

ALGODAN Publications 2008-2013

2013

Articles in refereed scientific journals

1. P.R. Adhikari and J. Hollmén. Fast progressive training of mixture models for model selection. *Journal of Intelligent Information Systems*, 2013, pp. 1-19.
2. P. Barboza, L. Vaillant, A. Mawudeku, N.P. Nelson, D.M. Hartley, L.C. Madoff, J.P. Linge, N. Collier, J.S. Brownstein, R. Yangarber, P. Astagneau. Evaluation of Epidemic Intelligence Systems Integrated in the Early Alerting and Reporting Project for the Detection of A/H5N1 Influenza Events. *PLoS One*, vol. 8, no. 3, 2013, pp. e57252.
3. M. Bonke, M. Turunen, M. Sokolova, A. Vaharautio, T. Kivioja, M. Taipale, M. Björklund and J. Taipale. Transcriptional Networks Controlling the Cell Cycle. *G3 - Genes genomes genetics*, vol. 3, no. 1, 2013, pp. 75-90.
4. Y. Borodin, V. Polishchuk, J. Mahmud, I.V. Ramakrishnan and A. Stent. Live and learn from mistakes: A lightweight system for document classification. *Information Processing & Management*, vol. 49, no. 1, 2013, pp. 83-98.
5. R.P.J.C. Bose, W.M.P. van der Aalst, I. Zliobaite and M. Pechenizkiy. Dealing with Concept Drifts in Process Mining. *IEEE Transactions on Neural Networks and Learning Systems*, 25(1), 2013, pp. 154-171.
6. A.G. Bunn, E. Jansma, M. Korpela, R.D. Westfall and J. Baldwin. Using simulations and data to evaluate mean sensitivity (\$\$) as a useful statistic in dendrochronology. *Dendrochronologia*, 31(3), 2013, pp. 250-254.
7. C. Campi, L. Parkkonen, R. Hari and A. Hyvärinen. Non-linear canonical correlation for joint analysis of MEG signals from two subjects. *Frontiers in Brain Imaging Methods*, vol. 7, no. 107, 2013.
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9. T. Gagie, J. Kärkkäinen, G. Navarro and S.J. Puglisi. Colored range queries and document retrieval. *Theoretical Computer Science*, vol. 483, 2013, pp. 36-50.
10. E. Giaquinta and S. Grabowski. New algorithms for binary jumbled pattern matching. *Information Processing Letters*, vol. 113, no. 14-16, 2013, pp. 538-542.
11. E. Giaquinta, S. Grabowski and K. Fredriksson. Approximate pattern matching with k-mismatches in packed text. *Information Processing Letters*, vol. 113, no. 19-21, 2013, pp. 693-697.
12. E. Giaquinta, S. Grabowski and E. Ukkonen. Fast Matching of Transcription Factor Motifs Using Generalized Position Weight Matrix Models. *Journal of Computational Biology*, vol. 20, no. 9, 2013, pp. 621-630.
13. E. Giaquinta and L. Pozzi. An Effective Exact Algorithm and a New Upper Bound for the Number of Contacts in the Hydrophobic-Polar Two-Dimensional Lattice Model. *Journal of Computational Biology*, vol. 20, no. 8, 2013, pp. 593-609.
14. M.U. Gutmann and A. Hyvärinen. A three-layer model of natural image statistics. *Journal of Physiology (Paris)*, vol. 107, no. 5, 2013, pp. 369-398.

15. J. Huvelin, O. Gross, O. Solin, K. Linden, S.P.T. Maisala, T. Oittinen, H. Toivonen, J. Niemi and M. Silfverberg. Software Newsroom – an approach to automation of news search and editing. *Journal of Print Media Technology research*, vol. 2, no. 3, 2013, pp. 141-156.
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17. A. Hyttinen, F. Eberhardt and P.O. Hoyer. Experiment Selection for Causal Discovery. *Journal of Machine Learning Research*, vol. 2013, no. 14, 2013, pp. 3041-3071.
18. A. Hyvärinen and P. Ramkumar. Testing independent component patterns by inter-subject or inter-session consistency. *Frontiers in Human Neuroscience*, vol. 7, 2013.
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20. A. Jolma, J. Yan, T. Whittington, J. Toivonen, K.R. Nitta, P. Rastas, E. Morgunova, M. Enge, M.J.O. Taipale, G. Wei, K. Palin, J.M. Vaquerizas, R. Vincentelli, N.M. Luscombe, T.R. Hughes, P. Lemaire, E. Ukkonen, T. Kivioja and J. Taipale. DNA-Binding Specificities of Human Transcription Factors. *Cell*, vol. 152, no. 1-2, 2013, pp. 327-339.
21. J.-P. Kauppi, L. Parkkonen, R. Hari and A. Hyvärinen. Decoding magnetoencephalographic rhythmic activity using spectrospatial information. *NeuroImage*, vol. 83, 2013, pp. 921-936.
22. L. Langohr, V. Podpečan, M. Petek, I. Mozetič, K. Gruden, N. Lavrač and H. Toivonen. Contrasting Subgroup Discovery. *Computer Journal*, vol. 56, no. 3, 2013, pp. 289-303.
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25. A. Moneta, D. Entner, P.O. Hoyer and A. Coad. Causal Inference by Independent Component Analysis: Theory and Applications. *Oxford Bulletin of Economics and Statistics*, vol. 75, no. 5, 2013, pp. 705-730.
26. E. Packer, P. Bak, M. Nikkilä, V. Polishchuk and H.-J. Ship. Visual Analytics for Spatial Clustering: Using a Heuristic Approach for Guided Exploration. *IEEE Transactions on Visualization and Computer Graphics*, vol. 19, no. 12, 2013, pp. 2179-2188.
27. P. Parviainen and M. Koivisto. Finding Optimal Bayesian Networks Using Precedence Constraints. *Journal of Machine Learning Research*, vol. 14, 2013, pp. 1387-1415.
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29. J. Rousu, D.D. Agranoff, O. Sodeinde, J. Shawe-Taylor and D. Fernandez-Reyes. Biomarker Discovery by Sparse Canonical Correlation Analysis of Complex Clinical Phenotypes of Tuberculosis and Malaria. *PLOS Computational Biology*, 9(4), 2013, 1003018.
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31. H. Shen, N. Zamboni, M. Heinonen and J. Rousu. Metabolite Identification through Machine Learning — Tackling CASMI Challenge Using FingerID. *Metabolites*, 3(2), 484-505.
32. J. Yan, M. Enge, T. Whittington, K. Dave, J. Liu, I. Sur, B. Schmierer, A. Jolma, T. Kivioja, M. Taipale and J. Taipale. Transcription Factor Binding in Human Cells Occurs in Dense Clusters Formed around Cohesin Anchor Sites. *Cell*, vol. 154, no. 4, 2013, pp. 801-813.

1. P.R. Adhikari and J. Hollmén. Mixture Models from Multiresolution 0-1 Data. In J. Fürnkranz, E. Üllmermeier and T. Higuchi (editors), *Proceedings of Sixteenth International Conference on Discovery Science (DS 2013)*, 2013, Springer Berlin Heidelberg, pp. 1-16.
2. M. Atkinson, M. Du, J. Piskorski, H. Tanev, R. Yangarber and V. Zavarella. Techniques for Multilingual Security-related Event Extraction from Online News. In A. Przepiórkowski et al.(editors), *Computational Linguistics—Applications, Studies in Computational Intelligence*, vol. 458, 2013, Springer-Verlag, pp. 163-186.
3. P. Austrin, P. Kaski, M. Koivisto and J. Määtä. Space–Time Tradeoffs for Subset Sum: An Improved Worst Case Algorithm. In *Proceedings of the 40th International Colloquium on Automata, Languages, and Programming (ICALP 2013), Part I*, Riga, Latvia, July, 2013, Lecture Notes in Computer Science, vol. 7965, pp. 45-56.
4. D. Belazzougui, F. Cunial, J. Kärkkäinen and V. Mäkinen. Versatile succinct representations of the bidirectional Burrows-Wheeler transform. In *Proceedings of the 21st Annual European Symposium on Algorithms (ESA 2013)*, Sophia Antipolis, France, September 2-4, 2013, Lecture Notes in Computer Science, vol. 8125, pp. 133-144.
5. D. Belazzougui, T. Gagie and G. Navarro. Better Space Bounds for Parameterized Range Majority and Minority. In *Proceedings of 13th International Symposium on Algorithms and Data Structures (WADS 2013)*, London, ON, Canada, August 12-14, 2013, Lecture Notes in Computer Science, vol. 8037, pp. 121-132.
6. A. Bifet, J. Read, I. Zliobaite, B. Pfahringer and G. Holmes. Pitfalls in benchmarking data stream classification and how to avoid them. In *Proceedings of the European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases*, 2013, pp. 465-479.
7. A. Bifet, J. Read, B. Pfahringer, G. Holmes and I. Zliobaite. CD-MOA: Change Detection Framework for Massive Online Analysis. In *Proceedings of the 20th International Symposium on Intelligent Data Analysis (IDA 2013)*, 2013, pp. 92-103.
8. F. Cicalese, T. Gagie, E. Giaquinta, E.S. Laber, Z. Lipták, R. Rizzi and A. Tomescu. Indexes for Jumbled Pattern Matching in Strings, Trees and Graphs. In *Proceedings of the 20th International Symposium on String Processing and Information Retrieval (SPIRE 2013)*, Jerusalem, Israel, October 7-9, 2013, Lecture Notes in Computer Science, vol. 8214, pp. 56-63.
9. M. Crochemore, R. Grossi, J. Kärkkäinen and G.M. Landau. A Constant-Space Comparison-Based Algorithm for Computing the Burrows-Wheeler Transform. In *Proceedings of the 24th Annual Symposium Combinatorial Pattern Matching (CPM 2013)*, Bad Herrenalb, Germany, June 17-19, 2013, Lecture Notes in Computer Science, vol. 7922, pp. 74-82.
10. D. Dolev, J.H. Korhonen, C. Lenzen, J. Suomela and J. Rybicki. Synchronous counting and computational algorithm design. In *Proceedings of the 15th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS 2013)*, Osaka, Japan, November 13–16, 2013, Lecture Notes in Computer Science, vol. 8255, pp. 237-250.
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15. T. Gagie. On the Value of Multiple Read/Write Streams for Data Compression. In H. Aydinian, F. Cicalese and C. Deppe (editors), *Information Theory, Combinatorics, and Search Theory: In Memory of Rudolf Ahlswede*, 2013, Lecture Notes in Computer Science, vol. 7777, pp. 284-297.
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19. T. Gagie, K. Karhu, G. Navarro, S. Puglisi and J. Siren. Document Listing on Repetitive Collections. In *Proceedings of the 24th Annual Symposium on Combinatorial Pattern Matching (CPM 2013)*, Bad Herrenalb, Germany, June 17-19, 2013, Lecture Notes in Computer Science, vol. 7922, pp. 107-119.
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22. S. Huttunen, A. Vihavainen, M. Du and R. Yangarber. Predicting Relevance of Event Extraction for the End User. In T. Poibeau, H. Saggion, J. Piskorski and R. Yangarber (editors), *Multi-source, Multilingual Information Extraction and Summarization, Theory and Applications of Natural Language Processing*, 2013, Springer-Verlag, Berlin, Heidelberg, pp. 163-176.
23. A. Hyttinen, P. Hoyer, F. Ederhardt and M. Jarvisalo. Discovering Cyclic Causal Models with Latent Variables: A General SAT-Based Procedure. In *Proceedings of the Twenty-Ninth Conference on Uncertainty in Artificial Intelligence*, 2013, pp. 301-310.
24. D. Ienco, A. Bifet, I. Zliobaite and B. Pfahringer. Clustering Based Active Learning for Evolving Data Streams. In *Proceedings of the 16th International Conference on Discovery Science*, 2013, pp. 79-93.
25. V. Jain and E. Galbrun. Topical organization of user comments and application to content recommendation. In *Proceedings of the 22nd International World Wide Web Conference (WWW '13)*, Companion Volume, 2013, pp. 61-62.
26. M. Korotev and L. Pivovarova. Не до X": алгоритм выявления устойчивых параметров в сочетаниях слов. In *Proceedings of the International Scientific Conference on Corpus Linguistics*, 2013.

27. M. Kopotev, L. Pivovarova, N. Kochetkova and R. Yangarber. Automatic detection of stable grammatical features in n-grams. In *Proceedings of the 9th NAACL Workshop on Multiword Expressions (MWE 2013)*, 2013, Atlanta, United States.
28. J.H. Korhonen and P. Parviainen. Exact Learning of Bounded Tree-width Bayesian Networks. In *JMLR: Workshop and Conference Proceedings of the Sixteenth International Conference on Artificial Intelligence and Statistics (AISTATS 2013)*, 2013, pp. 370–378.
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34. A. Laaksonen. Efficient and simple algorithms for time-scaled and time-warped music search. In *Proceedings of the 10th International Symposium on Computer Music Multidisciplinary Research*, 2013, pp. 621-630.
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40. T.M. Niinimäki and M. Koivisto. Annealed Importance Sampling for Structure Learning in Bayesian Networks. In *Proceedings of the Twenty-Third International Joint Conference on Artificial Intelligence*, 2013, pp. 1579-1585.
41. T.M. Niinimäki and M. Koivisto. Treedy: A Heuristic for Counting and Sampling Subset. In *Proceedings of the Twenty-Ninth Conference on Uncertainty in Artificial Intelligence (UAI-13)*, 2013, pp. 469-477.

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45. S. Puglisi and D. Kempa. Lempel-Ziv factorization: Simple, fast, practical. In *Proceedings of the Meeting on Algorithm Engineering and Experiments (ALENEX)*, 2013, pp. 103-112.
46. H. Su and J. Rousu. Multilabel Classification through Random Graph Ensembles. In *Proceedings of the 5th Asian Conference on Machine Learning (ACML2013)*, 2013, pp. 404-418.
47. N. Tatti. Itemsets for Real-valued Datasets. In *Proceedings of the 13th IEEE International Conference on Data Mining (ICDM 2013)*, 2013.
48. N. Tatti and A. Gionis. Discovering Nested Communities. In *Proceedings of European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECMLPKDD 2013)*, 2013, pp. 32-47.
49. J. Toivanen, M. Järvisalo and H. Toivonen. Harnessing Constraint Programming for Poetry Composition. In *Proceedings of the Fourth International Conference on Computational Creativity*, 2013, pp. 160-167.
50. J. Toivanen, H. Toivonen and A. Valitutti. Automatical Composition of Lyrical Songs. In *Proceedings of the Fourth International Conference on Computational Creativity*, 2013.
51. J. Tuimala and A. Kallio. R, Programming Language. In *Encyclopedia of Systems Biology*, 2013, pp. 1809-1811.
52. A. Valitutti, A. Doucet, J. Toivanen and H. Toivonen. "Let Everything Turn Well in Your Wife": Generation of Adult Humor Using Lexical Constraints. In *Proceedings of the 51st Annual Meeting of the Association for Computational Linguistics (ACL), Volume 2: Short Papers*, 2013, pp. 243.
53. J. Wetteg, J. Nouri, K. Reshetnikov and R. Yangarber. Information-theoretic modeling of etymological sound change. In L. Borin and A. Saxena (editors), *Approaches to measuring linguistic differences, Trends in Linguistics*, no. 265, 2013, Mouton de Gruyter, pp. 507-532.
54. I. Zliobaite and J. Hollmén. Fault tolerant regression for sensor data. In *Proceedings of the European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases*, 2013, pp. 449-464.

Technical reports and other publications

1. D.M. Hartley, N.P. Nelson, R.R. Arthur, P. Barboza, N. Collier, N. Lightfoot, J.P. Linge, E. van der Goot, A. Mawudeku, L.C. Madoff, L. Vaillant, R. Walters, R. Yangarber, J. Mantero, C.D. Corley and J.S. Brownstein. An overview of Internet biosurveillance. In *Clinical Microbiology and Infection*, vol. 19, no. 11, 2013, pp. 1006-1013.
2. A. Hyvärinen. Independent component analysis: recent advances. In *Philosophical transactions - Royal Society, Mathematical, Physical and engineering sciences*, vol. 371, no. 1984, 2013
3. M. Shubin. Decomposing the Bacterial Phenotypic Time-series into biologically-meaningful components. In *Proceedings of the 11th Bioinformatics Research and Education Workshop*, Berlin, Germany, 3-4 May, 2013.

4. H. Toivonen, O. Gross, J.M. Toivanen and A. Valitutti. On Creative Uses of Word Associations. In *Advances in Intelligent Systems and Computing: Synergies of Soft Computing and Statistics for Intelligent Data Analysis*, 2013, pp. 17-24.

Artistic work

1. O. Gross (editor) and H. Toivonen. Organization of Computational Creativity Club. 2013.
2. O. Holmqvist, D. Murphy and J. Paalasmaa. Biomusic performance, Gallery Jade, The Night of the Arts, 2013.
3. O. Holmqvist, D. Murphy and J. Paalasmaa. Biomusic performance, the 8th World Conference of Science Journalists, 2013.
4. S. Lääne, O. Gross, J. Toivanen and H. Toivonen. ArNePo: Arts, News & Poetry. 2013.
5. K. Mäki-Reinikka, J. Toivanen, A. Alafuzoff, H. Kotkanen and J. Torniainen. Brains on Art: Brain Poetry. 2013.
6. K. Mäki-Reinikka, J. Toivanen, A. Alafuzoff, H. Kotkanen and J. Torniainen. Brains on Art: The Suit. 2013.
7. K. Mäki-Reinikka, A. Alafuzoff, H. Kotkanen, J. Toivanen and J. Torniainen. Brains on Art: It's not just in your head. 2013.
8. H. Paakkanen and J. Toivanen. Oodimobiili. 2013.
9. H. Toivonen and T. Sivula. Soul Music: Making music of your dreams. 2013.
10. H. Toivonen and T. Sivula. Musical Chair. 2013.

2012

Articles in refereed scientific journals

1. A. Björklund, T. Husfeldt, P. Kaski and M. Koivisto. The traveling salesman problem in bounded degree graphs. *ACM Transactions on Algorithms*, 8 (2), Article 18, 2012, pp. 1-13.
2. F. Claude, G. Navarro, H. Peltola, L. Salmela and J. Tarhio. String matching with alphabet sampling. *Journal of Discrete Algorithms*, 11, 2012, pp. 37-50.
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4. J.T. Eronen, M. Fortelius, F. Portmann, K. Puolamäki and C.M. Janis. Neogene Aridification of the Northern Hemisphere. *Geology*, 40(9), 2012, pp. 823-826.
5. L. Eronen and H. Toivonen. Biomine: Predicting links between biological entities using network models of heterogeneous database. *BMC Bioinformatics*, 13, 2012, Article 119.
6. E. Galbrun and P. Miettinen. From black and white to full color: extending redescription mining outside the Boolean world. *Statistical analysis and data mining*, 5 (4), 2012, pp. 284-303.
7. M. Gutmann and A. Hyvärinen. Noise-contrastive estimation of unnormalized statistical models, with applications to natural image statistics. *Journal of Machine Learning Research*, 13, 2012, pp. 307–361.
8. H. Heikinheimo, J.T. Eronen, A. Sennikov, C.D. Preston, E. Oikarinen, P. Uotila, H. Mannila and M. Fortelius. Convergence in the distribution patterns of Europe's plants and mammals is due to environmental forcing. *Journal of Biogeography*, 39(9), 2012, pp. 1633-1644.

9. M. Heinonen, H. Shen, N. Zamboni and J. Rousu. Metabolite identification and molecular fingerprint prediction through machine learning. *Bioinformatics*, vol. 28, no. 18, 2012, pp. 2333-2341.
10. A. Hyttinen, F. Eberhardt and P.O. Hoyer. Learning Linear Cyclic Causal Models with Latent Variables. *Journal of Machine Learning Research*, vol. 13, 2012, pp. 3387-3439.
11. M. Kashif, S. Pietila, K. Artola, R.A.C. Jones, A.K. Tugume, V. Makinen and J.P.T. Valkonen. Detection of Viruses in Sweetpotato from Honduras and Guatemala Augmented by Deep-Sequencing of Small-RNAs. *Plant Disease*, vol. 96, no. 10, 2012, pp. 1430-1437.
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13. T. Kivioja, A.V. Vähärautio, K. Karlsson, A.W.M., Bonke, M. Enge, S. Linnarsson and J. Taipale. Counting absolute numbers of molecules using unique molecular identifiers. *Nature methods*, 9 (1), 2012, pp. 72–74.
14. A. Kotsifakos, P. Papapetrou, J. Hollmén, D. Gunopulos, V. Athitsos and G. Kollios. Hum-a-song: A Subsequence Matching with Gaps-Range-Tolerances Query-By-Humming System. *Proceedings of the Very Large Databases Endowment (PVLDB)*, 4(12), 2012, pp. 1930-1933.
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