

PUBLICATIONS OF PETRI MYLLYMÄKI

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Publications in chronological order

2018

1. B.Malone, K.Kangas, M.Järvisalo, M.Koivisto, and P.Myllymäki, Empirical Hardness of Finding Optimal Bayesian Network Structures: Algorithm Selection and Runtime Prediction. *Machine Learning* 107 (2018), 1, 247-283.

2017

2. N.Jahnsson, B.Malone, and P.Myllymäki, Duplicate Detection for Bayesian Network Structure Learning. *New Generation Computing* 35 (2017), 1, 47-67.
3. B.Malone, K.Kangas, M.Järvisalo, M.Koivisto, and P.Myllymäki, AS-ASL: Algorithm Selection with Auto-sklearn. *Proceedings of Machine Learning Research* 79 (2017), 19-22.

2016

4. J.Rissanen, J. Leppä-Aho, T.Roos, and P. Myllymäki (eds). *Proceedings of the Ninth Workshop on Information Theoretic Methods in Science and Engineering (WITMSE'2016 Helsinki)*. University of Helsinki, Department of Computer Science. 47 p. (Series of Publications B; vol. B-2016-2)

2015

5. R. Eggeling, T. Roos, P. Myllymäki, P. And I. Grosse, Inferring intra-motif dependencies of DNA binding sites from ChIP-seq data. *BMC Bioinformatics* 16, 2015.
6. T. Ruotsalo, G., Jacucci, P., Myllymäki, and S. Kaski, Interactive intent modeling: information discovery beyond search. *Communications of the ACM* 58 (2015), 86-92.
7. B. Malone, M. Järvisalo, and P. Myllymäki, Impact of Learning Strategies on the Quality of Bayesian Networks: An Empirical Evaluation. *Proceedings of the Thirty-First Conference on Uncertainty in Artificial Intelligence (UAI-2015)*, July 12-16, 2015, Amsterdam, Netherlands.

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8. T. Ruotsalo, J. Peltonen, M. Eugster, D. Glowacka, A. Reijonen, G. Jacucci, P. Myllymäki, and S. Kaski, SciNet: Interactive Intent Modeling for Information Discovery. Proceedings of the 38th International ACM SIGIR Conference on Research and Development in Information Retrieval, Santiago, Chile, August 9-13, 2015.
9. J. Rissanen, P. Harremoes, S. Forchhammer, P. Myllymäki, and T. Roos (eds.), Proceedings of the Eight Workshop on Information Theoretic Methods in Science and Engineering (WITMSE-2015). Copenhagen, August 2015.

2014

10. J. Rissanen, P. Myllymäki, T. Roos, and N. Santhanam (eds.), Proceedings of the Seventh Workshop on Information Theoretic Methods in Science and Engineering (WITMSE-2014). Honolulu, July 2014.
11. Ruotsalo, T., Peltonen, J., Eugster, M.J.A., Glowacka, D., Reijonen, A., Jacucci, G., Myllymäki, P. and S. Kaski, "IntentRadar: Search User Interface that Anticipates Users Search Intents", CHI Conference on Human Factors in Computing Systems (extended abstracts).
12. R. Eggeling, T. Roos, P. Myllymäki, and I. Grosse. Robust learning of inhomogeneous PMMs. In *Proc. 17th International Conference on Artificial Intelligence and Statistics* (AISTATS-2014), 2014.
13. Kerstin Bunte, Matti Järvisalo, Jeremias Berg, Petri Myllymäki, Jaakko Peltonen, and Samuel Kaski. Optimal Neighborhood Preserving Visualization by Maximum Satisfiability. In Carla E. Brodley and Peter Stone, editors, *Proceedings of the 28th AAAI Conference on Artificial Intelligence* (AAAI 2014), pages 1694-1700. AAAI Press, 2014.
14. Brandon Malone, Juho-Kustaa Kangas, Matti Järvisalo, Mikko Koivisto, and Petri Myllymäki. Predicting the Hardness of Learning Bayesian Networks. In Carla E. Brodley and Peter Stone, editors, *Proceedings of the 28th AAAI Conference on Artificial Intelligence* (AAAI 2014), pages 2460-2466. AAAI Press, 2014.
15. E.Khoramshahi, E.Honkavaara, J. Hyypää, P.Myllymäki, Passive Localization of a Robot Using Multiple-View Geometry. *International Journal of Robotics Applications and Technologies* 2 (2014), 20-36.

2013

16. K. Watanabe, T. Roos, and P. Myllymäki (2013). Achievability of asymptotic minimax regret in online and batch prediction, in *Proc. 5th Asian Conference on Machine Learning* (ACML-2013).
17. Tuukka Ruotsalo, Jaakko Peltonen, Manuel J.A. Eugster, Dorota Glowacka, Ksenia Konyushkova, Kumaripaba Athukorala, Ilkka Kosunen, Aki Reijonen, Petri Myllymäki, Giulio Jacucci, and Samuel Kaski. Directing exploratory search with interactive intent modeling. Pp. 1759-1764 in *Proceedings of CIKM 2013, ACM Conference on Information and Knowledge Management*.

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EMAIL: Petri.Myllymaki@hiit.fi • URL: <http://www.hiit.fi/Petri.Myllymaki/>

18. K. Watanabe, T. Roos, and P. Myllymäki, Non-Achievability of Asymptotic Minimax Regret without Knowledge of the Sample Size. In: Proc. Information-Based Induction Sciences and Machine Learning (IBISML).
19. J. Rissanen, I. Tabus, P. Myllymäki, T. Roos, and K. Yamanishi, Proceedings of the Sixth Workshop on Information Theoretic Methods in Science and Engineering (WITMSE-2013).

2012

20. T. Roos, P. Myllymäki, and T. Jaakkola, Editorial: Special issue on the Fifth European Workshop on Probabilistic Graphical Models (PGM-2010). International Journal of Approximate Reasoning 59 (2012) 9, 1303-1304.
21. A. Oulasvirta, A. Pihlajamaa, J. Perkiö, T. Vähakangas, D. Ray, N. Vainio, P. Myllymäki, T. Hasu, Long-term Effects of Ubiquitous Surveillance at Home. In Proceedings of the 14th International Conference on Ubiquitous Computing (Ubicomp), September, 2012.
22. S. de Rooij, W. Kotłowski, J. Rissanen, P. Myllymäki, T. Roos, and K. Yamanishi (editors), Proceedings of the Fifth Workshop on Information Theoretic Methods in Science and Engineering (WITMSE 2012).
23. R. Eggeling, T. Roos, P. Myllymäki, and I. Grosse, Comparison of NML and Bayesian scoring criteria for learning parsimonious Markov models. In: Proceedings of the 5th Workshop on Information Theoretic Methods in Science and Engineering.
24. S. Bhattacharya, P. Floréen, A. Forsblom, S. Hemminki, P. Myllymäki, P. Nurmi, T. Pulkkinen, A. Salovaara, Ma\$\$iv€ - An Intelligent Mobile Grocery Assistant. In Proceedings of the 8th International Conference on Intelligent Environments (IE'12, June 2012, Guanajuato, Mexico).

2011

25. J. Rissanen, P. Myllymäki, T. Roos, I. Tabus and K. Yamanishi (eds.), Proceedings of the Fourth Workshop on Information Theoretic Methods in Science and Engineering (Witmse 2011). University of Helsinki, Department of Computer Science, Report C-2011-45.
26. A. Carvalho, T. Roos, A. Oliveira, and P. Myllymäki. Discriminative learning of Bayesian networks via factorized conditional log-likelihood. *Journal of Machine Learning Research* 12 (2011), 2181-2210.
27. T. Pulkkinen, T. Roos, and P. Myllymäki. Semi-supervised learning for WLAN positioning, In Proceedings of the 21st International Conference on Artificial Neural Networks (ICANN-2011), edited by T. Honkela, W. Duch, M. Girolami, M. and S. Kaski. Lecture Notes in Computer Science, Vol. 6792, Springer-Verlag, 2011.

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2010

28. P. Myllymäki, T. Roos and T. Jaakkola (eds.), Proceedings of the Fifth European Workshop on Probabilistic Graphical Models (PGM'2010), Helsinki, September 2010. HIIT Publications 2010-2.
29. K. Yamanishi, I. Kontoyiannis, E. Liski, P. Myllymäki, J. Rissanen and I. Tabus (eds.), Proceedings of the Third Workshop on Information Theoretic Methods in Science and Engineering. TICSP series 55, Tampere International Center for Signal Processing, 2010.
30. J. Perkiö, A. Tuominen, T. Vähäkangas and P. Myllymäki, Image Similarity: From Syntax to Weak Semantics. Multimedia Tools and Applications, DOI: 10.1007/s11042-010-0562-7, July 14, 2010.
31. T. Silander, T. Roos, and P. Myllymäki, Learning Locally Minimax Optimal Bayesian Networks. International Journal of Approximate Reasoning 51 (2010) 5 (June), 544-557.
32. J. Rissanen, T. Roos, and P. Myllymäki, Model Selection by Sequentially Normalized Least Squares. Journal of Multivariate Analysis 101 (2010) 4 (April), 839-849.

2009

33. T. Roos, J. Rissanen and P. Myllymäki, MDL Denoising Revisited. IEEE Trans. Signal Processing 57 (2009) 9 (September), 3347-3360.
34. J. Perkiö, A. Tuominen and P. Myllymäki, Image Similarity: From Syntax to Weak Semantics using Multimodal Features with Application to Multimedia Retrieval. Pp. 213-219 in Proceedings of the 2009 International Conference on Multimedia Information Networking and Security. IEEE Computer Society, 2009.
35. J. Perkiö and P. Myllymäki, Magrathea: Building and Analyzing Ubiquitous and Social Systems. Pp. 66-75 in Proceedings of the 2009 IEEE/WIC/ACM International Conference on Web Intelligence and Intelligent Agent Technologies, edited by P. Boldi, G. Vizzari, G. Pasi and R. Baeza-Yates. IEEE Computer Society, 2009.
36. K. Kumpulainen, P. Myllymäki, R. Smeds, J. Kronqvist and P. Pöyry-Lassila, VISCI Virtual Intelligent Space for Collaborative Innovation - Project Description. Pp. 75-82 in Proceedings of the 1st International Symposium on Tangible Software Engineering Education (STANS09), edited by T. Nakamura, H. Kameda, S. Iwashita, A. Takashima and H. Maruyama.
37. J. Heikkonen, I. Kontoyiannis, E. Liski, P. Myllymäki, J. Rissanen and I. Tabus (eds.), Proceedings of the Second Workshop on Information Theoretic Methods in Science and Engineering. TICSP series 49, Tampere International Center for Signal Processing, 2009.
38. P. Myllymäki, A framework for MDL clustering. In Proceedings of the Second Workshop on Information Theoretic Methods in Science and Engineering, edited by J. Heikkonen, I. Kontoyiannis, E. Liski, P. Myllymäki, J. Rissanen and I. Tabus. TICSP series 49, Tampere International Center for Signal Processing, 2009.

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39. E. Elovaara and P. Myllymäki, MDL-based attribute models in naive Bayes classification. In Proceedings of the Second Workshop on Information Theoretic Methods in Science and Engineering, edited by J. Heikkonen, I. Kontoyiannis, E. Liski, P. Myllymäki, J. Rissanen and I. Tabus. TICSP series 49, Tampere International Center for Signal Processing, 2009.
40. T. Silander, T. Roos, and P. Myllymäki, Locally Minimax Optimal Predictive Modeling with Bayesian Networks. Pp. 504-511 in Proceedings of the 12th International Conference on Artificial Intelligence and Statistics, edited by D. van Dyk and M. Welling. JMLR Workshop and Conference Proceedings, Volume 5: AISTATS 2009.

2008

41. T. Mononen and P. Myllymäki, On Recurrence Formulas for Computing the Stochastic Complexity. Pp. 281-286 in Proceedings of the 2008 International Symposium on Information Theory and its Applications (ISITA2008), 7th-10th December 2008, Auckland, New Zealand.
42. A. Pernestål, H. Wettig, T. Silander, M. Nyberg and P. Myllymäki, A Bayesian Approach to Learning in Fault Isolation. Pp. 143-150 in Proceedings of The 19th International Workshop on Principles of Diagnosis (DX-08), edited by A. Grastien, W. Mayer, and M. Stumptner. September 22-24, 2008, Blue Mountains, NSW, Australia.
43. P. Myllymäki, Recent advances in computing the NML for discrete Bayesian networks. In Proceedings of the First Workshop on Information Theoretic Methods in Science and Engineering, edited by J. Heikkonen, I. Kontoyiannis, E. Liski, P. Myllymäki, J. Rissanen and I. Tabus. TICSP Series #43, Tampere International Center for Signal Processing, 2008.
44. T. Silander, T. Roos, P. Kontkanen, and P. Myllymäki, Factorized NML Criterion for Learning Bayesian Network Structures. Pp. 257-264 in Proceedings of the 4th European Workshop on Probabilistic Graphical Models (PGM-08), edited by M. Jaeger and T. Nielsen. September 17–19, Hirtshals, Denmark.
45. T. Mononen and P. Myllymäki, Computing the Multinomial Stochastic Complexity in Sub-Linear Time. Pp. 209-216 in Proceedings of the 4th European Workshop on Probabilistic Graphical Models (PGM-08), edited by M. Jaeger and T. Nielsen. September 17–19, Hirtshals, Denmark.
46. P. Kontkanen and P. Myllymäki, An Empirical Comparison of NML Clustering Algorithms. In *Proceedings of the 2008 International Conference on Information Theory and Statistical Learning* (ITSL 2008).
47. T. Mononen and P. Myllymäki, On the Multinomial Stochastic Complexity and its Connection to the Birthday Problem. In *Proceedings of the 2008 International Conference on Information Theory and Statistical Learning* (ITSL 2008).
48. J. Heikkonen, I. Kontoyiannis, E. Liski, P. Myllymäki, J. Rissanen and I. Tabus (eds), Proceedings of the First Workshop on Information Theoretic Methods in Science and Engineering. TICSP Series #43, Tampere International Center for Signal Processing, 2008.
49. J. Perkiö, P. Myllymäki and P. Boda, Magrathea: A Mobile Agent- and Sensing Platform. In *Proceedings of the 2008 International Conference on Wireless Networks* (ICWN 2008).

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50. D. McAllester and P. Myllymäki (eds.), *Proceedings of the 24th Conference on Uncertainty in Artificial Intelligence* (UAI 2008), July 2008, Helsinki, Finland. AUAI Press, 2008.
51. T. Roos, T. Silander, P. Kontkanen and P. Myllymäki, Bayesian network structure learning using factorized NML universal models. Pp. 272-276 in Proceedings of the 2008 Information Theory and Applications Workshop, San Diego, January 2008.
52. T. Mononen and P. Myllymäki, Computing the NML for Bayesian Forests via Matrices and Generating Polynomials. In *Proceedings of the 2008 IEEE Information Theory Workshop*. IEEE 2008.
53. P. Grünwald, P. Myllymäki, I. Tabus, M. Weinberger and B. Yu (eds.), *Festschrift in Honour of Jorma Rissanen*. TICSP Series #38, Tampere International Center for Signal Processing, 2008. Presented at the 2008 IEEE Information Theory Workshop.
54. P. Myllymäki, T. Roos, T. Silander, P. Kontkanen and H. Tirri, Factorized NML Models. Chapter 11 in *Festschrift in Honour of Jorma Rissanen*, edited by P. Grünwald, P. Myllymäki, I. Tabus, M. Weinberger and B. Yu.

2007

55. J. Rissanen, P. Grünwald, J. Heikkonen, P. Myllymäki, T. Roos, J. Rousu, Information Theoretic Methods for Bioinformatics, guest editorial for a special issue of the *EURASIP Journal on Bioinformatics and Systems Biology*, Volume 2007 (2007).
56. P. Kontkanen, H. Wettig and P. Myllymäki, NML Computation Algorithms for Tree-Structured Multinomial Bayesian Networks. *EURASIP Journal on Bioinformatics and Systems Biology*, Volume 2007 (2007), Article ID 90947, 11 pages.
57. T. Mononen and P. Myllymäki, Fast NML Computation for Naive Bayes Models. Pp. 151-160 in the Proceedings of the 10th International Conference on Discovery Science, edited by V. Corruble, M. Takeda and E. Suzuki. Lecture Notes in Artificial Intelligence 4755, Springer 2007.
58. H. Wettig, P. Kontkanen and P. Myllymäki, Calculating the Normalized Maximum Likelihood Distribution for Bayesian Forests. *IADIS International Journal on Computer Science and Information Systems* 2 (2007) 2 (October).
59. T. Silander and P. Kontkanen and P. Myllymäki, On Sensitivity of the MAP Bayesian Network Structure to the Equivalent Sample Size Parameter. Pp. 360-367 in the *Proceedings of the The 23rd Conference on Uncertainty in Artificial Intelligence* (UAI-2007), edited by R. Parr and L. van der Gaag. AUAI Press, 2007.
60. P. Kontkanen and P. Myllymäki, A linear-time algorithm for computing the multinomial stochastic complexity. *Information Processing Letters* 103 (2007) 6 (September), 227-233.
61. P. Kontkanen and P. Myllymäki, MDL Histogram Density Estimation. In *Proceedings of the Eleventh International Conference on Artificial Intelligence and Statistics* (AISTATS 2007), Puerto Rico, March 2007.

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2006

62. O.-P. Ryyränen, M. Puhakka, P. Myllymäki, P. Palomäki, V. Anttonen., R. Jukola, J. Takala, Sairaalaan lähettämisen arvointi Bayesin verkkomallilla. *Suomen Lääkärilehti* (Finnish Medical Journal) 61 (2006) 51-52, 5353-5358.
63. E. Soini, J. Martikainen, J. Lahtinen, P. Myllymäki, P. Kontkanen, K. Valtonen and O.-P. Ryyränen, Efficient Data Mining and Probabilistic Inference with P-Course: A Bayesian Method With Multilevel Priors For Medical Applications. Proceedings of the ISPOR 9th Annual European Congress.
64. T. Roos, T. Heikkilä and P. Myllymäki, A Compression-Based Method for Stemmatic Analysis. Pp. 805-806 in Proceedings of the 17th European Conference on Artificial Intelligence (ECAI 2006), edited by G. Brewka, S. Coradeschi, A. Perini and P. Traverso. IOS Press, 2006.
65. J. Lahtinen, P. Myllymäki and O.-P. Ryyränen, P-Course: Medical Applications of Bayesian Classification with Informative Priors. In Proceedings of the ECAI'2006 Workshop on AI Techniques in Healthcare: Evidence-Based Guidelines and Protocols, edited by A. ten Teije, S. Miksch and P. Lucas.
66. T. Silander and P. Myllymäki, A Simple Approach for Finding the Globally Optimal Bayesian Network Structure. Pp. 445-452 in Proceedings of the 22nd Conference on Uncertainty in Artificial Intelligence (UAI-2006), edited by R. Dechter and T. Richardson. AUAI Press, 2006.
67. P. Kontkanen and P. Myllymäki, Information-Theoretically Optimal Histogram Density Estimation. Technical Report HIIT-2006-2. Helsinki Institute for Information Technology, 2006.
68. T. Roos, P. Grünwald, P. Myllymäki, H. Tirri, Generalization to Unseen Cases. In Proceedings of the 19th Annual Conference on Neural Information Processing Systems (NIPS 2005). MIT Press, 2006.

2005

69. P. Kontkanen, P. Myllymäki, A Fast Normalized Maximum Likelihood Algorithm for Multinomial Data. Pp. 1613-1616 in Proceedings of the 19th International Joint Conference on Artificial Intelligence (IJCAI-05).
70. P. Kontkanen, P. Myllymäki, Computing the regret table for multinomial data. Helsinki Institute for Information Technology HIIT, Helsinki 2005 (HIIT Technical Report 2005-1).
71. S. Kaski, P. Myllymäki, and I. Kojo: User models from implicit feedback for proactive information retrieval. In C. de la Higuera and T. Artieres, editors, Proceedings of Workshop 4 of the 10th International Conference on User Modeling; Machine Learning for User Modeling: Challenges, pages 25-26, 2005.

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72. M. Miettinen, V. Tuulos, P. Myllymäki, A Testbed for Proactive Information Retrieval. Pp. 137-146 in Proceedings of the Workshop on Context Awareness for Proactive Systems (CAPS 2005), edited by P. Floreen, G. Linden, T. Niklander and K. Raatikainen. Helsinki Institute for Information Technology HIIT, Helsinki 2005 (HIIT Publications 2005-1).
73. T.Roos, T.Heikkilä, R.Cilibrasi, P.Myllymäki, Compression-based Stemmatology: A Study of the Legend of St. Henry of Finland, Technical Report HIIT-2005-3.
74. T.Roos, H.Wettig, P.Grunwald, P.Myllymäki, H.Tirri, On Discriminative Bayesian Network Classifiers and Logistic Regression. *Machine Learning* 59:3, pp. 267-296.
75. T.Roos, P.Myllymäki, H.Tirri, On the Behavior of MDL Denoising. Pp. 309-316 in Proceedings of the 10th International Workshop on Artificial Intelligence and Statistics, edited by R. Cowell and Z. Ghahramani. Society for Artificial Intelligence and Statistics, 2005.
76. P.Kontkanen, P.Myllymäki, W.Buntine, J.Rissanen, H.Tirri, An MDL Framework for Data Clustering. In Advances in Minimum Description Length: Theory and Applications, edited by P. Grünwald, I.J. Myung and M. Pitt. The MIT Press, 2005.

2004

77. P.Kontkanen, P.Myllymäki, T.Roos, H.Tirri, K.Valtonen, H.Wettig, Topics in Probabilistic Location Estimation in Wireless Networks. Invited paper in Proceedings of the 15th IEEE Symposium on Personal, Indoor and Mobile Radio Communications, Barcelona, Spain. IEEE Press, 2004.
78. P.Kontkanen, P.Myllymäki, T.Roos, H.Tirri, K.Valtonen, H.Wettig, Probabilistic Methods for Location Estimation in Wireless Networks. Chapter 11 in Emerging Location Aware Broadband Wireless Adhoc Networks, edited by R.Ganesh, S.Kota, K.Pahlavan and R.Agustí. Kluwer Academic Publishers, 2004.
79. E.Savia, S.Kaski, V.Tuulos, P.Myllymäki, On Text-Based Estimation of Document Relevance. Pp. 3275-3280 in Proceedings of the 2004 International Joint Conference on Neural Networks. IEEE, 2004.

2003

80. W. Buntine, P.Myllymäki, S.Perttu, Language Models for Intelligent Search Using Multinomial PCA. Pp. 37-50 in Proceedings of the First European Web Mining Forum at the 14th European Conference on Machine Learning and the 7th European Conference on Principles and Practice of Knowledge Discovery in Databases, edited by B. Berendt, A. Hotho, D. Mladenic, M. van Someren. M. Spiliopoulou and G. Stumme. Ruder Boskovic Institute, 2003.
81. H.Wettig, P.Grunwald, T.Roos, P.Myllymäki, H.Tirri, When Discriminative Learning of Bayesian Network Parameters Is Easy. Pp. 491-496 in Proceedings of the 18th International Joint Conference on Artificial Intelligence, edited by G.Gottlob and T.Walsh. Morgan Kaufmann, 2003.

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82. P.Kontkanen, W.Buntine, P.Myllymäki, J.Rissanen, H.Tirri, Efficient Computation of Stochastic Complexity. Pp. 181-188 in *Proceedings of the Ninth International Workshop on Artificial Intelligence and Statistics*, edited by Christopher M. Bishop and Brendan J. Frey. Society for Artificial Intelligence and Statistics, 2003.
83. H.Wettig, J.Lahtinen, T.Lepola, P.Myllymäki, H.Tirri, Bayesian Analysis of Online Newspaper Log Data. Pp. 282-287 in *Proceedings of the 2003 Symposium on Applications and the Internet*. IEEE Computer Society, Los Alamitos, California, 2003.

2002

84. H.Wettig, P.Grinwald, T.Roos, P.Myllymäki, H.Tirri, Supervised Naive Bayes Parameters. Pp. 72-83 in STeP 2002 - Intelligence, The Art of Natural and Artificial and Artificial: Proceedings of the 10th Finnish Artificial Intelligence Conference, edited by P. Ala-Siuru and S. Kaski. Finnish Artificial Intelligence Society, 2002.
85. H.Wettig, P.Grinwald, T.Roos, P.Myllymäki, H.Tirri, Supervised Learning of Bayesian Network Parameters Made Easy. Pp. 95-102 in *Proceedings of the 12th Belgian-Dutch Conference on Machine Learning*, edited by M. Wiering. Utrecht University, TR UU-CS-2002-046.
86. P.Myllymäki, T.Silander, H.Tirri, P.Uronen, B-Course: A Web-Based Tool for Bayesian and Causal Data Analysis. *International Journal on Artificial Intelligence Tools*, Vol. 11 (2002), No. 3, 369-387.
87. T.Roos, P.Myllymäki, H.Tirri, A Statistical Modeling Approach to Location Estimation. *IEEE Transactions on Mobile Computing*, Vol. 1 (2002), No. 1, 59-69.
88. T.Roos, P.Myllymäki, H.Tirri, P.Misikangas, J.Sievänen, A Probabilistic Approach to WLAN User Location Estimation. *International Journal of Wireless Information Networks*, Vol. 9 (2002), No. 3, 155-164.
89. P.Grinwald, P.Kontkanen, P.Myllymäki, T. Roos, H.Tirri, H.Wettig, Supervised Posterior Distributions. Manuscript, presented at the *Seventh Valencia International Meeting on Bayesian Statistics*, Tenerife, Spain, June 2002.
90. K. Valtonen, T. Mononen, P. Myllymäki, H. Tirri, J. Erkinaro, E. Jokikokko, S. Kuikka, A. Romakkaniemi, L. Karlsson and I. Perä: Predicting the wild salmon production using Bayesian networks. Helsinki Institute for Information Technology HIIT, Helsinki 2002 (HIIT Technical Report 2002-7).
91. K. Valtonen, T. Mononen, P. Myllymäki, H. Tirri, J. Erkinaro, E. Jokikokko, S. Kuikka, A. Romakkaniemi, L. Karlsson and I. Perä: Cross-analysis of Gulf of Bothnia wild salmon rivers using Bayesian networks. Helsinki Institute for Information Technology HIIT, Helsinki 2002 (HIIT Technical Report 2002-6).
92. K. Valtonen, T. Mononen, P. Myllymäki, H. Tirri, J. Erkinaro, E. Jokikokko, S. Kuikka and A. Romakkaniemi: A study of electrofishing bias in terms of habitat and abundance using information-theoretic tools. Helsinki Institute for Information Technology HIIT, Helsinki 2002 (HIIT Technical Report 2002-5).

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93. H.Wettig, P.Grunwald, T. Roos, P.Myllymäki, H.Tirri, On Supervised Learning of Bayesian Network Parameters. HIIT Technical Report 2002-1.

2001

94. M.Paakko, N.Holsti, P.Myllymäki, H.Tirri, Bayesian Networks for Advanced FDIR. Pp. 311-318 in *Proceedings of the ESA Workshop on On-Board Autonomy* (Noordwijk, The Netherlands, October 2001). WPP-191, European Space Agency, 2001.
95. P.Myllymäki, T.Silander, H.Tirri, P.Uronen, Bayesian Data Mining on the Web with B-Course. Pp. 626-629 in *Proceedings of The 2001 IEEE International Conference on Data Mining*, edited by N. Cercone, T.Y. Lin and X. Wu. IEEE Computer Society Press, 2001.
96. P.Myllymäki, T.Silander, H.Tirri, P.Uronen, B-Course: A Web Service for Bayesian Data Analysis. Pp. 247-256 in *Proceedings of The Thirteenth IEEE International Conference on Tools with Artificial Intelligence*, edited by R.Bilof and L.Palagi. IEEE Computer Society Press, 2001.
97. P.Myllymäki, T.Roos, H.Tirri, P.Misikangas, J.Sievänen, A Probabilistic Approach to WLAN User Location Estimation. In *Proceedings of The Third IEEE Workshop on Wireless Local Areas Networks* (Boston, USA, September 2001).
98. P.Kontkanen, P.Myllymäki, H.Tirri, Classifier Learning with Supervised Marginal Likelihood. Pp. 277- 284 in *Proceedings of the 17th International Conference on Uncertainty in Artificial Intelligence (UAI'01)*, edited by J.Breese and D.Koller. Morgan Kaufmann Publishers, 2001.
99. P.Kontkanen, P.Myllymäki, H.Tirri, Comparing Prequential Model Selection Criteria in Supervised Learning of Mixture Models. Pp. 233-238 in *Proceedings of the Eighth International Workshop on Artificial Intelligence and Statistics*, edited by T.Jaakkola and T.Richardson. Morgan Kaufmann Publishers, 2001.

2000

100. P.Kontkanen, J.Lahtinen, P.Myllymäki, T.Silander, and H.Tirri, Supervised Model-Based Visualization of High-Dimensional Data. *Intelligent Data Analysis* 4 (2000), 213-227.
101. P.Kontkanen, P.Myllymäki, H. Tirri and K.Valtonen, Bayesian Multinet Classifiers. To appear in *Proceedings of The 10th International Conference on Computing and Information (ICCI'2000)*. Kuwait, November 2000.
102. P.Kontkanen, J.Lahtinen, P.Myllymäki, and H.Tirri, An Unsupervised Bayesian Distance Measure. Pp. 148-160 in *Advances in Case-Based Reasoning, Proceedings of the Fifth European Workshop on Case-Based Reasoning (EWCBR-2000)*, edited by E.Blanzieri and L.Portinale. Vol. 1898 in Lecture Notes in Artificial Intelligence, Springer-Verlag 2000.

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EMAIL: Petri.Myllymaki@hiit.fi • URL: <http://www.hiit.fi/Petri.Myllymaki/>

103. P.Kontkanen, J.Lahtinen, P.Myllymäki, and H.Tirri, Unsupervised Bayesian Visualization of High-Dimensional Data. Pp. 325-329 in *Proceedings of the Sixth International Conference on Knowledge Discovery and Data Mining (KDD-2000)*, edited by R.Ramakrishnan, S.Stolfo, R.Bayardo and I.Parsa. The Association for Computing Machinery, New York, NY, USA, 2000.
104. P.Kontkanen, P.Myllymäki, H. Tirri and K.Valtonen, Classification with Bayesian Multinets. Pp. 134-146 in *Proceedings of TOOLMET-2000, Symposium on Tool Environments and Development Methods for Intelligent Systems*, edited by L.Yliniemi and E.Juuso. Oulun Yliopiston paino, 2000.
105. P.Kontkanen, P.Myllymäki, T.Silander, H.Tirri, and P.Grunwald, On Predictive Distributions and Bayesian Networks. *Statistics and Computing* 10 (2000), 39-54.

1999

106. P.Kontkanen, P.Myllymäki, T.Silander, and H.Tirri, Density Estimation by Minimum Encoding Mixtures of Histograms. Pp. 162-164 in *Book of Abstracts, Second European Conference on Highly Structured Stochastic Systems (HSSS'99)*, Pavia, Italy, September 1999.
107. P.Myllymäki, Massively Parallel Probabilistic Reasoning with Boltzmann Machines. *Applied Intelligence* 11, 31-44 (1999).
108. P.Kontkanen, J.Lahtinen, P.Myllymäki, T.Silander, and H.Tirri, Using Bayesian Networks for Visualizing High-Dimensional Data. Pp. 38-47 in *Proceedings of Pre- and Post-processing in Machine Learning and Data Mining: Theoretical Aspects and Applications, a workshop within Machine Learning and Applications (ACAI-99)*, edited by I.Bruha. Chania, Greece, July 1999.
109. P.Kontkanen, P.Myllymäki, T.Silander, and H.Tirri, Urban Legends in Bayesian Network Research I: Model Selection for Supervised Problems. *Arpakannus* 1/99, 8-14.
110. P.Kontkanen, P.Myllymäki, T.Silander, and H.Tirri, On the Accuracy of Stochastic Complexity Approximations. Chapter 9 in *Causal Models and Intelligent Data Management*, edited by A.Gammerman. Springer-Verlag, 1999.
111. P.Kontkanen, P.Myllymäki, T.Silander, and H.Tirri, On Supervised Selection of Bayesian Networks. Pp. 334-342 in *Proceedings of the 15th International Conference on Uncertainty in Artificial Intelligence (UAI'99)*, edited by K. Laskey and H. Prade. Morgan Kaufmann Publishers, 1999.
112. J.Lahtinen, P.Myllymäki, T.Silander, H.Tirri, and H.Wettig, An Empirical Evaluation of Stochastic Search Methods in Real-World Telecommunication Domains. Pp. 181-187 in *Proceedings of the 3rd World Multiconference on Systemics, Cybernetics and Informatics (SCI'99) and 5th International Conference on Information Systems Analysis and Synthesis (ISAS'99)*, Volume 4, edited by M. Torres, B. Sanchez, S. Radhakrishnan and R. Osers. International Institute of Information and Systemics, 1999.

PUBLICATIONS OF PETRI MYLLYMÄKI

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EMAIL: Petri.Myllymaki@hiit.fi • URL: <http://www.hiit.fi/Petri.Myllymaki/>

113. P.Kontkanen, P.Myllymäki, T.Silander, H.Tirri, K.Valtonen, Exploring the Robustness of Bayesian and Information-Theoretic Methods for Predictive Inference. Pp. 231-236 in *Proceedings of Uncertainty'99: The Seventh International Workshop on Artificial Intelligence and Statistics*, edited by D.Heckerman and J.Whittaker. Morgan Kaufmann Publishers, 1999.

1998

114. P.Kontkanen, P.Myllymäki, T.Silander, and H.Tirri, On Bayesian Case Matching. Pp. 13-24 in *Advances in Case-Based Reasoning, Proceedings of the 4th European Workshop (EWCBR-98)*, edited by B.Smyth and P.Cunningham. Vol. 1488 in Lecture Notes in Artificial Intelligence, Springer-Verlag, 1998.
115. P.Kontkanen, P.Myllymäki, T.Silander, and H.Tirri, BAYDA: Software for Bayesian Classification and Feature Selection. Pp. 254-258 in *Proceedings of the 4th International Conference on Knowledge Discovery and Data Mining (KDD-98)*, edited by R.Agrawal, P.Stolorz and G.Piatetsky-Shapiro. AAAI Press, Menlo Park, CA, 1998.
116. P.Kontkanen, P.Myllymäki, T.Silander, H.Tirri, and P.Grinwald, On the Small Sample Size Behavior of Bayesian and Information-Theoretic Approaches for Predictive Inference. Manuscript, presented at the *Sixth Valencia International Meeting on Bayesian Statistics*, Alcossebre, Spain, May-June 1998.
117. P.Grinwald, P.Kontkanen, P.Myllymäki, T.Silander, and H.Tirri, Minimum Encoding Approaches for Predictive Modeling. Pp. 183-192 in *Proceedings of the 14th International Conference on Uncertainty in Artificial Intelligence (UAI'98)*, edited by G.Cooper and S.Moral. Morgan Kaufmann Publishers, San Francisco, CA, 1998.
118. E.Koskimäki, J.Göös, P.Kontkanen, P.Myllymäki, and H.Tirri, Comparing Soft Computing Methods in Prediction of Manufacturing data. In *Proceedings of the 11th International Conference on Industrial and Engineering Applications of Artificial Intelligence & Expert Systems (IEA-98-AIE)*, Castellon, Spain, June 1998.
119. P.Myllymäki and H.Tirri, Prospects of Bayesian networks (in Finnish). Technology Report 58/98. Technology Development Center (TEKES), 1998.
120. P.Kontkanen, P. Myllymäki, T. Silander, and H.Tirri, Bayes Optimal Instance-Based Learning. Pp. 77-88 in *Machine Learning: ECML-98, Proceedings of the 10th European Conference*, edited by C.Nédellec and C.Rouveiro. Vol. 1398 in Lecture Notes in Artificial Intelligence, Springer-Verlag, 1998.
121. P.Kontkanen, P. Myllymäki, T. Silander, H.Tirri, and P. Grünwald, Bayesian and Information-Theoretic Priors for Bayesian Network Parameters. Pp. 89-94 in *Machine Learning: ECML-98, Proceedings of the 10th European Conference*, edited by C.Nédellec and C.Rouveiro. Vol. 1398 in Lecture Notes in Artificial Intelligence, Springer-Verlag, 1998.
122. P.Kontkanen, P. Myllymäki, T. Silander, and H.Tirri, Batch Classifications with Discrete Finite Mixtures. Pp. 208-213 in *Machine Learning: ECML-98, Proceedings of the 10th European Conference*, edited by C.Nédellec and C.Rouveiro. Vol. 1398 in Lecture Notes in Artificial Intelligence, Springer-Verlag, 1998.

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EMAIL: Petri.Myllymaki@hiit.fi • URL: <http://www.hiit.fi/Petri.Myllymaki/>

123. P.Kontkanen, P. Myllymäki, T. Silander, and H.Tirri, Bayesian Classification and Feature Selection with BAYDA. In *ECML-98: Demonstration and poster papers*, edited by C.Nédellec and C.Rouveiro. CSR-98-07, Technische Universität Chemnitz, 1998.
124. P.Kontkanen, P. Myllymäki, T. Silander, H.Tirri, and P.Grunwald, A Comparison of non-informative priors for Bayesian networks. Pp. 53-62 in *The Yearbook of the Finnish Statistical Society 1997*, Hakapaino Oy, Helsinki 1998.

1997

125. P.Kontkanen, P. Myllymäki, T. Silander, H.Tirri, and P. Grünwald, Bayesian and Information-Theoretic Predictive Distributions for Bayesian Networks. Pp. 59-68 in *Proceedings of the Seventh Belgian-Dutch Conference on Machine Learning (BeNeLearn '97)*, edited by W. Daelemans, P. Flach and A. van den Bosch. Tilburg, the Netherlands, October 1997.
126. P.Kontkanen, P.Myllymäki, T.Silander, and H.Tirri, A Bayesian Approach for Retrieving Relevant Cases. Pp. 67-72 in *Artificial Intelligence Applications* (Proceedings of the EXPERSYS-97 Conference), edited by P.Smith. IITT International, Gournay sur Marne, 1997.
127. P.Kontkanen, P.Myllymäki, and H.Tirri, Experimenting with the Cheeseman-Stutz Evidence Approximation for Predictive Modeling and Data Mining. Pp. 204-211 in *Proceedings the Tenth International FLAIRS Conference* (Daytona Beach, Florida, May 1997).
128. P.Kontkanen, P.Myllymäki, T.Silander, and H.Tirri, A Bayesian Approach to Discretization. Pp. 265-268 in *Proceedings of the European Symposium on Intelligent Techniques* (Bari, Italy, March 1997).
129. P.Kontkanen, P.Myllymäki, T.Silander, and H.Tirri, On the Accuracy of Stochastic Complexity Approximations. Pp. 103-117 in *Proceedings of the Causal Models and Statistical Learning Seminar* (London, UK, March 1997).
130. P.Kontkanen, P. Myllymäki, T.Silander, and H.Tirri, Comparing Stochastic Complexity Minimization Algorithms in Estimating Missing Data. Pp. 81-90 in *Proceedings of WUPES'97, the 4th Workshop on Uncertainty Processing* (Prague, Czech Republic, January 1997).
131. P.Kontkanen, P. Myllymäki, T. Silander, H.Tirri, and P. Grünwald, Comparing Predictive Inference Methods for Discrete Domains. Pp. 311-318 in *Proceedings of the Sixth International Workshop on Artificial Intelligence and Statistics* (Ft. Lauderdale, USA, January 1997).

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1996

132. H.Tirri, P.Kontkanen, and P. Myllymäki, A Bayesian Framework for Case-Based Reasoning. Pp. 413-427 in *Advances in Case-Based Reasoning*, edited by I.Smith and B.Faltings. Volume 1168, Lecture Notes in Artificial Intelligence. Springer-Verlag, Berlin Heidelberg 1996.
133. J.Lahtinen, P.Myllymäki, T.Silander, and H.Tirri, Empirical comparison of stochastic algorithms in a graph optimization problem. Pp. 45-59 in *Proceedings of the Second Nordic Workshop on Genetic Algorithms* (Vaasa, Finland, August 1996).
134. P.Kontkanen, P.Myllymäki and H.Tirri, Predictive data mining with finite mixtures. Pp. 176-182 in *Proceedings of The Second International Conference on Knowledge Discovery and Data Mining* (Portland, OR, August 1996).
135. P.Kontkanen, P.Myllymäki and H.Tirri, Comparing Bayesian model class selection criteria by discrete finite mixtures. Pp. 364-374 in *Information, Statistics and Induction in Science*, edited by D.L.Dowe, K.B.Korb, and J.J.Oliver. World Scientific , Singapore 1996.
136. P.Kontkanen, P.Myllymäki and H.Tirri, Constructing Bayesian finite mixture models by the EM algorithm. NeuroCOLT Technical Report NC-TR-97-003.
137. H.Tirri, P.Kontkanen and P.Myllymäki, Probabilistic Instance-Based Learning. Pp. 507-515 in *Machine Learning: Proceedings of the Thirteenth International Conference*, edited by L. Saitta. Morgan Kaufmann Publishers, San Francisco, CA, 1996.
138. P.Kontkanen, P.Myllymäki and H.Tirri, Some experimental results with finite mixture models. Pp. 112-115 in *Proceedings of the First European Conference on Highly Structured Stochastic Systems* (Rebild, Denmark, May 1996).

1995

139. P. Myllymäki, Mapping Bayesian Networks to Stochastic Neural Networks: A Foundation for Hybrid Bayesian-Neural Systems. Ph.D. Dissertation, Report A-1995-1, Department of Computer Science, University of Helsinki, December 1995.
140. P. Myllymäki, Mapping Bayesian Networks to Boltzmann Machines . Pp. 269-280 in *Proceedings of Applied Decision Technologies 1995* (London, April 1995).
141. P. Myllymäki and H. Tirri, Constructing computationally efficient Bayesian models via unsupervised clustering. Pp. 237-248 in *Probabilistic Reasoning and Bayesian Belief Networks*, edited by A.Gammerman. Alfred Waller Publishers, Suffolk 1995.

1994

142. P. Myllymäki and H. Tirri, Learning Bayesian prototype trees by simulated annealing. Pp. 32-37 in *Proceedings of the Conference on Artificial Intelligence Research in Finland* (Turku, Finland, August 1994), edited by C.Carlsson, T.Järvi and T.Reponen. Finnish Artificial Intelligence Society, Helsinki 1994.

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EMAIL: Petri.Myllymaki@hiit.fi • URL: <http://www.hiit.fi/Petri.Myllymaki/>

143. P. Myllymäki and H. Tirri, Massively parallel case-based reasoning with probabilistic similarity metrics. Pp. 144-154 in *Topics in Case-Based Reasoning*, edited by S.Wess, K.-D.Althoff and M.Richter. Lecture Notes in Artificial Intelligence, Volume 837. Springer Verlag, 1994.
144. H. Tirri and P. Myllymäki, MDL learning of probabilistic neural networks for discrete problem domains. Pp. 1493-1497 in *Proceedings of the IEEE World Congress on Computational Intelligence* (Orlando, June 1994).
145. P. Myllymäki and H. Tirri, Learning in neural networks with Bayesian prototypes. Pp. 60-64 in *Proceedings of SOUTHCON'94* (Orlando, March 1994).
146. P. Myllymäki, Using Bayesian networks for incorporating probabilistic a priori knowledge into Boltzmann machines. Pp. 97-102 in *Proceedings of SOUTHCON'94* (Orlando, March 1994).

1993

147. P. Myllymäki, Bayesian reasoning by stochastic neural networks. Ph.Lic. Thesis, Report C-1993-67, Department of Computer Science, University of Helsinki, 1993.
148. P. Myllymäki and H. Tirri, Bayesian case-based reasoning with neural networks. Pp. 422-427 in *Proceedings of the IEEE International Conference on Neural Networks* (San Francisco, March 1993).

1992

149. P. Floréen, P. Myllymäki, P. Orponen, and H. Tirri, Neula: A hybrid neural-symbolic expert system shell. *Tietojenkäsittelytiede* 3 (1992), 11-18.
150. P. Myllymäki, P. Orponen, and T. Silander, Integrating symbolic reasoning with neurally represented background knowledge. Pp. 231-240 in *Proceedings of the Finnish AI Conference* (Espoo, Finland, June 1992), edited by E. Hyvönen, J. Seppänen and M. Syrjänen. Finnish AI Society, Helsinki, 1992.

1991

151. P. Myllymäki and P. Orponen, Programming the Harmonium. Pp. 671-677 in *Proceedings of the International Joint Conference on Neural Networks* (Singapore, November 1991).
152. P. Myllymäki, Monitasoisten neuraaliverkkojen opettaminen optimoiduilla virheenlevitysalgoritmeilla. M.Sc. thesis (in Finnish), Report C-1991-10, University of Helsinki, Department of Computer Science.

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EMAIL: Petri.Myllymaki@hiit.fi • URL: <http://www.hiit.fi/Petri.Myllymaki/>

1990

153. P. Floréen, P. Myllymäki, P. Orponen, and H. Tirri, Compiling object declarations into connectionist networks. *AI Communications* 3 (1990) 4 (December), 172-183.
154. P. Orponen, P. Floréen, P. Myllymäki, and H. Tirri, A neural implementation of conceptual hierarchies with Bayesian reasoning. Pp. 297-303 in *Proceedings of the International Joint Conference on Neural Networks* (San Diego, CA, June 1990). IEEE, New York, 1990.
155. P. Orponen, P. Floréen, P. Myllymäki, and H. Tirri, A neural implementation of Bayesian reasoning. Pp. 277-287 in *Proceedings of the Finnish Artificial Intelligence Symposium* (Oulu, Finland, June 1990), edited by P. Salonen M. Djupsund and M. Syrjänen. Finnish Artificial Intelligence Society, 1990.
156. P. Myllymäki, H. Tirri, P. Floréen, and P. Orponen, Compiling high-level specifications into neural networks. PP. 475-478 in *Proceedings of the International Joint Conference on Neural Networks* (Washington D.C., January 1990). IEEE, New York, 1990.

1989

157. P. Floréen, P. Myllymäki, P. Orponen, and H. Tirri, Neural representation of concepts for robust inference. Pp. 89-98 in *Proceedings of the International Symposium Computational Intelligence II* (Milano, Italy, September 1989), edited by F. Gardin and G. Mauri. Elsevier Science Publishers, Amsterdam, 1989.

1988

158. P. Myllymäki, M. Rantamäki and E. Ukkonen, Some variations of the back-propagation algorithm for neural networks. Pp. 602-610 in *Proceedings of the Finnish AI Conference* (Helsinki, Finland, August 1988), edited by M.Mäkelä, S. Linnainmaa and E.Ukkonen. Finnish AI Society, Helsinki, 1988.