

Publications Related to Contrast Mining and Applications

We are in the process of writing/editing a book on research results concerning various contrast pattern/models, their mining, and their application.

For that purpose and for the benefit of the data mining community, we have been collecting published papers (including PhD theses) on those topics. Below you will find the current list of such papers.

Clearly this list is not yet complete. If you know of publications missing in the current list, please email those entries (ideally in bibtex, including full author names) to guozhu.dong@gmail.com.

Thank you

Guozhu Dong

PhD Theses On Contrast Pattern Mining and Applications

There are more than 10 PhD dissertations (known to us) written on topics closely related to contrast/emerging pattern mining and their applications.

1. [142]: Jinyan Li. Mining Emerging Patterns to Construct Accurate and Efficient Classifiers. PhD Thesis, University of Melbourne, 2001.
2. [279]: Xiuzhen Zhang. Emerging Patterns: Efficient Constraint-Based Mining and the Aggregation Approach for Classification. PhD Thesis, University of Melbourne, 2001.
3. [77]: Hongjian Fan. Efficient Mining of Interesting Emerging Patterns and Their Effective Use in Classification. PhD Thesis, University of Melbourne, May 2004.
4. [2]: Hamad Alhammady. The Application of Emerging Patterns in Solving Classification Problems. PhD Thesis, University of Melbourne, 2005.
5. [181]: Shihong Mao. Comparative Microarray Data Mining. PhD Thesis, Wright State University, 2007.
6. [116]: Xiaonan Ji. Constraint Based Sequential Pattern Mining and its Applications. PhD Thesis, University of Melbourne, 2008.
7. [127] Young Bun Kim, Comprehensive Data Analysis for Biomarker Pattern Discovery Using DNA/Protein Microarrays, University of Texas at Arlington, 2008
8. [187]: Sébastien Nedjar. Cubes Emergents pour l'analyse des renversements de tendances dans les bases de données multidimensionnelles. PhD Thesis, Doctorat Aix-Marseille Université délivré par l'Université de la Méditerranée, 2009.
9. [232]: Pawel Terlecki. On the Relation between Jumping Emerging Patterns and Rough Set Theory with Application to Data Classification. PhD Thesis, Institute of Computer Science, Warsaw University of Technology, 2009.

* Dr Pawel Terlecki received the Prime Minister's Award for his PhD thesis. His thesis supervisor was Professor Krzysztof Walczak.

10. [52]: Hong Cheng. Towards Accurate and Efficient Classification: A Discriminative and Frequent Pattern-Based Approach, University of Illinois at Urbana-Champaign (UIUC), 2009.

Dr. Hong Cheng received the honor of finalist for 2009 ACM SIGKDD Doctoral Dissertation Award competition for her thesis. She was advised by Professor Jiawei Han.

11. [176]: Elsa Loekito, Mining Simple and Complex Patterns Efficiently Using Binary Decision Diagrams, University of Melbourne, 2009.
12. [102]: Dominique Gay, Constraint-based pattern mining for classification purpose, Universit de Nouvelle Caldonie INSA de Lyon, 2009.
13. [97]: Milton Garcia-Borroto. Searching Extended Emerging Patterns for Supervised Classification. PhD Thesis, Computer Science Department, National Institute for Astrophysics Optics and Electronics, Puebla, Mexico, 2010.

List of Papers on Contrast Pattern Mining and Applications

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- [2] Hamad Alhammady. *The Application of Emerging Patterns in Solving Classification Problems*. PhD Thesis, University of Melbourne, 2005.
- [3] Hamad Alhammady. Mining streaming emerging patterns from streaming data. In *IEEE/ACS International Conference on Computer Systems and Applications (AICCSA)*, pages 432–436, 2007.
- [4] Hamad Alhammady and Kotagiri Ramamohanarao. The application of emerging patterns for improving the quality of rare-class classification. In *Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)*, pages 207–211, 2004.
- [5] Hamad Alhammady and Kotagiri Ramamohanarao. Using emerging patterns and decision trees in rare-class classification. In *IEEE International Conference on Data Mining (ICDM)*, pages 315–318, 2004.
- [6] Hamad Alhammady and Kotagiri Ramamohanarao. Expanding the training data space using emerging patterns and genetic methods. In *SIAM International Conference on Data Mining (SDM)*, 2005.
- [7] Hamad Alhammady and Kotagiri Ramamohanarao. Mining emerging patterns and classification in data streams. In *IEEE / WIC / ACM International Conference on Web Intelligence*, pages 272–275, 2005.
- [8] Hamad Alhammady and Kotagiri Ramamohanarao. Using emerging patterns to construct weighted decision trees. *IEEE Trans. Knowl. Data Eng.*, 18(7):865–876, 2006.
- [9] Faris Alqadah and Raj Bhatnagar. Detecting significant distinguishing sets among bi-clusters. In *17th ACM Conference on Information and Knowledge Management (CIKM)*, pages 1455–1456, 2008.

- [10] Faris Alqadah and Raj Bhatnagar. Discovering substantial distinctions among incremental bi-clusters. In *SIAM International Conference on Data Mining (SDM)*, pages 197–208, 2009.
- [11] Mohd. Amir and Durga Toshniwal. Instance-based classification of streaming data using emerging patterns. In *International Conference on Information and Communication Technologies (ICT)*, pages 228–236, 2010.
- [12] Aijun An, Qian Wan, Jiashu Zhao, and Xiangji Huang. Diverging patterns: discovering significant frequency change dissimilarities in large databases. In *International Conference on Information and Knowledge Management (CIKM)*, pages 1473–1476, 2009.
- [13] Rajul Anand and Chandan K. Reddy. Constrained logistic regression for discriminative pattern mining. In *European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD)*, 2011.
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- [15] Annalisa Appice, Michelangelo Ceci, Carlo Malgieri, and Donato Malerba. Discovering relational emerging patterns. In *Artificial Intelligence and Human-Oriented Computing, 10th Congress of the Italian Association for Artificial Intelligence (AI*IA)*, pages 206–217, 2007.
- [16] Nima Asgharbeygi, David J. Stracuzzi, and Pat Langley. Relational temporal difference learning. In *International Conference on Machine Learning (ICML)*, pages 49–56, 2006.
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- [21] James Bailey and Guozhu Dong. Contrast data mining: Methods and applications. Tutorial at the IEEE International Conference on Data Mining (ICDM), 2007.
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