TEXAS STATE VITA

I. Academic/Professional Background

A. Name: Byron J. Gao Title: Associate Professor

B. Educational Background

Degree	*Year*	*University*	*Major*	*Thesis/Dissertation*
Ph.D.	2007	Simon Fraser University	Computer Science	Thesis: Hyper-rectangle-based Discriminative Data Generalization and Application in Data Mining
B.Sc.	2003	Simon Fraser University	Computer Science	

C. University Experience

Position	*University*	*Dates*
Associate Professor	Texas State University	Sep 2014 – present
Assistant Professor	Texas State University	Sep 2008 – Sep 2014
Postdoctoral Fellow	University of Wisconsin-Madison	Apr 2007 – Aug 2008

D. Relevant Professional Experience

Position	*Entity*	*Dates*
Summer Faculty	Lawrence Livermore National Laboratory	2010

E. Other Professional Credentials (licensure, certification, etc.)

II. TEACHING

Courses Taught:

- CS 7312 Advanced Data Mining (Spring 2026, Spring 2025, Spring 2024, Spring 2023, Spring 2022, Spring 2021, Spring 2020, Spring 2019, Fall 2017)
- CS 4315 (previous 4378U) Introduction to Data Mining (Spring 2026, Spring 2025, Spring 2024, Spring 2023, Spring 2022, Spring 2021, Spring 2020, Spring 2019, Spring 2016, Spring 2015, Spring 2014, Spring 2013, Spring 2012, Spring 2011, Spring 2010, Spring 2009)
- CS 3378: Theory of Automata (Fall 2026, Fall 2025, Fall 2024, Fall 2023, Fall 2022, Fall 2021, Fall 2020, Fall 2019, Fall 2018, Fall 2017, Fall 2015, Fall 2014)
- CS 5338: Formal Languages (Fall 2026, Fall 2025, Fall 2024, Fall 2023, Fall 2022, Fall 2021, Fall 2020, Fall 2019, Fall 2018, Fall 2017, Fall 2015, Fall 2014)
- CS 5316 (previous CS 5369U): Data Mining (Spring 2016, Spring 2015, Spring 2014, Spring 2013, Spring 2012, Spring 2011, Spring 2010, Spring 2009)

- CS 3378/CS 5338: Theory of Automata/Formal Languages (Fall 2013, Fall 2012, Fall 2011, Fall 2010, Fall 2009)
- CS 4332: Introduction to Database Systems (Fall 2013, Fall 2009, Spring 2009, Fall 2008)
- CS 5332: Database Theory and Design (Fall 2012)
- CS 4350: Unix Systems Programming (Fall 2008)
- CS 4395: Independent Study in Computer Science
- CS 5395: Independent Study in Advanced Computer Science
- CMPT-401: Distributed Operating Systems (Simon Fraser University, Fall 2005)

III. SCHOLARLY/CREATIVE

Books/Chapters in Books:

1. Martin Ester, Rong Ge, Byron J. Gao, Zengjian Hu, and Boaz Ben-Moshe. Joint Cluster Analysis of Attribute Data and Relationship Data. Book chapter in Constrained Clustering: Advances in Algorithms, Theory, and Applications, Chapman & Hall / CRC Press, 2008.

Articles:

1. Yongjie Feng, Peng Zhang, Hong Yang, Byron J. Gao, Yong Shi. Multi-objective Learning with Multi-gradient Descent for Training Sparse and Interpretable Neural Networks. Information Sciences. Jan 2027.
2. Lina Yao, Quan Z. Sheng, Anne H. H. Ngu, Byron J. Gao, Xue Li, and Sen Wang. Multi-label classification via learning a unified object-label graph with sparse representation. World Wide Web, 2016.
3. Shuaiqiang Wang, Yun Wu, Byron J. Gao, Ke Wang, Hady W. Lauw, Jun Ma. A Cooperative Coevolution Framework for Parallel Learning to Rank. IEEE Transactions on Knowledge and Data Engineering (TKDE), 2015.
4. Peng Zhang, Chuan Zhou, Peng Wang, Byron J. Gao, Xingquan Zhu, Li Guo. E-Tree: an Efficient Indexing Structure for Ensemble Models on Data Streams. IEEE Transactions on Knowledge and Data Engineering (TKDE), 2015.
5. Shuaiqiang Wang, Jiankai Sun, Byron J. Gao, and Jun Ma. VSRank: A Novel Framework for Ranking-based Collaborative Filtering. ACM Transactions on Intelligent Systems and Technology (TIST), 2014.
6. Byron J. Gao, Martin Ester, Hui Xiong, Jinyi Cai, and Oliver Schulte. The Minimum Consistent Subset Cover Problem: A Minimization View of Data Mining. IEEE Transactions on Knowledge and Data Engineering (TKDE), 2013.
7. Byron J. Gao, David Buttler, David C. Anastasiu, Shuaiqiang Wang, Peng Zhang, and Joey Jan. User-centric Organization of Search Results. IEEE Internet Computing (IC), 2013
8. David C. Anastasiu, Byron J. Gao, Xing Jiang, and George Karypis. A Novel Two-Box Search Paradigm for Query Disambiguation. World Wide Web Journal, 2013.
9. Peng Zhang, Byron J. Gao, Ping Liu, Yong Shi, and Li Guo. A Framework for Application-Driven Classification of Data Streams. Neurocomputing. 2012.
10. Byron J. Gao, Obi L. Griffith, Martin Ester, Hui Xiong, Qiang Zhao, and Steven J.M. Jones. On the Deep Order-preserving Submatrix Problem: A Best-Effort Approach. IEEE Transactions on Knowledge and Data Engineering (TKDE), 2012.
11. AnHai Doan, Jeffrey F. Naughton, Raghu Ramakrishnan, Akanksha Baid, Xiaoyong Chai, Fei Chen, Ting Chen, Eric Chu, Pedro DeRose, Byron Gao, Chaitanya Gokhale, Jiansheng Huang, Waren Shen, Ba-Quy Vuong. Information Extraction Challenges in Managing Unstructured Data. ACM SIGMOD Record, Special Issue on Managing Information Extraction, December 2008.

12. Rong Ge, Martin Ester, Byron J. Gao, Zengjian Hu, Boaz Ben-Moshe and Binay Bhattacharya. Joint Cluster Analysis of Attribute Data and Relationship Data: Problems, Algorithms and Applications, ACM Transactions on Knowledge Discovery from Data (TKDD), 2008.
13. AnHai Doan, Philip Bohannon, Raghu Ramakrishnan, Xiaoyong Chai, Pedro DeRose, Byron J. Gao, Warren Shen. User-Centric Research Challenges in Community Information Management Systems. IEEE Data Engineering Bulletin, 2007.

Conference Proceedings:

1. Md. Shahriar Kabir, Mayesha Maliha R. Mithila, Anne H. H. Ngu, Mylène C. Q. Farias, and Byron J. Gao. Class-Conditioned Gaussian Mixture Modeling for Imbalanced Time Series Quantification. The 30th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD 2026).
2. Juliana Mantebea Danso, Enoch Opanin Gyamfi, Byron J. Gao and Mylene Queiroz de Farias. An Ensemble Graph-Based Deep Learning Framework Integrating Phenotypic and fMRI Data for Autism Classification. IEEE 23rd International Symposium on Biomedical Imaging (ISBI 2026).
3. Yongjie Feng, Peng Zhang and Byron J. Gao. Multi-objective Learning for Training Interpretable and Sparse Neural Networks. The 12th International Conference on Information Technology and Quantitative Management (ITQM 2025).
4. Byron J. Gao: Introducing the Converse k-clustering Problem. IEEE Big Data 2024.
5. Byron J. Gao. Introducing the Partial Clustering Problem. IEEE Big Data 2023.
6. Ramses J. Sotelo Jimenez, Bhavya Medishetty, Byron J. Gao. COMPA: A Comparative Retrieval and Analytical Engine for Consumer Products. IEEE International Conference on Big Data (BigData). 2022.
7. Aaron Hui and Byron J. Gao. When is Nearest Neighbor Meaningful: Sequential Data. ACM International Conference on Information and Knowledge Management (CIKM), 2021.
8. Byron J. Gao. Pattern Exploration as Keyword Search. IEEE International Conference on Big Data (BigData). 2020.
9. Byron J. Gao and Alexander Katrompas. A Preliminary Experimental Analysis on RateMyProfessors. IEEE International Conference on Big Data (BigData). 2020.
10. Byron J. Gao and Frank Medjo. Statistical Correction of Average Customer Ratings for Product Ranking. IEEE International Conference on Big Data (BigData). 2019.
11. Byron J. Gao and Gayathri Karupakula Jagadeesh Kumar. CoRank: Simultaneously Ranking Publication Venues and Researchers. IEEE International Conference on Big Data (BigData). 2019.
12. Byron J. Gao and Jose A. Lopez. LIGHT: Enabling Instant Communication for Web Surfers with Momentary Needs. IEEE International Conference on Big Data (BigData). 2018.
13. Jose Antonio Martinez Torres and Byron J. Gao. Investigating Comparative Evaluation for Large Data. IEEE International Conference on Big Data (BigData). 2018.
14. Byron J. Gao, Robert Tung and Yong Yang. Iterative Matrix Correlation for Bisection Clustering. 2017 IEEE International Conference on Big Data (Big Data). 2017.
15. Binyam Zemede and Byron J. Gao. Personalized Search with Editable Profiles. 2017 IEEE International Conference on Big Data (Big Data) .2017.
16. Mario Gutierrez, Michelle Fast, Anne Ngu and Byron J. Gao. Real-Time Prediction of Blood Alcohol Content Using Smartwatch Sensor Data. International Conference for Smart Health (ICSH), 2015.

17. Lina Yao, Quan Z. Sheng, Anne H. H. Ngu, Byron J. Gao. Keeping You in the Loop: Enabling Web-based Things Management in the Internet of Things. ACM International Conference on Information and Knowledge Management (CIKM), 2014.
18. Sukanya Manna and Byron J. Gao. A Query-Focused Single Document Summarization using Graph-Based Approach and Subjective Logic. First IKDD Conferences on Data Sciences, 2014.
19. Lina Yao, Quan Z. Sheng, Byron J. Gao, Anne H.H. Ngu, and Xue Li. A Model for Discovering Correlations of Ubiquitous Things. IEEE International Conference on Data Mining (ICDM), 2013.
20. Dylan Hicks, Kevin Mannix, Hannah M. Bowles, and Byron J. Gao. SmartMart: IoT-based In-store Mapping for Mobile Devices. Invited paper. CollaborateCom First International Workshop on Internet of Things (C-IOT), 2013.
21. Seth B. Cleveland and Byron J. Gao. MASFA: Mass-collaborative Faceted Search for Online Communities. International World Wide Web Conference (WWW demo), 2013.
22. Ribel Fares and Byron J. Gao. Recursive Longest Common Subsequence: A Novel Similarity Measure for Sequences. RECOMB Poster, 2013.
23. Sukanya Manna, Byron J. Gao, and Reed Coke. A Subjective Logic Framework for Multi-Document Summarization. International Conference on Computational Linguistics (COLING), 2012.
24. Shuaiqiang Wang, Jiankai Sun, Byron J. Gao, and Jun Ma. Adapting Vector Space Model to Ranking-based Collaborative Filtering. ACM International Conference on Information and Knowledge Management (CIKM), 2012.
25. Byron J. Gao, Zhumin Chen, and Qi Kang. Information-complete and Redundancy-free Keyword Search Over Large Data Graphs. ACM International Conference on Information and Knowledge Management (CIKM), 2012.
26. Zhumin Chen, Byron J. Gao, and Qi Kang. Cager: A Framework for Cross-page Search. ACM International Conference on Information and Knowledge Management (CIKM), 2012.
27. Jiankai Sun, Shuaiqiang Wang, Byron J. Gao, and Jun Ma. Learning to Rank for Hybrid Recommendation. ACM International Conference on Information and Knowledge Management (CIKM), 2012.
28. Shuaiqiang Wang, Byron J. Gao, Shuangling Wang, Guibao Cao, and Yilong Yin. Polygene-based Evolution: A Novel Framework for Evolutionary Algorithms. ACM International Conference on Information and Knowledge Management (CIKM), 2012.
29. Peng Zhang, Byron J. Gao, Xinquan Zhu, and Li Guo. Enabling Fast Lazy Learning for Data Streams. IEEE International Conference on Data Mining (ICDM), 2011.
30. David. C. Anastasiu, Byron J. Gao, and David Buttler. A Framework for Personalized and Collaborative Clustering of Search Results. ACM Conference on Information and Knowledge Management (CIKM), 2011.
31. Peng Zhang, Jun Li, Peng Wang, Byron J. Gao, Xingquan Zhu, and Li Guo. Enabling Fast Prediction for Ensemble Models on Data Streams. ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2011.
32. Shuaiqiang Wang, Byron J. Gao, Ke Wang, and Hady W. Lauw: CCRank: Parallel Learning to Rank with Cooperative Coevolution. National Conference on Artificial Intelligence (AAAI), 2011.
33. David C. Anastasiu, Byron J. Gao, and David Buttler. ClusteringWiki: Personalized and Collaborative Clustering of Search Results. ACM International Conference on Research and Development in Information Retrieval (SIGIR demo), 2011.

34. Shuaiqiang Wang, Byron J. Gao, Ke Wang, and Hady W. Lauw. Parallel Learning to Rank for Information Retrieval. ACM International Conference on Research and Development in Information Retrieval (SIGIR poster), 2011.
35. Byron J. Gao, David C. Anastasiu, and Xing Jiang. Utilizing User-input Contextual Terms for Query Disambiguation. The 23rd International Conference on Computational Linguistics (COLING), 2010.
36. Byron J. Gao and Joey Jan. Rants: A Framework for Rank Editing and Sharing in Web Search. International World Wide Web Conference (WWW demo), 2010.
37. Byron J. Gao, Mingji Xia, Walter Cai, and David C. Anastasiu. The Gardener's Problem for Web Information Monitoring. ACM Conference on Information and Knowledge Management (CIKM), 2009.
38. Fei Chen, Byron J. Gao, AnHai Doan, Raghu Ramakrishnan, and Jun Yang. Optimizing Complex Extraction Programs over Evolving Text Data. ACM SIGMOD Conference (SIGMOD), 2009.
39. Walter Cai, David C. Anastasiu, Mingji Xia, and Byron J. Gao. OLAP for Multicriteria Maintenance Scheduling. The International Conference on Data Mining (DMIN), 2009.
40. Obi L. Griffith, Byron J. Gao, Mikhail Bilenky, Yuliya Prichyna, Martin Ester, and Steven J.M. Jones. KiWi: A Scalable Subspace Clustering Algorithm for Gene Expression Analysis. International Conference on Bioinformatics and Biomedical Engineering (iCBBE), 2009.
41. AnHai Doan, Jeffrey F. Naughton, Akanksha Baid, Xiaoyong Chai, Fei Chen, Ting Chen, Eric Chu, Pedro DeRose, Byron Gao, Chaitanya Gokhale, Jiansheng Huang, Warren Shen, and Ba-Quy Vuong. The Case for a Structured Approach to Managing Unstructured Data. Conference on Innovative Data Systems Research (CIDR), 2009.
42. Pedro DeRose, Xiaoyong Chai, Byron J. Gao, Warren Shen, AnHai Doan, Philip Bohannon, Jerry Zhu. Building Community Wikipedias: A Machine-Human Partnership Approach. IEEE International Conference on Data Engineering (ICDE), 2008.
43. Byron J. Gao, Martin Ester, Jin-yi Cai, Oliver Schulte, Hui Xiong. The Minimum Consistent Subset Cover Problem and its Applications in Data Mining. ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2007.
44. Byron J. Gao and Martin Ester. Turning Clusters into Patterns: Rectangle-based Discriminative Data Description. IEEE International Conference on Data Mining (ICDM), 2006.
45. Byron J. Gao, Obi L. Griffith, Martin Ester, and Steven J.M. Jones. Discovering Significant OPSM Subspace Clusters in Massive Gene Expression Data. ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2006.
46. Byron J. Gao and Martin Ester. Right of Inference: Nearest Rectangle Learning Revisited. European Conference on Machine Learning (ECML), 2006.
47. Martin Ester, Rong Ge, Byron J. Gao, Zengjian Hu, and Boaz Ben-Moshe. Joint Cluster Analysis of Attribute Data and Relationship Data: the Connected k-Center Problem. SIAM International Conference on Data Mining (SDM), 2006.
48. Byron J. Gao and Martin Ester. Summarizing Data Clusters: Description Formats, Problems and Algorithms. SIAM International Conference on Data Mining (SDM), 2006.

IV. PROFESSIONAL SERVICE

Conference services:

- Local chair: 2018 ACM SIGMOD/PODS Conference. https://sigmod2018.org/org_conference_officers.shtml

- Co-chair: The 1st International Workshop on Internet of Things. In conjunction with the 9th IEEE International Conference on Collaborative Computing: Networking, Applications and Worksharing (CollaborateCom 2013). http://cs.txstate.edu/~hn12/iot/
- Co-chair: The 23rd IEEE International Conference on Tools with Artificial Intelligence (ICTAI), Special Session on Stream Data Mining (SDM). http://www.cse.fau.edu/ictai2011/
- SPC member: 2022 AAAI Conference on Artificial Intelligence.

Conference PC member:

- 2026 IEEE International Conference on Data Mining (ICDM)
- 2026 SIAM International Conference on Data Mining (SDM)
- 2026 National Conference on Artificial Intelligence (AAAI)
- 2025 ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)
- 2025 IEEE International Conference on Data Mining (ICDM)
- 2025 SIAM International Conference on Data Mining (SDM)
- 2025 National Conference on Artificial Intelligence (AAAI)
- 2024 ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)
- 2024 IEEE International Conference on Data Mining (ICDM)
- 2024 SIAM International Conference on Data Mining (SDM)
- 2024 National Conference on Artificial Intelligence (AAAI)
- 2023 ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)
- 2023 IEEE International Conference on Data Mining (ICDM)
- 2023 SIAM International Conference on Data Mining (SDM)
- 2022 ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)
- 2022 SIAM International Conference on Data Mining (SDM)
- 2022 National Conference on Artificial Intelligence (AAAI)
- 2022 IEEE International Conference on Data Mining (ICDM)
- 2021 ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)
- 2021 SIAM International Conference on Data Mining (SDM)
- 2021 IEEE International Conference on Data Mining (ICDM)
- 2020 ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)
- 2020 SIAM International Conference on Data Mining (SDM)
- 2019 ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)
- 2019 European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD)
- 2019 International Conference on Information and Knowledge Management (CIKM)
- 2019 SIAM International Conference on Data Mining (SDM)
- 2018 ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)
- 2018 IEEE International Conference on Data Mining (ICDM)
- 2018 European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD)
- 2018 International Conference on Information and Knowledge Management (CIKM)
- 2018 International World Wide Web Conference (WWW)
- 2018 SIAM International Conference on Data Mining (SDM)
- 2017 ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)
- 2017 IEEE International Conference on Data Mining (ICDM)
- 2017 European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD)
- 2017 International Conference on Information and Knowledge Management (CIKM)
- 2016 ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)

- 2016 IEEE International Conference on Data Mining (ICDM)
- 2016 European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD)
- 2015 ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)
- 2015 IEEE International Conference on Data Mining (ICDM)
- 2015 European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD)
- 2014 European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD)
- 2014 IEEE International Conference on Data Mining (ICDM)
- 2014 International World Wide Web Conference (WWW demo track)
- 2013 IEEE International Conference on Data Mining (ICDM)
- 2012 IEEE International Conference on Data Mining (ICDM)
- 2012 SIAM International Conference on Data Mining (SDM)
- 2011 IEEE International Conference on Data Mining (ICDM)
- 2011 European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD)
- 2011 ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)
- 2011 SIAM International Conference on Data Mining (SDM)
- 2010 ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)
- 2010 International Conferences on Web-Age Information Management (WAIM)
- 2010 International Conference on Web Information Systems and Mining (WISM)
- 2009 Joint International Conferences on Asia-Pacific Web Conference (APWeb) and Web-Age Information Management (WAIM)
- 2009 International Conference on Web Information Systems and Mining (WISM)

Journal reviewer:

- IEEE Transactions on Knowledge and Data Engineering (TKDE)
- Data Mining and Knowledge Discovery (DMKD)
- ACM Transactions on Knowledge Discovery from Data (TKDD)
- Knowledge and Information Systems: An International Journal (KAIS)
- Data and Knowledge Engineering (DKE)
- IEEE Transactions on Evolutionary Computation (TEVC)
- Discrete Applied Mathematics
- Computational Intelligence
- Applied Intelligence
- IEEE Transactions on Systems, Man, and Cybernetics, Part B (TSMCB)
- Expert Systems with Applications
- Journal of Computer Science and Technology

Proposal reviewer:

- NSF BigData Panelist, 2015.
- NSF BigData Panelist, 2014.
- NSF III (Information Integration and Informatics) proposal review, 2012

External reviewer: COMAD’09, KDD’06, KDD’05, ICDM’05, ICML’05.