, Y. Qin, R. Huang, **P. Chen**. A Set Space Model to Capture Structural Information of a Sentence, *IEEE Access*, DECEMBER 2019. Volume: 7, Issue:1, Page(s): 142515-142530, Print ISSN: 2169-3536, Online ISSN: 2169-3536, Digital Object Identifier: 10.1109/ACCESS.2019.2944559
26. W. Li, W. Ding, R. Sadasivam, X. Cui, **P. Chen**, His-GAN: A Histogram-based GAN Model To Improve Data Generation Quality, *Neural Networks (Impact factor: 5.785)*, Volume 119, November 2019, Pages 31-45
27. J. Qiang, W. Ding, **P. Chen**, T. Wang, F. Xie, X. Wu, Heterogeneous-length Text Topic Modeling for Reader-aware Multi-Document Summarization, *ACM Transactions on Knowledge Discovery from Data*, August 2019.
28. C. Fakhry, Prajna Kulkarni, **P. Chen**, Rahul Kulkarni, Kourosh Zarringhalam, Prediction of bacterial small RNAs in the RsmA (CsrA) and ToxT pathways: a machine learning approach, *BMC Genomics* 2017, 18:645.
29. Y. Chen, Q. Zheng, **P. Chen**, A Set Space Model for Feature Calculus, *IEEE Intelligent Systems*, Volume: 32, Issue: 5, September/October 2017.
30. Carl Tony Fakhry, Choudhary, Parul, Gutteridge, Alex, Sidders, Ben, **Chen, Ping**, Ziemek, Daniel and Kourosh Zarringhalam. Interpreting transcriptional changes using causal graphs: new methods and their practical utility on public networks. *BMC Bioinformatics*, 17 (1), 2016.

31. Ji-Peng Qiang, **P. Chen**, Wei Ding, Fei Xie, Xindong Wu, Multi-document Summarization using Closed Patterns, *Journal of Knowledge-based Systems*, Volume 99, 1 May 2016, Pages 28–38.
32. C. Yu, W. Ding, **P. Chen**, M. Morabito, Hierarchical Spatio-Temporal Pattern Discovery and Predictive Modeling, *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, vol. 28, no. 4, pp. 979-993, April 1 2016.
33. T. Wang, **P. Chen**, D. Simovici, A New Evaluation Measure Using Compression Dissimilarity on Text Summarization, *Applied Intelligence*, pp 1-8, January 2016.
34. Y. Chen, Q. Zheng, **P. Chen**, A Boundary Assembling Method for Chinese Entity Mention Recognition, *IEEE Intelligent Systems*, No. 30 page 50-58, Nov./Dec. 2015.
35. Z. Zhang, Y. Liu, W. Ding, W. Huang, Q. Su, **P. Chen**, Proposing a New Friend Recommendation Method, *FRUTAI, to Enhance Social Media Providers' Performance*, *Decision Support Systems*, 79, C (November 2015), 46-54.
36. Y. Chen, Q. Zheng, **P. Chen**, Feature Assembly Method for Extracting Relations in Chinese, *Artificial Intelligence Journal*, Volume 228, November 2015, Pages 179–194.
37. D. Simovici, **P. Chen**, T. Wang, D. Pletea, Compression and Data Mining, *Journal of Communication*, Volume 10, No. 9, September 2015.
38. Guoqing J. Chen, Jennifer Arney, Ashley Helm, Ursula Braun, Peter Richardson, **P. Chen**, Hong-Jen Yu, and Teresa G. Hayes, Genomic-based targeted therapy and management of advanced non-small cell lung cancer: Protocol for a qualitative study of oncologists' perceptions and behaviors regarding genomic-based targeted therapy, *Journal of Solid Tumors*, Vol 5, No 1, 2015.
39. Yu Cao, Shawn Steffey, Jianbiao He, Degui Xiao, Cui Tao, **P. Chen**, Henning Müller, Medical Image Retrieval: A Multi-modal Approach, *Cancer Informatics*, 2015:7:125-136.
40. D. Wang, W. Ding, H. Lo, M. Morabito, **P. Chen**, Understanding the Spatial Distribution of Crime Based on Its Related Variables Using Geospatial Discriminative Patterns, *Computers, Environment and Urban Systems*, Volume 39, May 2013, Pages 93–106.
41. **P. Chen**, D. Hinote*, G. Chen, A Rule Based Solution to Co-reference Resolution in Clinical Text, *Journal of the American Medical Informatics Association*, 2013;20:891-897.
42. **P. Chen**, W. Ding, M. Choly*, C. Bowes*, Word Sense Disambiguation with Automatically Acquired Knowledge, *IEEE Intelligent System*, Volume: 27, Issue: 4 Page(s): 46 – 55, 2012.
43. R. Verma, **P. Chen**, A Data Mining Hypertextbook: Design, Implementation and Experience, *Journal of Computing Sciences in Colleges*, Vol. 27, Number 3 January 2012.
44. **P. Chen**, W. Ding, W. Garcia*, Adaptive Study Design through Semantic Association Rule Analysis, *International Journal of Software Science and Computational Intelligence*, Vol. 2, No. 3., 2011, page 34-48.

45. **P. Chen**, I. Chen, R. Verma, Designing an undergraduate data mining course by matching teaching strategies with student learning styles, *Journal of Computing Sciences in Colleges*, Volume 26 Issue 4, April 2011.
46. Y. Wang, W. Pedrycz, G. Baci, **P. Chen**, G. Wang, Y. Yao, Perspectives on Cognitive Computing and Applications, *International Journal of Software Science and Computational Intelligence*, Vol. 2, No. 4., 2010, page 32-44
47. **P. Chen**, I. Chen, R. Verma, Improving an Undergraduate Data Mining Course with Real-world Projects, *Journal of Computing Sciences in Colleges*, 25, 4 (Apr. 2010), 62-67.
48. H. Lin, O. Sirisaengtaksin, **P. Chen**, A Cluster Computing Environment at a Small Institution to Support Faculty/Student Projects, *Journal of Computing Sciences in Colleges*, 25, 4 (Apr. 2010), 30-36.
49. **P. Chen**, W. Ding, C. Ding, A Lexical Knowledge Representation Model for Natural Language Understanding. *International Journal of Software Science and Computational Intelligence*, Vol. 1, No. 4, Page 17 – 35, 2009
50. H. Al-Mubaid, **P. Chen**, Application of Word Prediction and Disambiguation to Improve Text Entry for People with Physical Disabilities, *International Journal of Social and Humanistic Computing*, ISSN: 1752-6124, Vol.1 No.1, Page 10 – 27, 2008.
51. A. de Korvin, **P. Chen**, J. Yoon, Information Retrieval Using Relevance Vectors: A Soft Computing Approach, *International Journal of Pure and Applied Mathematics*, Volume 44, No. 1, 2008, 51-62.
52. K. Yue, T. A. Yang, W. Ding, **P. Chen**, Open Courseware and Computer Science Education, *Journal of Computing Sciences in Colleges*. Vol. 20, Issue 1. October 2004.
53. T. Yang, K. Yue, M. Liaw, G. Collins, J. Venkatraman, S. Achar, K. Sadasivam, **P. Chen**, Design of Distributed Computer Security Lab, *Journal of Computing Sciences in Colleges*. Volume 20, Issue 1. October 2004.
54. E. Deeba, A. de Korvin, **P. Chen**, Generating and applying rules for web documents retrieval, *Far East Journal of Applied Mathematics*, vol. 16(3)(2004) P249 - 272.
55. H. Lynn, **P. Chen**, C. Hu, Y. Simon, High-dimensionality 3D seismic data visualization and interpretation: Simultaneous interpretation of nine co-rendered volumes, the Canadian Society of Exploration Geophysicists Recorder, Page 28-33, June 2003.
56. D. Barbara, **P. Chen**, Using self-similarity to cluster large data sets, *Journal of Knowledge Discovery and Data Mining*, 7, Page 123 – 152, 2003.

Book and Book Chapters

57. **P. Chen**, D. Barbara, *Fractal Clustering*, Lambert Academic Publishing, 2010, ISBN: 978-3-8433-6212-2 (Ph.D Dissertation).
58. W. Ding, **P. Chen**, An Interactive Visualization Model for Large High-dimensional Datasets: A Case Study, a book chapter in *Data Engineering: Mining, Information, and*

Intelligence. Editors: Yupo Chan, John Talburt, Terry Talley. Springer, 2009, ISBN: 978-1-4419-0175-0.

59. D. Barbara, **P. Chen**, Fractal Mining, in Data Mining and Knowledge Discovery Handbook: A Complete Guide for Practitioners and Researchers, published by Kluwer Academic Publishers, Page 627-647, 2004.
60. **P. Chen**, W. Ding, Knowledge Management for Agent-Based Tutoring Systems in Designing Distributed Learning Environments: With Intelligent Software Agents, Editor Fuhua Oscar Lin, Page 146-161, published by Idea Group, 2004.

Refereed Conference Publications

61. S. Bai, A. Wen, F. Tian, Y. Chen, Y. Wu, Q. Wang, **P. Chen**. A Unified Knowledge Transfer Network for Generalized Category Discovery. The 38th AAAI Conference on Artificial Intelligence (AAAI-24).
62. A. Wen, F. Tian, S. Bai, Y. Chen, Q. Wang, Y. Wu, **P. Chen**. Transfer and Alignment Network for Generalized Category Discovery. The 38th AAAI Conference on Artificial Intelligence (AAAI-24).
63. Yong Zhuang, David L Small, Patrick D Flynn, Shafiqul Islam, **Ping Chen**, and Wei Ding. CASTLE: A Cascaded Spatio-Temporal Approach for Long-lead Streamflow Forecasting. IEEE BigData, 2023. Sorrento, Italy.
64. A. Wen, F. Tian, Y. Wang, W. Ding, Q. Zheng. **P. Chen**. DNA: Denoised Neighborhood Aggregation for Fine-grained Category Discovery. EMNLP 2023. Singapore. 12/2023.
65. A. Wen, F. Tian, Y. Wang, W. Ding, Q. Zheng. **P. Chen**. A Diffusion Weighted Graph Framework for New Intent Discovery. EMNLP 2023. Singapore. 12/2023.
66. A. Wen, F. Tian, Y. Wang, W. Ding, Q. Zheng. **P. Chen**. Generalized Category Discovery with Decoupled Prototypical Network. AAAI 2023. Washing DC. 2/2023.
67. A. Wen, F. Tian, W. Ding, Q. Zheng. **P. Chen**. Fine-grained Category Discovery under Coarse-grained supervision with Hierarchical Weighted Self-contrastive Learning. EMNLP. Abu Dhabi. Dec. 2022.
68. Yong Zhuang, Matthew Almeida, Wei Ding, Patrick Flynn, Shafiqul Islam, and **Ping Chen**, Widening the Time Horizon: Predicting the Long-Term Behavior of Chaotic Systems. ICDM 2022. Nov. 2022. Florida, USA.
69. C. Zheng, W. Ding, S. Shen, **P. Chen**. TimeCLR: A Contrastive Learning Based Framework for Video Classification. The 35th International Conference on Industrial, Engineering & Other Applications of Applied Intelligent Systems, 7/2022. Japan.
70. H. Qiu, W. Ding, **P. Chen**. Contrastive Learning of Sentence Representations. The Eighteenth International Conference on Natural Language Processing. Silchar, India December 16-19, 2021

71. Tianyu Kang, **Ping Chen**, John Quackenbush and Wei Ding, A Novel Deep Learning Model by Stacking Conditional Restricted Boltzmann Machine and Deep Neural Network, SIGKDD 2020.
72. Olga Andreeva, Wei Li, Wei Ding, Marieke Kuijjer, John Quackenbush and **Ping Chen**, Catalysis Clustering With GAN By Incorporating Domain Knowledge, SIGKDD 2020.
73. Tianyu Kang, Kourosh Zarringhalam, Marieke Kuijjer, **P. Chen**, John Quackenbush, and Wei Ding, Clustering on Sparse Data in Non-Overlapping Feature Space with Applications to Cancer Subtyping, the 2018 IEEE International Conference on Data Mining (ICDM'18), Acceptance rate: 19.94%, 11/2018, Singapore
74. Zihan Li, Wei Ding, Kui Yu, Suzanne Leveille, and **P. Chen**. An Interpretable Causal Relationship Networks on Older Adults Fall Influence Factors. IEEE ICBK, 11/2018. Singapore.
75. Y. Chen, S. Liu, Q. Zheng, R. Huang, Y. Qin, **P. Chen**, Discovery of Rare Key Phrases, The IEEE International Conference on e-Business Engineering (ICEBE, Acceptance rate: 27.4%), Xi'an, China, 10/2018
76. **P. Chen**, F. Wu, T. Wang, W. Ding, A Semantic QA-Based Approach for Text Summarization Evaluation, the Thirty-Second AAAI Conference on Artificial Intelligence (AAAI-18), New Orleans, 2/2018.
77. Wei Li, Kevin Amaral, Xiaohui Cui, Rajani Sadasivam, and **P. Chen**, Smoking Cessation Recruitment Analysis: A Case Study, IEEE ICBK 2017, 8/2017, Hefei, China
78. Soussan Djamasbi, Mina Shojaeizadeh, **P. Chen**, John Rochford, Task Condition and Pupillometry, the 23rd Americas Conference on Information Systems, 8/2017, Boston, MA
79. T. Wang, **P. Chen**, A. Li, Predicting the Quality of Short Narratives from Social Media, the 26th International Joint Conference on Artificial Intelligence (IJCAI 2017), Australia, 8/2017.
80. J. Qiang, **P. Chen**, T. Wang, X. Wu, Topic Modeling over Short Texts by Incorporating Word Embeddings, PAKDD 2017.
81. Soussan Djamasbi, Mina Shojaeizadeh, **P. Chen**, John Rochford, Text Simplification and Pupillometry, HCI International 2017, Vancouver, Canada, 7/2017
82. Mina Shojaeizadeh, **P. Chen**, John Rochford, Soussan Djamasbi, Text Simplification and Generation Y: an Eye Tracking Study, Poster, SIGHCI workshop at International Conference of Information Systems (ICIS) 2016, Dublin, Ireland. December 11-14, 2016
83. J. Qiang, **P. Chen**, W. Ding, T. Wang, F. Xie, X. Wu. Topic Discovery from Heterogeneous Texts, The 28th IEEE International Conference on Tools with Artificial Intelligence (ICTAI 2016), San Jose, CA, Nov. 2016
84. Tong Wang, **P. Chen**, Kevin Amaral and Jipeng Qiang. An Experimental Study of LSTM Encoder-Decoder Model for Text Simplification. Workshop on Human Language

Technology and Intelligent Applications (HLT-IA), 25th International Joint Conference on Artificial Intelligence (IJCAI-2016) New York, USA, July 9-15, 2016

85. **P. Chen**, J. Rochford, D. Kennedy, S. Djasasbi, P. Fay, W. Scott, Automatic Text Simplification for People with Intellectual Disabilities, International Conference on Artificial Intelligence Science and Technology, July 2016. Shanghai, China.
86. J. Li, W. Huang, **P. Chen**, A Comprehensive Literature Review on Big Data in Healthcare, the 22nd Americas Conference on Information Systems, San Diego, CA. August 11 - 13, 2016
87. Carl Tony Fakhry, Kourosh Zarringhalam, **P. Chen**, Biomedical Relation Extraction Using Stochastic Difference Equations, 2015 IEEE High Performance Extreme Computing Conference (HPEC '15), September 2015, Waltham, MA
88. Q. Xia, X. Zhao, W. Huang, **P. Chen**, Cloud Computing platform Based Chinese Network Opinion Monitoring on Flu Trend, The Second International Conference on Data Science (ICDS), Sydney, Australia. August 8-9, 2015
89. J. Li, W. Huang, **P. Chen**, LDA Based Event Extraction: Detecting Influenza Epidemics Using Microblog, The Second International Conference on Data Science (ICDS), Sydney, Australia, August 8-9, 2015
90. T. Wang, Vish Viswanath, **P. Chen**, Extended Topic Model for Word Dependency, ACL-IJCNLP 2015, July 2015. Beijing, China
91. D. A. Simovici, **P. Chen**, and T. Wang, D. Pletea, Compression and Data Mining, position paper, International Conference on Computing, Networking and Communications (ICNC) 2015, Anaheim, California, February 16-19, 2015
92. K. Amaral, **P. Chen**, W. Carter and J. Sanchez, Access My Campus, the 12th International Conference on Smart Homes and Health Telematics, June 2014, Denver, CO.
93. C. Yu, W. Ding, **P. Chen**, M. Morabito, Crime Forecasting Using Spatio-Temporal Pattern with Ensemble Learning, Proceedings of the 18th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD), May, 2014, Tainan, Taiwan.
94. C. Fakhry*, D. Di, **P. Chen**, Using Lexical Units to Build a Large-Scale Knowledge-base, International Symposium on Big Data and Social Network (AIS SIG-ISAP), Milan, Italy, Dec., 2013.
95. F. Bustos*, C. Ding, **P. Chen**, Visualization of Big Travel Data, International Symposium on Big Data and Social Network (AIS SIG-ISAP), Milan, Italy, Dec., 2013.
96. D. Wang, W. Ding, K. Yu, X. Wu, **P. Chen**, D. Small, S. Islam, Towards long-lead forecasting of extreme flood events: a data mining framework for precipitation cluster precursors identification, SIGKDD 2013, Chicago, IL, August 2013.
97. I. Chen, J. Nath, **P. Chen**, Education Professors Create Technology For Daily Use: A Case Study On The Process Of Creating An App, The World Association for Case Method Research & Application. BERLIN, GERMANY, July 7-11, 2013

98. L. Ghemri, **P. Chen**, Introducing Privacy in a Data Mining Course, poster, SIGCSE 2013, Denver, Colorado.
99. D. Hinote*, C. Ramirez*, and **P. Chen**, Effective Co-reference Resolution in Clinical Text, The 25th International Conference on Industrial, Engineering & Other Applications of Applied Intelligent Systems , Dalian, China, June 9, 2012
100. K. Zhao, C. Ordonez, W. Garcia*, **P. Chen**, Efficient Algorithms based on Relational Queries to Mine Frequent Graphs, PIKM Workshop in conjunction with the 19th ACM Conference on Information and Knowledge Management CIKM 2010, Oct. 2010. Toronto, Canada.
101. **P. Chen**, A. Barrera*, C. Rhodes*, Semantic Analysis of Free Text and its Application on Automatically Assigning ICD-9-CM Codes to Patient Records, The 9th IEEE International Conference on Cognitive Informatics, July 7-9, 2010, Beijing, China.
102. **P. Chen**, N. Ozoka*, R. Ortiz*, A. Tran*, D. Brown*, Word Sense Distribution in a Web Corpus, The 9th IEEE International Conference on Cognitive Informatics, July 7-9, 2010, Beijing, China.
103. **P. Chen**, W. Garcia*, Hypothesis Generation and Data Quality Assessment through Association Mining, The 9th IEEE International Conference on Cognitive Informatics, July 7-9, 2010, Beijing, China.
104. **P. Chen**, I. Chen, R. Verma, A. Tran*, An Undergraduate Data Mining Course Integrated with Research and Industry Projects (poster), SIGCSE 2010, March, 2010.
105. **P. Chen**, W. Ding, C. Bowes*, D. Brown*, Large-scale Dependency Knowledge Acquisition and its Extrinsic Evaluation Through Word Sense Disambiguation, the 21st IEEE International Conference on Tools with Artificial Intelligence, November 2009, New Jersey.
106. W. Ding, **P. Chen**, H. Al-Mubaid, M. Pomplun, A Gaze-Controlled Interface to Virtual Reality Applications for Motor- and Speech-Impaired Users, the 13th International Conference on Human-Computer Interaction, July 2009, San Diego, CA
107. **P. Chen**, W. Ding, C. Bowes*, D. Brown*, A Fully Unsupervised Word Sense Disambiguation Method and Its Evaluation on Coarse-grained All-words Task, NAACL 2009, Boulder, Colorado.
108. **P. Chen**, R. Verma, J. C. Meininger, W. Chan, Semantic Analysis of Association Rules, the 21st AAAI International FLAIRS Conference, May 2008, Miami, Florida.
109. R. Verma, D. Kent*, **P. Chen**, Semantic Multi-Document Update Summarization Techniques, Proceedings of the First Text Analysis Conference, 2008, National Institute of Standards and Technology, Gaithersburg, Maryland, USA
110. R. Verma, **P. Chen**, W. Lu*, A Semantic Free-text Summarization System Using Ontology Knowledge, NIST Document Understanding Conference held with NAACL-HLT 2007, April, 2007. Rochester, NY

111. **P. Chen**, W. Ding, C. Ding, SenseNet: A Knowledge Representation Model for Computational Semantics, In Proceedings of the 5th IEEE International Conference on Cognitive Informatics, July 2006, Beijing, China.
112. **P. Chen**, R. Verma, A Query-based Medical Information Summarization System Using Ontology Knowledge, In Proceedings of the 19th IEEE International Symposium on Computer-Based Medical Systems, Page 37-42, June 2006, Salt Lake City, Utah.
113. **P. Chen**, H. Al-Mubaid, Context-based Term Disambiguation in Biomedical Literature, In Proceedings of The 19th AAAI International FLAIRS Conference, May 2006, Melbourne, Florida.
114. C. Ding, **P. Chen**, Mining Executive Compensation Data from SEC Filings, In Proceedings of IEEE ICDE Workshop on Challenges in Web Information Retrieval and Integration, Page 49-53, April, 2006, Atlanta, Georgia.
115. H. Al-Mubaid, **P. Chen**, Biomedical Term Disambiguation: An Application to Gene-Protein Name Disambiguation, In Proceedings of IEEE Third International Conference on Information Technology: New Generations, April 2006, Las Vegas, Nevada.
116. X. Wang, **P. Chen**, Web-Based Interactive Visualization of Data Cubes, In Proceedings of The 2005 IEEE International Conference on Modeling, Simulation and Visualization Methods, Page 136-143, June 2005, Las Vegas, Nevada.
117. A. de Korvin, **P. Chen**, C. Hu, A Genetic Algorithm Approach for Analyzing Network Intrusion Hyperalerts, In Proceedings of The 11th World Congress of International Fuzzy Systems Association, July 2005, Beijing, China.
118. H. Al-Mubaid, **P. Chen**, Context-Based Similar Words Detection and Its Application in Specialized Search Engines, In Proceedings of ACM International Conference on Intelligent User Interfaces, Page 260-264, January 2005, San Diego, CA.
119. A. de Korvin, **P. Chen**, C. Hu, Generating and Applying Rules for Interval Valued Fuzzy Observations, Lecture Notes in Computer Science, Vol. 3177, Page 279-284, Springer-Verlag, 2004.
120. D. Barbara, **P. Chen**, Self-similar Mining of Time Association Rules, In Proceedings of The Eighth Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD'04), Page 86-95, Sydney, Australia, May 2004.
121. K. Yue, T. Yang, W. Ding, **P. Chen**, A model for open content communities to support effective learning and teaching, In Proceedings of International Conference on Web Based Communities, Lisbon, Portugal, March 2004.
122. **P. Chen**, C. Hu, W. Ding, H. Lynn, Icon-based Visualization of Large High-Dimensional Datasets, In Proceedings of Third IEEE International Conference on Data Mining (ICDM'03), Page 505-508, Melbourne, Florida, November 2003.
123. **P. Chen**, A. de Korvin, C. Hu, Association Analysis with Interval Valued Fuzzy Sets and Body of Evidence, In Proceedings of 2002 IEEE International Conference on Fuzzy Systems, Page 518-523, Honolulu, HI, May 2002.

124. D. Barbara, **P. Chen**, Tracking Clusters in Evolving Data Sets, In Proceedings of AAAI FLAIRS'2001, Page 239-243, Key West, FL, May 2001.
125. **P. Chen**, D. Wijesekera, Hierarchical and Modular Model Checking of Finite State Machines, In Proceedings of 8th Annual IEEE International Conference and Workshop on the Engineering of Computer Based Systems, Vienna, VA. April 2001.
126. D. Barbara, **P. Chen**, Using the Fractal Dimension to Cluster Datasets, In Proceedings of 2000 ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, Page 260-264, Boston, MA. August 2000.

Other Publications

127. Y. Cai, L. Shi, T. You, **P. Chen**, S. Leveille. Chronic Pain and Circumstances of Falls in Community-Living Older Adults. Oral presentation in GSA 2022.
128. Kevin M. Amaral, **P. Chen**, Scott Crouter, Wei Ding, Bag-of-Words Method Applied to Accelerometer Measurements for the Purpose of Classification and Energy Estimation, <http://arxiv.org/abs/1704.01574>
129. Kevin Amaral, **P. Chen**, W. Ding, Rajani Sadasivam, Sacrificing overall classification quality to improve classification accuracy of well-sought classes, PhD Forum, ICDM 2016
130. Tong Wang, **P. Chen**, John Rochford and Jipeng Qiang. Text Simplification using Neural Machine Translation, AAAI 2016 Student Abstract and Poster Program.
131. **P. Chen**, A High-performance Computing Environment to Support Research and Teaching at a Minority Serving Institution, NSF Research Data Management Workshop, Experience Paper, March, 2013. Arlington, VA.
132. D. Hinote*, C. Ramirez*, and **P. Chen**, A Comparative Study of Co-reference Resolution in Clinical Text (poster), The Fifth i2b2/VA/Cincinnati Workshop on Challenges in Natural Language Processing for Clinical Data, Washington DC, Oct. 2011
133. A. Tran*, C. Bowes*, D. Brown*, **P. Chen**, M. Choly*, W. Ding, TreeMatch: A Fully Unsupervised WSD System Using Dependency Knowledge on a Specific Domain, SemEval 2010 Workshop with the 48th Annual Meeting of the Association for Computational Linguistics (ACL), July, 2010. Uppsala, Sweden.
134. **P. Chen**, W. Ding, T. Simmons*, C. Lacayo*, Parsing tree matching based question answering, NIST Text Analysis Conference, Gaithersburg, Maryland, 2008.
135. H. Lynn, **P. Chen**, C. Hu, Y. Simon, Co-rendering and Interpretation of Nine 3D-attribute volumes: Case History, Central Texas, 3D PP multi-azimuth characterization of a naturally-fractured gas reservoir, invited paper by Denver Geophysical Society, November 2002.
136. **P. Chen**, Fractal clustering and its applications to projected clustering and deviation detection, Ph.D. Dissertation, George Mason University, 2001

137. **P. Chen**, Automatic Poem Generation with Natural Language Processing Techniques, Master Thesis, Chinese Academy of Sciences, June 1997

Patent

P. Chen, W. Ding, Word sense disambiguation apparatus and methods, US patent No. 8,260,605

Ping Chen, Soussan Djasasbi, Text Simplification System Utilizing Eye-Tracking. US Patent application No. 16/685,270

Professional Service

A. Journal Review

1. Associate Editor, Journal of Water Resources Research
2. IEEE Access
3. Associate Editor, IEEE Internet of Things Journal
4. Pattern Recognition
5. IEEE Transactions on Big Data
6. Journal of Smart Health
7. PLOS ONE
8. Decision Support Systems
9. International Journal of Services Technology and Management
10. IEEE Transactions on Education
11. Editorial Board Member for Journal On Advances in Intelligent Systems
12. IEEE Transactions on Biomedical Engineering
13. Editorial Board Member for Journal of Emerging Technologies in Web Intelligence
14. International Journal of Artificial Intelligence Tools
15. International Journal of Data Mining and Bioinformatics
16. International Journal of Software Science and Computational Intelligence
17. Journal of the American Society for Information Science and Technology
18. Journal of Artificial Intelligence in Medicine
19. Journal of Applied Computational Intelligence and Soft Computing
20. Data and Knowledge Engineering Journal
21. Review Board Member for the International Journal of Computational Science
22. International Journal of Computers and Applications
23. Journal of Applied Soft Computing

24. International Journal of Computational Intelligence Research
25. Journal of VLSI Signal Processing-Systems for Signal, Image, and Video Technology
26. Institute of Industrial Engineers (IIE) Transactions

B. Conference Program Committee

1. PAKDD 2024
2. IJCAI 2022, 2023
3. SDM 2022
4. ICLR 2022, 2023
5. ICML 2021, 2023
6. WSDM 2021
7. Neurips 2020, 2021, 2022, 2023
8. SIGIR 2020, 2021, 2022 (International ACM SIGIR Conference on Research and Development in Information Retrieval)
9. ACM IWSPA workshop (ACM International Workshop on Security and Privacy Analytics) 2021, 2022, 2023
10. AAAI 2014, 2015, 2016, 2017, 2018, 2019, 2022, 2023, 2024
11. ICDM 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021
12. CIKM 2017, 2018, 2019, 2023
13. IEEE Healthcom 2015, 2017, 2018 (International Conference on E-health Networking, Application & Services)
14. NAACL 2018
15. IEEE CHASE 2017
16. SIGKDD 2016, 2017, 2021, 2022, 2023
17. International Conference on Bioinformatics and Computational Biology (BiCoB 2012, 2013, 2015, 2016, 2017)
18. International Workshop on Security and Privacy Analytics Co-located with ACM CODASPY 2015, 2016
19. IEEE 1st International Conference on Connected Health: Applications, Systems and Engineering, 2016
20. International Conference on Computing, Networking and Communications, Social Computing and Semantic Data Mining, 2016
21. The Florida Artificial Intelligence Research Society Conference 2015, 2016
22. Sentiment Elicitation from Natural Text for Information Retrieval and Extraction Workshop 2015

23. 2015 International Conference on Computing, Networking and Communications, Social Computing and Semantic Data Mining Symposium, 2015
24. WISDOM14 (3rd Workshop on Issues of Sentiment Discovery and Opinion Mining)
25. Sentiment Elicitation from Natural Text for Information Retrieval and Extraction (SENTIRE) Workshop hosted with ICDM 2013, Co-Chair
26. The 26th International Conference on Industrial, Engineering & Other Applications of Applied Intelligent Systems (IEA/AIE 2013)
27. IADIS Interfaces and Human Computer Interaction 2012 (IHCI 2012) Conference
28. The 25th International Conference on Industrial, Engineering & Other Applications of Applied Intelligent Systems (IEA/AIE 2012) (Session Chair)
29. International Conf. on Advances in Computer-Human Interactions (ACHI 2011, 2012)
30. IADIS Multi Conference on Computer Science and Information Systems (MCCIS 2011)
31. ACM SIGCSE 2010, 2011, 2012 (Reviewer, Session Chair)
32. Data Mining Session chair @ The 9th IEEE International Conference on Cognitive Informatics (ICCI 2010)
33. Session Chair in ITCAI 2009
34. 2009 Workshop on Social Networks, Applications, and Systems, Boston
35. Session Chair in IEEE Workshop on Automation and Robotics (WAR) 2008
36. IEEE Conference on Video and Signal Based Surveillance 2008
37. The Fourth International Conference on Autonomic and Autonomous Systems
38. International Conference on Machine Learning and Applications, 2007
39. 16th International Conference on Software Engineering and Data Engineering 2007
40. International Conference of Information Technology Next Generation 2007
41. Workshop on Privacy and Security Aspects of Data Mining Held in Conjunction with the Fifth Institute of Electrical and Electronics Engineers (IEEE) International Conference on Data Mining (ICDM 2005)
42. Fifth International Conference on Intelligent Data Engineering and Automated Learning (IDEAL'04)
43. Workshop on Privacy and Security Aspects of Data Mining Held in Conjunction with the Fourth IEEE International Conference on Data Mining (ICDM 2004)