

Publications of the Neural Networks Research Centre

Publications are in alphabetical order by the first author.

2000

1. Alhoniemi, E. Analysis of Pulping Data Using the Self-Organing Map. *Tappi Journal*, 2000. Vol. 83, No. 7, p. 66.
http://www.tappi.org/public/tappi_journal.asp.
2. Bergius, P., Kiviluoto, K. & Maaranen, J. Cleaning Data with Self-Organizing Map to Improve Bankruptcy Risk Assesment. *Proc. of Advanced Investment Technologies'99 Conference*, Gold Coast, Australia, December 20-21, 1999 (2000). pp. 49-52.
3. Bingham, E. & Hyvärinen, A. A Fast Fixed-Point Algorithm for Independent Component Analysis of Complex Valued Signals. *International Journal of Neural Systems*, 2000. Vol. 10, No. 1, pp. 1-8.
4. Bingham, E. & Hyvärinen, A. Fast and Robust Deflationary Separation of Complex Valued Signals. *Proc. of X European Signal Processing Conference (EUSIPCO 2000)*, Tampere, Finland, September 4-8, 2000. pp. 23-26.
5. Bingham, E. & Hyvärinen, A. ICA of Complex Valued Signals: A Fast and Robust Deflationary Algorithm. *Proc. of International Joint Conference on Neural Networks (IJCNN 2000)*, Como, Italy, July 24-27, 2000. pp. 357-362.
6. Brandt, S., Laaksonen, J. & Oja, E. Statistical Shape Features in Content-Based Image Retrieval. *Proc. of 15th International Conference on Pattern Recognition*, Barcelona, Spain, September 3-7, 2000. Vol. 2, pp. 1066-1069.
7. Cristescu, R., Joutsensalo, J., Karhunen, J. & Oja, E. A Complexity Minimization Approach for Estimating Fading Gaussian Channel in CDMA Communications. *Proc. of 2nd International Workshop on Independent Component Analysis and Blind Signal Separation (ICA 2000)*, Helsinki, Finland, June 19-22, 2000. pp. 527-532.
8. Cristescu, R., Joutsensalo, J. & Ristaniemi, T. Fading Channel Estimation by Mutual Information Minimization for Gaussian Stochastic Processes. *Proc. of IEEE ICC2000, International Conference on Communications*, New Orleans, Louisiana, USA, June 18-22, 2000. pp. 56-59.
9. Cristescu, R., Karhunen, J., Joutsensalo, J. & Ristaniemi, T. Blind Separation Methods for CDMA Communications. *Proc. of Workshop on Machines That Learn*, Snowbird, Utah, April 4-7, 2000.

10. Cristescu, R., Ristaniemi, T., Joutsensalo, J. & Karhunen, J. Blind Separation of Convolved Mixtures for CDMA Systems. *Proc. of X European Signal Processing Conference (EUSIPCO 2000)*, Tampere, Finland, September 5-8, 2000. pp. 619-622.
11. Cristescu, R., Ristaniemi, T., Joutsensalo, J. & Karhunen, J. CDMA Delay Estimation Using Fast ICA Algorithm. *Proc. of IEEE International Symposium on Personal, Indoor, and Mobile Communications (PIMRC'00)*, London, UK, September 17-19, 2000. pp. 1117-1120.
12. Cristescu, R., Ristaniemi, T., Joutsensalo, J. & Karhunen, J. Delay Estimation in CDMA Communications Using A FastICA Algorithm. *Proc. of Second International Workshop on Independent Component Analysis and Blind Signal Separation (ICA 2000)*, Helsinki, Finland, June 19-22, 2000. pp. 105-110.
13. Cser, L., Mäntylä, P., Simula, O. & Ruha, P. Quality Control of Hot Rolling Mills Based on Data Mining and Knowledge Discovery. *Proc. of International ICSC Congress on Intelligent Systems & Applications*, Wollongong, Australia, December 11-15, 2000.
14. Cser, L., Simula, O., Mäntylä, P., Ruha, P. & Larkiola, J. Self-Organising Maps (SOM) in Hot Rolling. *Proc. of Intelligent Computation in Manufacturing Engineering (ICME 2000)*, Capri, Italy, June 21-23, 2000. pp. 291-297.
15. Federley, M., Alhoniemi, E., Laitila, M., Suojärvi, M. & Ritala, R. State Management for Process Monitoring, Diagnostics and Optimization. *Proc. of Control Systems 2000*, Victoria, British Columbia, Canada, May 1-4, 2000. pp. 295-298.
16. Flanagan, J. A. Neuron Weight Dynamics in the SOM and Self-Organized Criticality. *Proc. of International Joint Conference on Neural Networks (IJCNN 2000)*, Como, Italy, July 24-27, 2000. Vol. V, pp. 39-44.
17. Flanagan, J. A. Self-Organisation in the SOM with a Finite Number of Inputs. *Proc. of 8th European Symposium on Artificial Neural Networks (ESANN'2000)*, Bruges, Belgium, April 26-28, 2000. pp. 261-266.
18. Flanagan, J. A. Self-Organization in the SOM and Lebesgue Continuity of the Input Distribution. *Proc. of International Joint Conference on Neural Networks (IJCNN 2000)*, Como, Italy, July 24-27, 2000. Vol. VI, pp. 26-34.
19. Flanagan, J. A. The Organized State in the SOM. *Proc. of STeP'2000, Finnish Artificial Intelligence Conference, 'AI of Tomorrow': Symposium on Theory*, Espoo, Finland, August 28-31, 2000. pp. 189-194.
20. Himberg, J. A SOM Based Cluster Visualization and Its Application for False Coloring. *Proc. of International Joint Conference on Neural Networks (IJCNN 2000)*, Como, Italy, July 24-27, 2000. pp. 581-586.
21. Hollmén, J., Skubacz, M. & Taniguchi, M. Input-Dependent Misclassification Costs for Cost-Sensitive Classification. *Proc. of Second International Conference on Data Mining 2000*, Cambridge, England, July 5-7, 2000. 2000, WIT Press, pp. 495-503.
22. Hollmén, J. & Tresp, V. Hidden Markov Model for Metric and Event-Based Data. *Proc. of 10th European Signal Processing Conference, EUSIPCO 2000*, Tampere, Finland, September 4-8, 2000. pp. 737-740.

23. Hollmén, J., Tresp, V. & Simula, O. Learning Vector Quantization Algorithm for Probabilistic Models. *Proc. of 10th European Signal Processing Conference, EU-SIPCO 2000*, Tampere, Finland, September 4-8, 2000. pp. 721-724.
24. Honkela, A. & Valpola, H. Nonlinear Factor Analysis Matlab Package. Computer program. 2000. <http://www.cis.hut.fi/projects/ica/bayes>.
25. Hoyer, P. O. & Hyvärinen, A. Independent Component Analysis Applied to Feature Extraction from Colour and Stereo Images. *Network: Computation in Neural Systems*, 2000. Vol. 11, No. 3, pp. 191-210.
26. Hoyer, P. O. & Hyvärinen, A. Feature Extraction from Colour and Stereo Images Using ICA. *Proc. of International Joint Conference on Neural Networks (IJCNN 2000)*, Como, Italy, July 24-27, 2000. pp. 369-374.
27. Hoyer, P. O. & Hyvärinen, A. ICA Features of Colour and Stereo Images. *Proc. of International Workshop on Independent Component Analysis and Blind Signal Separation (ICA 2000)*, Helsinki, Finland, June 9-12, 2000. pp. 567-572.
28. Hoyer, P. O. & Hyvärinen, A. Modelling Chromatic and Binocular Properties of V1 Topography Using Topographic ICA. *Proc. of International Conference on Neural Information Processing (ICONIP'00)*, Taejon, Korea, November 14-18, 2000. pp. 1339-1344.
29. Hyvärinen, A. Complexity Pursuit: Combining Nongaussianity and Autocorrelations for Signal Separation. *Proc. of International Workshop on Independent Component Analysis and Blind Signal Separation (ICA 2000)*, Helsinki, Finland, June 19-22, 2000. pp. 175-180.
30. Hyvärinen, A. Complexity Pursuit: Using Both Nongaussianity and Autocorrelations for Signal Separation. *Proc. of International Conference on Neural Information Processing (ICONIP'00)*, Taejon, Korea, Nov. 14-18, 2000. pp. 1198-1203.
31. Hyvärinen, A. & Hoyer, P. O. Emergence of Phase and Shift Invariant Features by Decomposition of Natural Images into Independent Feature Subspaces. *Neural Computation*, 2000. Vol. 12, No. 7, pp. 1705-1720.
32. Hyvärinen, A. & Hoyer, P. O. Emergence of Topography and Complex Cell Properties from Natural Images Using Extensions of ICA. *Advances in Neural Information Processing Systems 12, Proc. of NIPS'99*, Denver, Colorado, USA, Nov. 30 - Dec. 2, 1999. 2000, MIT Press, pp. 827-833.
33. Hyvärinen, A. & Hoyer, P. O. Topographic ICA as a Model of V1 Receptive Fields and Topography. *Proc. of International Conference on Neural Information Processing (ICONIP'00)*, Taejon, Korea, Nov. 14-18, 2000. pp. 1323-1328.
34. Hyvärinen, A., Hoyer, P. O. & Inki, M. The Independence Assumption: Analyzing the Independence of the Components by Topography. In: Girolami, M. (ed.), *Advances in Independent Component Analysis*. 2000, Springer-Verlag, pp. 45-62.
35. Hyvärinen, A., Hoyer, P. O. & Inki, M. Topographic Independent Component Analysis: Visualizing the Independence Structure. *Proc. of International Workshop on Independent Component Analysis and Blind Signal Separation (ICA 2000)*, Helsinki, Finland, June 19-22, 2000. pp. 591-596.

36. Hyvärinen, A., Hoyer, P. & Inki, M. Topographic ICA as a Model of Natural Image Statistics. *Proc. of IEEE International Workshop on Biologically Motivated Computer Vision (BMCV'00)*, Seoul, Korea, May 15-17, 2000. pp. 535-544.
37. Hyvärinen, A., Hoyer, P. & Inki, M. Topographic ICA as a Model of V1 Receptive Fields. *Proc. of International Joint Conference on Neural Networks (IJCNN 2000)*, Como, Italy, July 24-27, 2000. pp. 83-88.
38. Hyvärinen, A. & Raju, K. Sparse Priors on the Mixing Matrix in Independent Component Analysis. *Proc. of International Workshop on Independent Component Analysis and Blind Signal Separation (ICA 2000)*, Helsinki, Finland, June 19-22, 2000. pp. 477-452.
39. Hyvärinen, A. & Oja, E. Independent Component Analysis: Algorithms and Applications. *Neural Networks*, 2000. Vol. 13, No. 4-5, pp. 411-430.
40. Iivarinen, J. Surface Defect Detection with Histogram-Based Texture Features. Intelligent Robots and Computer Vision XIX: Algorithms, Techniques, and Active Vision, *Proc. SPIE 4197*, 2000. pp. 140-145.
41. Iivarinen, J. Unsupervised Segmentation of Surface Defects with Simple Texture Measures. In: Pietikäinen, M. (ed.), *Texture Analysis in Machine Vision, Series in Machine Perception and Artificial Intelligence - Vol. 40*. 2000, World Scientific, pp. 231-238.
42. Iivarinen, J., Heikkinen, K., Rauhamaa, J., Vuorimaa, P. & Visa, A. A Defect Detection Scheme for Web Surface Inspection. *International Journal of Pattern Recognition and Artificial Intelligence*, 2000. Vol. 14, No. 6, pp. 735-755.
43. Karhunen, J., Malaroiu, S. & Ilmoniemi, M. Local Linear Independent Component Analysis Based on Clustering. *International Journal of Neural Systems*, 2000. Vol. 10, No. 6, pp. 439-451.
44. Kaski, S. Convergence of a Stochastic Semisupervised Clustering Algorithm. Espoo, Finland: 2000. (Helsinki University of Technology, Publications in Computer and Information Science Report A62).
45. Kaski, S. Kohti uutta luovan ajattelun opettamista. In: Hein, I. & Lauhia, R. (eds.), *OPE2, Dokumentoitua opetuksen kehittämistä Teknisessä korkeakoulussa 1999-2000*. Helsinki, Finland 2000, Teknillinen korkeakoulu, Opetuksen ja opiskelun tuen julkaisu 3/2000, pp. 9-14.
46. Kaski, S., Nikkilä, J. & Kohonen, T. Methods for Exploratory Cluster Analysis. *Proc. of SSGRR 2000, International Conference on Advances in Infrastructure for Electronic Business, Science, and Education on the Internet*, L'Aquila, Italy, July 31-August 6, 2000. (CD-ROM)
47. Kaski, S. & Sinkkonen, J. Metrics That Learn Relevance. *Proc. of International Joint Conference on Neural Networks (IJCNN 2000)*, Como, Italy, July 24-27, 2000. pp. 547-552.
48. Kaski, S., Venna, J. & Kohonen, T. Coloring that Reveals Cluster Structures in Multivariate Data. *Australian Journal of Intelligent Information Processing Systems*, 2000. Vol. 6, No. 2, pp. 82-88.

49. Kiviluoto, K., Bergius, P. & Maaranen, J. Business Applications of Neural Networks. In: Lisboa, P., Edisbury, B. & Vellido, A. (eds.), *Neural Networks for Analysis of Financial Statements*. Singapore 2000, World Scientific, pp. 73-84.
50. Kohonen, T. A Look into the Self-Organizing Maps. *Proc. of 2nd International ICSC Symposium on Neural Computation (NC'2000)*, Berlin, Germany, May 23-26, 2000. (CD-ROM)
51. Kohonen, T. An Unsupervised Learning Method that Produces Organized Representation from Real Information. *Proc. of ANNIMAB-1 Conference*, Göteborg, Sweden, May 13-16, 2000. London 2000, Springer, pp. 45-53.
52. Kohonen, T. New Lines in the Study of Self-Organizing Maps. *Proc. of 6th International Conference on Soft Computing, IIZUKA2000*, Iizuka, Japan, October 1-4, 2000. (CD-ROM)
53. Kohonen, T. Self-Organizing Maps of Massive Document Collections. *Proc. of International Joint Conference on Neural Networks (IJCNN'2000)*, Como, Italy, July 24-27, 2000. pp. 3-9.
54. Kohonen, T., Kaski, S., Lagus, K., Salojärvi, J., Honkela, J., Paatero, V. & Saarela, A. Self Organization of a Massive Document Collection. *IEEE Transactions on Neural Networks*, 2000. Vol. 11, pp. 574-585.
55. Koskela, M., Laaksonen, J., Laakso, S. & Oja, E. Content-Based Image Indexing and Retrieval: The PicSOM System. *Proc. of 9th Finnish Artificial Intelligence Conference (STeP 2000), 'AI of Tomorrow': Symposium on Theory*, Espoo, Finland. August 28-31, 2000. pp. 219-226.
56. Koskela, M., Laaksonen, J., Laakso, S. & Oja, E. Evaluating the Performance of Content-Based Image Retrieval Systems. *Proc. of Fourth International Conference on Visual Information Systems (VISual 2000)*, Lyon, France, November 2-4, 2000. pp. 430-441.
57. Koskela, M., Laaksonen, J., Laakso, S. & Oja, E. The PicSOM Retrieval System: Description and Evaluations. *Proc. of the Challenge of Image Retrieval 2000 (CIR2000)*, Brighton, UK, May 4-5, 2000. <http://www.ewic.org.uk/ewic/>
58. Kurimo, M. Indexing Spoken Audio by LSA and SOMs. *Proc. of 10th European Signal Processing Conference (EUSIPCO 2000)*, Tampere, Finland, September 4-8, 2000. pp. 2177-2180.
59. Laaksonen, J. T., Koskela, J. M., Laakso, S. P. & Oja, E. PicSOM - Content-Based Image Retrieval with Self-Organizing Maps. *Pattern Recognition Letters*, 2000. Vol. 21, No. 13-14, pp. 1199-1207.
60. Laaksonen, J., Oja, E., Koskela, M. & Brandt, S. Analyzing Low-Level Visual Features Using Content-Based Image Retrieval. *Proc. of 7th International Conference on Neural Information Processing (ICONIP'00)*, Taejon, Korea, November 14-18, 2000. pp. 1333-1338.
61. Lagus, K. Text Retrieval Using Self-Organized Document Maps. Espoo, Finland: 2000. 8 p. (Helsinki University of Technology, Publications in Computer and Information Science Report A61).

62. Laine, S., Pulkkinen, K. & Jämsä-Jounela, S.-L. On-Line Determination of the Concentrator Feed Type at Outokumpu Hitura Mine. *Minerals Engineering*, 2000. Vol. 13, No. 8-9, pp. 881-895.
63. Lappalainen, H. & Honkela, A. Bayesian Nonlinear Independent Component Analysis by Multi-Layer Perceptrons. In: Girolami, M. (ed.), *Advances in Independent Component Analysis*. 2000, Springer, pp. 93-121.
64. Lappalainen, H., Honkela, A., Giannakopoulos, X. & Karhunen, J. Nonlinear Source Separation Using Ensemble Learning and MLP Networks. *Proc. of Symposium 2000 on Adaptive Systems for Signal Processing, Communications, and Control (AS-SPCC)*, Lake Louise, Alberta, Canada, October 1-4, 2000. pp. 187-192.
65. Lappalainen, H. & Miskin, J. W. Ensemble Learning. In: Girolami, M. (ed.), *Advances in Independent Component Analysis*. 2000, Springer, pp. 76-92.
66. Lindblom, N., Heiskala, H., Hätönen, T., Mustanoja, S., Alftan, H., Alila-Johansson, A. & Laakso, M.-L. No Evidence for Extraocular Light Induced Phase Shifting of Human Melatonin, Cortisol and Thyrotropin Rhythms. *Neuroreport*, 2000. Vol. 11, pp. 713-717.
67. Lindblom, N., Hätönen, T., Laakso, M.-L., Alila-Johansson, A., Laipio, M.-L. & Turpeinen, U. Bright Light Exposure of a Large Skin Area Does Not Affect Melatonin or Bilirubin Levels in Humans. *Biological Psychiatry*, 2000. Vol. 48, pp. 1098-1104.
68. Malaroiu, S., Kiviluoto, K. & Oja, E. ICA Preprocessing for Time Series Prediction. *Proc. of 2nd International Workshop on Independent Component Analysis and Blind Signal Separation (ICA 2000)*, Helsinki, Finland, June 19-22, 2000. pp. 453-457.
Malaroiu, S., Kiviluoto, K. & Oja, E. Time Series Prediction with Independent Component Analysis. *Proc. of Advanced Investment Technologies'99 Conference*, Gold Coast, Australia, December 20-21, 1999 (2000). pp. 178-183.
69. Mustanoja, S.M., Hätönen, T., Alila-Johansson, A. & Laakso, M.-L. Evidence for Central α_2 -Adrenergic Modulation of Rat Pineal Melatonin Synthesis. *Brain Research*, 2000. Vol. 887, pp. 174-177.
70. Oja, E., Kiviluoto, K. & Malaroiu, S. Independent Component Analysis for Financial Time Series. *Proc. of IEEE 2000 Symp. on Adapt. Systems for Signal Proc., Comm. and Control AS-SPCC*, Lake Louise, Canada, October 1-4, 2000. pp. 111-116.
71. Ojala, T., Valkealahti, K., Oja, E. & Pietikäinen, M. Texture Discrimination with Multidimensional Distributions of Signed Gray Level Differences. *Proc. of Asian Conference on Computer Vision (ACCV'2000)*, Taipei, Taiwan, Jan. 8-11, 2000. pp. 1082-1088.
72. Ollikainen, V., Bäckström, C. & Kaski, S. Automatic Content-based Sequential Ordering of Newspaper Articles for Electronic Books. *Proc. of International Conference on Engineering Applications of Neural Networks (EANN 2000)*, Kingston, UK, July 17-19, 2000. Kingston Upon Thames, England 2000, Kingston University, pp. 183-190.
73. Pajunen, P. & Girolami, M. Implementing Decisions in Binary Decision Trees Using Independent Component Analysis. *Proc. of Second International Workshop on Independent Component Analysis and Blind Signal Separation (ICA 2000)*, Helsinki, Finland, June 19-22, 2000. pp. 483-487.

74. Pajunen, P. & Karhunen, J. (eds.) *Proc. of Second International Workshop on Independent Component Analysis and Blind Signal Separation (ICA 2000)*, Helsinki, Finland, June 19-22, 2000.
75. Rantanen, J., Laine, S., Antikainen, O., Mannermaa, J-P., Simula, O. & Yliruusi, J. Visualization of Pharmaceutical Unit Operations Using Self-Organizing Maps (SOM). *J. Pharm. Biomed. Anal.*, 2000. Vol. 24, No. 3, pp. 343-352.
76. Siivola, V. Language Modeling Based on Neural Clustering of Words. Martigny, Switzerland: 2000. (IDIAP-Com Report 02).
77. Sinkkonen, J. & Kaski, S. Clustering by Similarity in an Auxiliary Space. *Proc. of Second International Conference on Intelligent Data Engineering and Automated Learning (IDEAL 2000)*, Hong Kong, December 13-15, 2000. Berlin 2000, Springer, pp. 3-8.
78. Sinkkonen, J. & Kaski, S. Semisupervised Clustering Based on Conditional Distributions in an Auxiliary Space. Espoo: 2000. 15 p. (Helsinki University of Technology, Publications in Computer and Information Science Report A60).
79. Sirola, M. Methodologies Used in Computerized Decision Support Systems of Safety Critical Processes - Comparison to Finnish Industry. *Proc. of IASTED International Conference for Modelling, Identification and Control*, Innsbruck, Austria, February 14-17, 2000. pp. 318-321.
80. Sirola, M. & Vesanto, J. Utilization of Neural Methods in Knowledge-Based Decision Support Systems - State Monitoring as a Case Example. *Proc. of IASTED International Conference for Modelling, Identification and Control*, Innsbruck, Austria, February 14-17, 2000. pp. 313-317.
81. Skubacz, M. & Hollmén, J. Quantization of Continuous Input Variables for Binary Classification. *Proc. of Second International Conference on Intelligent Data Engineering and Automated Learning (IDEAL'2000)*, Hong Kong, December 13-15, 2000. Berlin 2000, Springer-Verlag, pp. 42-47.
82. Somervuo, P. Competing Hidden Markov Models on the Self-Organizing Map. *Proc. of International Joint Conference on Neural Networks (IJCNN 2000)*, Como, Italy, July 24-27, 2000. vol. 3, pp. 169-174.
83. Somervuo, P. Speech Recognition Using Temporally Connected Kernels in Mixture Density Hidden Markov Models. *Proc. of IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2000)*, Istanbul, Turkey, June 5-9, 2000. pp. 3434-3437.
84. Somervuo, P. & Kohonen, T. Clustering and Visualization of Large Protein Sequence Databases by Means of an Extension of the Self-Organizing Map. *Proc. of 3rd International Conference on Discovery Science*, Kyoto, Japan, Dec. 4-6, 2000, *Lecture Notes in Artificial Intelligence* 1967. pp. 76-85.
85. Valpola, H. Nonlinear Independent Component Analysis Using Ensemble Learning: Theory. *Proc. of Second International Workshop on Independent Component Analysis and Blind Signal Separation (ICA 2000)*, Helsinki, Finland, June 19-22, 2000. pp. 251-256.

86. Valpola, H. Unsupervised Learning of Nonlinear Dynamic State-Space Models. Espoo, Finland: 2000. (Helsinki University of Technology, Publications in Computer and Information Science Report A59).
87. Valpola, H., Giannakopoulos, X., Honkela, A. & Karhunen, J. Nonlinear Independent Component Analysis Using Ensemble Learning: Experiments and Discussion. *Proc. of Second International Workshop on Independent Component Analysis and Blind Signal Separation (ICA 2000)*, Helsinki, Finland, June 19-22, 2000. pp. 351-356.
88. Valpola, H. & Pajunen, P. Fast Algorithms for Bayesian Independent Component Analysis. *Proc. of Second International Workshop on Independent Component Analysis and Blind Signal Separation (ICA 2000)*, Helsinki, Finland, June 19-22, 2000. pp. 233-237.
89. Venna, J. & Kaski, S. Coloring that Reveals Cluster Structures in Multidimensional Data. *Proc. of STeP'00, Finnish Artificial Intelligence Conference, 'AI of Tomorrow': Symposium on Theory*, Espoo, Finland, August 28-31, 2000. Helsinki, Finland 2000, Finnish Artificial Intelligence Society, pp. 203-210.
90. Vesanto, J. Neural Network Tool for Data Mining: SOM Toolbox. *Proc. of 5th International Symposium on Tool Environments and Development Methods for Intelligent Systems (TOOLMET2000)*, Oulu, Finland, April 13-14, 2000. Oulu, Finland 2000, Oulun yliopistopaino, pp. 184-196.
91. Vesanto, J. & Alhoniemi, E. Clustering of the Self-Organizing Map. *IEEE Transactions on Neural Networks*, 2000. Vol. 11, No. 3, pp. 586-600.
92. Vesanto, J., Himberg, J. & Alhoniemi, E. SOM Toolbox for Matlab 5. Espoo, Finland: 2000. (Helsinki University of Technology, Publications in Computer and Information Science Report A57).
93. Vigário, R. Dipole Modeling in FastICA Decomposition of Evoked Responses. *Proc. of Second International Workshop on Independent Component Analysis and Blind Signal Separation (ICA 2000)*, Helsinki, Finland, June 19-22, 2000. pp. 363-368.
94. Vigário, R. & Oja, E. Independence: A New Criterion for the Analysis of the Electromagnetic Fields in the Global Brain? *Neural Networks*, 2000. Vol. 13, pp. 891-907.
95. Vigário, R., Särelä, J., Jousmäki, V., Hämmäläinen, M. & Oja, E. Independent Component Approach to the Analysis of EEG and MEG Recordings. *IEEE Transactions on Biomedical Engineering*, 2000. Vol. 47, No. 5, pp. 589-593.
96. Vigário, R., Särelä, J. & Oja, E. Searching for Independence in Electromagnetic Brain Waves. In: Girolami, M. (ed.), *Advances in Independent Component Analysis*. London 2000, Springer, pp. 183-199.
97. Vuori, V., Aksela, M., Laaksonen, J., Oja, E. & Kangas, J. Adaptive Character Recognizer for a Hand-Held Device: Implementation and Evaluation Setup. *Proc. of 7th International Workshop on Frontiers in Handwriting Recognition*, Amsterdam, The Netherlands, Sep. 11-13, 2000. pp. 13-22.
98. Vuori, V., Laaksonen, J., Oja, E. & Kangas, J. Controlling On-Line Adaptation of a Prototype-Based Classifier for Handwritten Characters. *Proc. of 15th International Conference on Pattern Recognition (15 ICPR)*, Barcelona, Spain, September 3-7, 2000. pp. 331-334.

99. Vuori, V. & Oja, E. Analysis of Different Writing Styles with the Self-Organizing Map. *Proc. of 7th International Conference on Neural Information Processing (ICONIP'00)*, Taejon, Korea, November 14-18, 2000. pp. 1243-1247.

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1. Aksela, M., Laaksonen, J., Oja, E. & Kangas, J. Application of Adaptive Committee Classifiers in On-Line Character Recognition. *Proc. of Second International Conference on Advances in Pattern Recognition (ICAPR'01)*, Rio de Janeiro, Brazil, March 11-14, 2001. Berlin 2001, Springer, pp. 270-279.
2. Aksela, M., Laaksonen, J., Oja, E. & Kangas, J. Rejection Methods for an Adaptive Committee Classifier. *Proc. of Sixth International Conference on Document Analysis and Recognition (ICDAR'01)*, Seattle, Washington, USA, September 10-13, 2001. pp. 982-986.
3. Alhoniemi, E. & Simula, O. Interpretation and Comparison of Multidimensional Data Partitions. *Proc. of 9th European Symposium on Artificial Neural Networks (ESANN 2001)*, Bruges, Belgium, April 25-27, 2001. 2001, D-Facto, pp. 277-282.
4. Alila-Johansson, A., Eriksson, L., Soveri, T. & Laakso, M.-L. Seasonal Variation in Endogenous Serum Melatonin Profiles in Goats: A Difference Between Spring and Fall? *Journal of Biological Rhythms*, 2001. Vol. 16, No. 3, pp. 254-263.
5. Bingham, E. Topic Identification in Dynamical Text by Extracting Minimum Complexity Time Components. *Proc. of 3rd International Conference on Independent Component Analysis and Blind Signal Separation (ICA 2001)*, San Diego, California, USA, Dec. 9-12, 2001. pp. 546-551.
6. Bingham, E., Kaban, A. & Girolami, M. Finding Topics in Dynamical Text: Application to Chat Line Discussions. *10th International World Wide Web Conference (WWW10)*, Hong Kong, May 1-5, 2001. Poster Proceedings, pp. 198-199.
7. Bingham, E. & Mannila, H. Random Projection in Dimensionality Reduction: Applications to Image and Text Data. *Proc. of 7th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD-2001)*, San Francisco, CA, USA, August 26-29, 2001. pp. 245-250.
8. Cser, L., Simula, O., Ruha, P. & Árvai, L. Quality Prediction based on Knowledge Extraction in Hot Rolling. *Proc. of 3rd International Conference on Intelligent Processing and Manufacturing of Materials (IPMM 2001)*, Vancouver, Canada, July 29-August 3, 2001. 6 p.
9. Cser, L., Simula, O., Ruha, P. & Árvai, L. Quality Prediction Based on Knowledge Extraction in Hot Rolling. *Proc. of International NAISO Symposium on Information Science Innovations in Intelligent Quality Management and Metrology (IQMM'2001)*, Dubai, U.A.E., March 17-21, 2001.
10. Flanagan, J. A. Self-Organization in the One-Dimensional SOM with a Decreasing Neighborhood. *Neural Networks*, 2001. Vol. 14, pp. 1405-1417.
11. Flanagan, J. A. Self-Organized Criticality and the Self-Organizing Map. *Physical Review E*, 2001. Vol. 63, p. 36130-1-5.

12. Flanagan, J. A. Topologically Ordered Neural Networks. In: Moss, F. & Gielen, S. (eds.), *Neuro-Informatics and Neural Modelling, Handbook of Biological Physics*, Vol. 4. Amsterdam 2001, Elsevier, pp. 685-729.
13. Funaro, M., Oja, E. & Valpola, H. Artefact Detection in Astrophysical Image Data Using Independent Component Analysis. *Proc. of 3rd International Conference on Independent Component Analysis and Blind Signal Separation (ICA 2001)*, San Diego, California, USA, Dec. 9-12, 2001. pp. 43-48.
14. Giannakopoulos, X. & Valpola, H. Nonlinear Dynamical Factor Analysis. *Proc. of Twentieth International Workshop on Bayesian Inference and Maximum Entropy Methods in Science and Engineering, MaxEnt 2000*, Paris, France, July 8-13, 2000. Melville, NY 2001, American Institute of Physics, pp. 305-317.
15. Girdziusas, R. & Laaksonen, J. Multilayer Perceptron Approach to Nonrigid Image Matching. *Proc. of 8th International Conference on Neural Information Processing (ICONIP 2001)*, Shanghai, China, Nov. 14-18, 2001. pp. 491-496.
16. Girolami, M. A Variational Method for Learning Sparse and Overcomplete Representations. *Neural Computation*, 2001. Vol. 13, No. 11, pp. 2517-2532.
17. Himberg, J., Ahola, J., Alhoniemi, E., Vesanto, J. & Simula, O. The Self-Organizing Map as a Tool in Knowledge Engineering. In: Pal, Nikhil R. (ed.), *Pattern Recognition in Soft Computing Paradigm, Volume 2 of FLSI Soft Computing Series*. 2001, World Scientific, pp. 38-65.
18. Himberg, J. & Hyvärinen, A. Independent Component Analysis for Binary Data: An Experimental Study. *Proc. of 3rd International Conference on Independent Component Analysis and Blind Signal Separation (ICA2001)*, San Diego, California, USA, Dec. 9-12, 2001. pp. 552-556.
19. Honkela, A. & Karhunen, J. An Ensemble Learning Approach to Nonlinear Independent Component Analysis. *Proc. of European Conference on Circuit Theory and Design (ECCTD'01)*, Espoo, Finland, August 28-31, 2001. Vol. 1, pp. 41-44.
20. Hoyer, P. O. & Hyvärinen, A. Emergence of Contour Coding and Integration in a Sparse Coding Neural Network. *Proc. of International Conference on Cognitive and Neural Systems (ICCNS)*, Boston, MA, USA, May 31 - June 2, 2001.
21. Hyvärinen, A. Blind Source Separation by Nonstationarity of Variance: A Cumulant-Based Approach. *IEEE Trans. on Neural Networks*, 2001. Vol. 12, No. 6, pp. 1471-1474.
22. Hyvärinen, A. Complexity Pursuit: Separating Interesting Components from Time-Series. *Neural Computation*, 2001. Vol. 13, No. 4, pp. 883-898.
23. Hyvärinen, A. Fast Independent Component Analysis. In: Roberts, S. & Everson, R. (eds.), *ICA: Principles and Practice*. Cambridge, UK 2001, Cambridge University Press, pp. 71-94.
24. Hyvärinen, A. & Hoyer, P. O. Topographic Independent Component Analysis as a Model of V1 Organization and Receptive Fields. *Neurocomputing*, 2001. Vol. 38-40, No. 1-4, pp. 1307-1315.

25. Hyvärinen, A. & Hoyer, P.O. A Two-Layer Sparse Coding Model Learns Simple and Complex Cell Receptive Fields and Topography from Natural Images. *Vision Research*, 2001. Vol. 41, No. 18, pp. 2413-2423.
26. Hyvärinen, A., Hoyer, P.O & Inki, M. Topographic Independent Component Analysis. *Neural Computation*, 2001. Vol. 13, No. 7, pp. 1527-1558.
27. Hyvärinen, A., Hoyer, P. & Oja, E. Image Denoising by Sparse Code Shrinkage. In: Haykin, S. & Kosko, B., *Intelligent Signal Processing*. New York 2001, IEEE Press, pp. 554-568.
28. Hyvärinen, A., Karhunen, J. & Oja, E. *Independent Component Analysis*. New York 2001, John Wiley.
29. Iivarinen, J. Defect Detection of Texture Surfaces. *Proc. of IASTED International Conference on Visualization, Imaging, and Image Processing*, Marbella, Spain, September 3-5, 2001. pp. 295-300.
30. Iivarinen, J. Unsupervised Segmentation of Defect Images. Intelligent Robots and Computer Vision XX: Algorithms, Techniques, and Active Vision, (Newton, Massach., Oct. 29-31, 2001), *Proc. SPIE 4572*. pp. 488-495.
31. Iline, A., Valpola, H. & Oja, E. Detecting Process State Changes by Nonlinear Blind Source Separation. *Proc. of 3rd International Conference on Independent Component Analysis and Blind Signal Separation (ICA 2001)*, San Diego, California, USA, Dec. 9-12, 2001. pp. 704-709.
32. Inki, M. & Hyvärinen, A. Two Methods for Estimating Overcomplete Independent Component Bases. *Proc. of 3rd International Conference on Independent Component Analysis and Blind Signal Separation (ICA 2001)*, San Diego, California, USA, December 9-12, 2001. pp. 343-348.
33. Joutsiniemi, S.-L., Nurminen, J. & Kohonen, T. SOM in Detecting States of Sleep and Wakefulness in Polysomnographic Data. *Proc. of Fourth International Conference on Neural Networks and Expert Systems in Medicine and Healthcare*, Milos Island, Greece, September 20-22, 2001. pp. 97-101.
34. Karhunen, J. Nonlinear Independent Component Analysis. In: Everson, R. & Roberts, S. (eds.), *ICA: Principles and Practice*. Cambridge, UK 2001, Cambridge University Press, pp. 113-134.
35. Kaski, S. Learning Metrics for Exploratory Data Analysis. *Proc. of 2001 IEEE Signal Processing Society Workshop, Neural Networks for Signal Processing XI*, Falmouth, Massach., USA, Sept. 10-12, 2001. New York, NY 2001, IEEE, pp. 53-62.
36. Kaski, S. SOM-Based Exploratory Analysis of Gene Expression Data. In: *Advances in Self-Organizing Maps*, Proc. of Workshop on Self-Organizing Maps (WSOM'01), Lincoln, UK, June 13-15, 2001. London 2001, Springer, pp. 124-131.
37. Kaski, S., Nikkilä, J., Törrönen, P., Castren, E. & Wong, G. Analysis and Visualization of Gene Expression Data Using Self-Organizing Maps. *Proc. of IEEE-EURASIP Workshop on Nonlinear Signal and Image Processing (NSIP-01)*, Baltimore, Maryland, USA, June 3-6, 2001.

38. Kaski, S. & Salojärvi, J. Generative Mixture Modeling by Autonomous Estimators. *Proc. of 5th International Conference Knowledge-Based Intelligent Information Engineering Systems & Allied Technologies (KES'2001)*, Osaka, Japan, Sept. 6-8, 2001. Amsterdam 2001, IOS Press, pp. 250-254.
39. Kaski, S. & Sinkkonen, J. A Topography-Preserving Latent Variable Model with Learning Metrics. In: *Advances in Self-Organizing Maps*, Proc. of Workshop on Self-Organizing Maps (WSOM'01), Lincoln, UK, June 13-15, 2001. London 2001, Springer, pp. 224-229.
40. Kaski, S., Sinkkonen, J. & Nikkilä, J. Clustering Gene Expression Data by Mutual Information with Gene Function. *Proc. of International Conference on Artificial Neural Networks (ICANN 2001)*, Vienna, Austria, August 21-25, 2001. Berlin 2001, Springer, pp. 81-86.
41. Kaski, S., Sinkkonen, J. & Peltonen, J. Bankruptcy Analysis with Self-Organizing Maps in Learning Metrics. *IEEE Transactions on Neural Networks*, 2001. Vol. 12, pp. 936-947.
42. Kaski, S., Sinkkonen, J. & Peltonen, J. Data Visualization and Analysis with Self-Organizing Maps in Learning Metrics. *Proc. of Third International Conference on Data Warehousing and Knowledge Discovery (DaWaK 2001)*, Munich, Germany, Sept. 5-7, 2001. Berlin 2001, Springer, pp. 162-173.
43. Kaski, S., Sinkkonen, J. & Peltonen, J. Learning Metrics for Self-Organizing Maps. *Proc. of International Joint Conference on Neural Networks (IJCNN'01)*, Washington, D.C., July 15-19, 2001. Piscataway, NJ 2001, IEEE, pp. 914-919.
44. Kohonen, T. A Neural Network That Emphasizes or Suppresses Visual Objects According to Eye Movements. Espoo, Finland: Helsinki University of Technology, 2001. 14 p. (Publications in Computer and Information Science, Report A64).
45. Kohonen, T. Overture. In: Seiffert, U. & Jain, L.C. (eds.), *Self-Organizing Neural Networks, Recent Advances and Applications*, Studies in Fuzziness and Soft Computing, Vol. 78. Heidelberg 2001, Springer-Verlag, pp. 1-12.
46. Kohonen, T. Perspectives on the Research of Artificial Neural Networks. *International Journal of Computer Research*, 2001. Vol. 10, No. 2, pp. 127-138.
47. Kohonen, T. *Self-Organizing Maps*. (3rd ed.). Heidelberg 2001, Springer-Verlag.
48. Kohonen, T. Self-Organizing Maps of Massive Databases. *Engineering Intelligent Systems*, 2001. Vol. 4, pp. 179-185.
49. Kohonen, T. Voivatko koneet oppia omaehtoisesti? In: Heino, P. & Westermarck, H. (eds.), *Studia Generalia 2000, Matematiikka, kulttuurimme perusta - ja trauma*. Helsinki 2001, Helsingin yliopiston vapaan sivistystyön toimikunta, pp. 81-92. (in Finnish)
50. Koivunen, V., Enescu, M. & Oja, E. Adaptive Algorithm for Blind Separation from Noisy Time-Varying Mixtures. *Neural Computation*, 2001. Vol. 13, No. 10, pp. 2339-2357.
51. Koskela, M., Laaksonen, J. & Oja, E. Comparison of Techniques for Content-Based Image Retrieval. *Proc. of 12th Scandinavian Conference on Image Analysis (SCIA '01)*, Bergen, Norway, June 11-14, 2001. pp. 579-586.

52. Koskela, M., Laaksonen, J. & Oja, E. PicSOM Content-Based Image Retrieval System - Comparison of Techniques. *Proc. of 3rd European Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS 2001)*, Tampere, Finland, May 16-17, 2001.
53. Koskela, M., Laaksonen, J. & Oja, E. Self-Organizing Image Retrieval with MPEG-7 Descriptors. *Proc. of Infotech Oulu International Workshop on Information Retrieval (IR 2001)*, Oulu, Finland, September 19-21, 2001.
54. Laakso, S., Laaksonen, J., Koskela, M. & Oja, E. Self-Organizing Maps of Web Link Information. In: *Advances in Self-Organizing Maps*, Proc. of Workshop on Self-Organizing Maps (WSOM'01), Lincoln, UK, June 13-15, 2001. London 2001, Springer, pp. 146-151.
55. Laaksonen, J., Koskela, M., Laakso, S. & Oja, E. Self-Organising Maps as a Relevance Feedback Technique in Content-Based Image Retrieval. *Pattern Analysis & Applications*, 2001. Vol. 4, pp. 140-152.
56. Lagus, K. Studying Similarities in Term Usage with Self-Organizing Maps. *Proc. of NordTerm'01*, Tuusula, Finland, June 13-16, 2001.
57. Lagus, K. & Airola, A. Analysis of Functional Similarities of Finnish Verbs Using the Self-Organizing Map. *Proc. of 13th European Summer School in Logic, Language and Information (ESSLLI'01)*, Helsinki, Finland, Aug. 13-24, 2001.
58. Lagus, K., Alhoniemi, E. & Valpola, H. Independent Variable Group Analysis. *Proc. of International Conference on Artificial Neural Networks (ICANN 2001)*, Vienna, Austria, August 21-25, 2001. Berlin 2001, Springer, pp. 203-210.
59. Laine, S. Combining Off-Line and On-Line Information in Process Study Using the Self-Organizing Map (SOM). *Proc. of IEEE Mountain Workshop on Soft Computing in Industrial Applications*, Blacksburg, Virginia, USA, June 25-27, 2001. pp. 71-76.
60. Laine, S. State Based Process Study Using the SOM and a Variable Selection Technique. *Proc. of International Conference on Engineering Applications of Neural Networks*, Cagliari, Italy, July 16-18, 2001. pp. 15-22.
61. Lindblom, N., Heiskala, H., Kaski, M., Leinonen, L., Nevanlinna A., Iivanainen, M. & Laakso, M.-L. Neurological Impairments and Sleep-Wake Behavior among the Mentally Retarded. *Journal of Sleep Research*, 2001. Vol. 10, pp. 309-318.
62. Luukka, P., Saastamoinen, K. & Könönen, V. A Classifier Based on the Maximal Fuzzy Similarity in the Lukasiewicz-Structure. *Proc. of 10th IEEE International Conference on Fuzzy Systems (FUZZ-IEEE 2001)*, Melbourne, Australia, Dec. 2-5, 2001.
63. Nikkilä, J., Törönen, P., Sinkkonen, J. & Kaski, S. Analysis of Gene Expression Data Using Semi-Supervised Clustering. *Proc. of Bioinformatics 2001*, Skövde, Sweden, March 29-April 1, 2001. pp. 2-3.
64. Oja, E. Machine Learning in Data Mining. *Proc. of 10th International PEG Conference (PEG 2001)*, Tampere, Finland, June 23-26, 2001.
65. Oja, E., Finding Structure in Signals, Images, and Data. *Proc. of 8th Int. Conf. on Neural Information Processing (ICONIP2001)*, Shanghai, China, Nov. 14-18, 2001. pp. 9-13.

66. Ojala, T., Valkealahti, K., Oja, E. & Pietikäinen, M. Texture Discrimination with Multidimensional Distributions of Signed Gray-Level Differences. *Pattern Recognition*, 2001. Vol. 34, No. 3, pp. 727-739.
67. Peura, M. Trix - A C++ Software Package for Pattern Recognition. Computer program. 2001. <http://www.cis.hut.fi/peura/Trix/>
68. Peura, M. & Syrjäsoo, M. Flexible Heuristic Matching of Attribute Trees. *Proc. of 12th Scandinavian Conference on Image Analysis*, Bergen, Norway, June 11-14, 2001. pp. 207-213.
69. Raiko, T. & Valpola, H. Missing Values in Nonlinear Factor Analysis. *Proc. of 8th International Conference on Neural Information Processing (ICONIP 2001)*, Shanghai, China, Nov. 14-18, 2001. pp. 822-827.
70. Raivio, K., Simula, O. & Laiho, J. Neural Analysis of Mobile Radio Access Network. *Proc. of 2001 IEEE International Conference on Data Mining (ICDM'01)*, San Jose, California, USA, Nov. 29 - Dec. 2, 2001. pp. 457-464 .
71. Sevon, P., Ollikainen, V., Onkamo, P., Toivonen, H.T.T., Mannila, H. & Kere, J. Mining Associations Between Genetic Markers, Phenotypes and Covariates. *Genetic Epidemiology*, 2001. Vol. 21 (Suppl. 1), pp. S588-S593.
72. Siivola, V., Kurimo, M. & Lagus, K. Large Vocabulary Statistical Language Modeling for Continuous Speech Recognition in Finnish. *Proc. of 7th European Conference on Speech Technology and Communication, EUROSPEECH 2001*, Aalborg, Denmark, Sept. 3-7, 2001. pp. 737-740.
73. Simula, O., Hollmén, J. & Alhoniemi, E. Models from Data: Analysis of Industrial Processes and Telecommunication Systems. *Proc. of Automazione'2001*, Ancona, Italy, Nov. 22-23, 2001. pp. 13-19.
74. Sinkkonen, J. & Kaski, S. Clustering Based on Conditional Distributions in an Auxiliary Space. *Neural Computation*, 2001. Vol. 14, pp. 217-239.
75. Siponen, M., Vesanto, J., Simula, O. & Vasara, P. An Approach to Automated Interpretation of SOM. In: *Advances in Self-Organizing Maps*, Proc. of Workshop on Self-Organizing Maps (WSOM'01), Lincoln, England, June 13-15, 2001. London 2001, Springer, pp. 89-94.
76. Sirola, M. Applying Decision Analysis Method in Process Control Problem in Accident Management Situation. *Proc. of 14th International Conference on Systems Science*, Wroclaw, Poland, Sept. 11-14, 2001. pp. 70-76.
77. Sirola, M. Decision Model for State Monitoring. *Proc. of IASTED International Conference for Modelling, Identification and Control*, Innsbruck, Austria, Feb. 19-22, 2001. pp. 350-353.
78. Sirola, M. Some Ideas of Using SOM Analysis in Industrial Applications. *Proc. of IASTED International Conference for Modelling, Identification and Control*, Innsbruck, Austria, Feb. 19-22, 2001. pp. 439-441.
79. Särelä, J., Valpola, H., Vigário, R. & Oja, E. Dynamical Factor Analysis of Rhythmic Magnetoencephalographic Activity. *Proc. of 3rd International Conference on Independent Component Analysis and Blind Signal Separation (ICA 2001)*, San Diego, California, USA, Dec. 9-12, 2001. pp. 451-456.

80. Särelä, J. & Vigário, R. The Problem of Overlearning in High-Order ICA Approaches: Analysis and Solutions. *Proc. of International Work-conference on Artificial and Natural Neural Networks (IWANN'01)*, Granada, Spain, June 13-15, 2001. pp. 818-825.
81. Valpola, H. Learning Hidden Dynamical Systems. *Proc. of The Learning Workshop, Snowbird, Utah, USA, April 10-13, 2001.* 2 p.
82. Valpola, H., Honkela, A. & Karhunen, J. Nonlinear Static and Dynamic Blind Source Separation Using Ensemble Learning. *Proc. of International Joint Conference on Neural Networks (IJCNN'01)*, Washington D.C., USA, July 15-19, 2001. pp. 2750-2755.
83. Valpola, H., Raiko, T. & Karhunen, J. Building Blocks for Hierarchical Latent Variable Models. *Proc. of 3rd International Conference on Independent Component Analysis and Blind Signal Separation (ICA 2001)*, San Diego, California, USA, Dec. 9-12, 2001. pp. 710-715.
84. Venna, J. & Kaski, S. Neighborhood Preservation in Nonlinear Projection Methods: An Experimental Study. *Proc. of International Conference on Artificial Neural Networks (ICANN 2001)*, Vienna, Austria, August 21-25, 2001. Berlin 2001, Springer, pp. 485-491.
85. Vesanto, J. Importance of Individual Variables in the k-means Algorithm. *Proc. of 5th Pacific-Area Conference on Knowledge Discovery in Databases (PAKDD2001)*, Hong Kong, April 16-18, 2001. pp. 513-518.
86. Vigário, R. From Principal to Independent Component Analysis of Brain Signals. *Proc. of 23rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'2001)*, Istanbul, Turkey, October 25-28, 2001. (CD-ROM)
87. Vuori, V., Laaksonen, J., Oja, E. & Kangas, J. Experiments with Adaptation Strategies for a Prototype-Based Recognition System of Isolated Handwritten Characters. *International Journal of Document Analysis and Recognition IJDAR*, 2001. Vol. 3, No. 3, pp. 150-159.
88. Vuori, V., Laaksonen, J., Oja, E. & Kangas, J. Speeding up On-line Recognition of Handwritten Characters by Pruning the Prototype Set. *Proc. of Sixth International Conference on Document Analysis and Recognition (ICDAR'01)*, Seattle, Washington, USA, September 10-13, 2001. pp. 501-505.