CLASSIFIED LIST OF

BIBLIOGRAPHY ON NEURAL NETWORKS

(ftp://ftp.wiley.com/public/sci_tech_med/neural_networks/)

[A] Biological Motivation on Neural Networks	1
[B] Neuronal Morphology: Concepts and Mathematical Models	5
[C] Multilayered Neural Networks and Self-Organizing Maps: Theory and Design	9
[D] Learning, Adaptation, Training and Optimization in Neural Networks	35
[E] Pattern Recognition and Neural Classifiers	63
[F] Functions Approximations and Forecasting Using Neural Networks	85
[G] Dynamic Neural Networks: Continuous and Discrete	93
[H] Stability Issues in Dynamic Neural Networks	111
[I] Memory and Information Capacity in Neural Network	116
[J] Fuzzy Sets and Fuzzy Neural Systems	121
[K] Neural Networks in Signal and Image Processing	148
[L] Neuro-Control Systems	151
[M] Neuro-Vision Systems	168
[N] Intelligent Robotics Systems	175
[P] Neural Networks: Software and Hardware	180
[Q] Books on Neural Networks and Fuzzy Logic	190
[R] Societies on Neural Networks and Fuzzy Logic	203
[S] Journals on Neural Networks and Fuzzy Logic	204
[T] Conferences on Neural Networks and Fuzzy Logic	205
[U] Internet Resources on Neural Networks and Fuzzy Logic	207

[A] Biological Motivation on Neural Networks

- [A.1] Ding, M.-Z. and Yang, W.-M. [1997], "Stability of Synchronous Chaos and On-Off Intermittency in Coupled Map Lattices," *Phys. Rev. E*, Vo. 56, No. 4, pp. 4009-4016.
- [A.2] Durbin, R. [1989], "On the Correspondence Between Network Models and the Nervous System," *The Computing Neurons*, (Eds.)
 R. Durbin, C. Miall and G. Mitchison, Reading, Mass., Addison-Wesley Publishing Co.
- [A.3] Engel, K., Konig, P., Kreiter, A.K. and Singer, W. [1991],
 "Interhemispheric Synchronization of Oscillatory Neuronal Responses in Cat Visual Cortex," *Science*, Vol. 252, pp. 1177-1178.
- [A.4] Ersu, E. and Tolle, H. [1984], "A New Concept for Learning Control Inspired by Brain Theory," Proc. 9th World Congress IFAC, pp. 245-250.
- [A.5] Forbus, K.D. and Gentner, D. [1983], "Casual Reasoning About Quantities," Proc. 5th Annual Conf. of the Cognitive Science Society, Lawrence Erlbaum and Associates, pp. 196-206.
- [A.6] Fujita, M., [1982], "Adaptive Filter Model of the Cerebellum," *Biological Cybernetics*, Vol. 45, pp. 195-206.
- [A.7] Garliaskas, A. and Gupta, M.M. [1995], "A Generalized Model of Synapse-Dendrite-Cell Body as a Complex Neuron," World Congress on Neural Networks (WCNN'95), Washington DC, USA, July 17-21, Vol. 1, pp. 304-307.
- [A.8] Gupta, M.M., [1988a], "Biological Basis for Computer Vision: Some Perspective", SPW Conf. on Intelligent Robots and Computer Vision, Nov. 5-10, Philadelphia, Paper #1192-49, pp. 811-823.
- [A.9] Gupta, M.M. and Knopf, G.K. [1992b], "A Multitask Visual Information Processor with a Biologically Motivated Design", *J.*

Visual Communicat., Image Representation, Vol. 3. No. 3, Sept., pp. 230-246.

- [A.10] Hiramoto, M., Hiromi, Y., Giniger, E. and Hotta, Y. [2000], "The Drosophila Netrin Receptor Frazzled Guides Axons by Controlling Netrin Distribution," *Nature*, Vol. 406, No. 6798, pp. 886-888, Aug.
- [A.11] Honma, N., Abe, K., Sato, M. and Takeda, H., [1998], "Adaptive Evolution of Holon Networks by an Autonomous Decentralized Method," *Applied Mathematics and Computation*, Elsevier Science Inc., Vol. 9, No. 1, pp. 43-61.
- [A.12] Kaneko, K. [1994], "Relevance of Dynamic Clustering to Biological Networks," *Phys. D*, Vol. 75. pp. 55-73.
- [A.13] Kohara, K., Kitamura, A., Morishima, M. and Tsumoto, T. [2001],
 "Activity-Dependent Transfer of Brain-Derived Neurotrophic Factor to Postsynaptic Neurons," *Science*, Vol. 291, pp. 2419-1423, Mar.
- [A.14] LeCun, Y., Boser, B. and Solla, S.A. [1990], "Optimal Brain Damage," *Advances in Neural Information Processing Systems*, (Ed.) D. Touretzky, Vol. 2, pp. 598-605, Morgan Kaufmann.
- [A.15] Lovejoy, C.O. [1981], "The Origin of Man," *Science*, Vol. 211, pp. 341-350.
- [A.16] Maire, M. [2000], "On the Convergence of Validity Interval Analysis," *IEEE Trans. on Neural Networks*, Vol. 11, No. 3, pp. 799-801, May.
- [A.17] Mantere, K., Parkkinen, J., Jaasketainen, T. and Gupta, M.M. [1993], "Wilson-Cowan Neural Network Model in Image Processing", J. of Mathematical Imaging and Vision, Vol. 2, pp. 251-259.
- [A.18] McCarthy, J. and Hayes, P.J. [1969], "Some Philosophical Problems from the Standpoint of Artificial Intelligence," *Machine*

Intelligence 4, (Eds.) Meltzer and Michie, Edinburgh: Edinburgh Univ. Press, pp. 463-502.

- [A.19] McCulloch, W.S. and Pitts, W.H., [1943], "A Logical Calculus of the Ideas Imminent in Nervous Activity", *Bulletin of Mathematical Biophysics*, Vol. 5, pp. 115-133.
- [A.20] McDermott, D. [1982], "A Temporal Logic for Reasoning About Processes and Plans," *Cognitive Science*, Vol. 6, pp. 101-155.
- [A.21] Melkonian, D.S. [1990], "Mathematical Theory of Chemical Synaptic Transmission," *Biological Cybernetics*, Vol. 62, pp. 539-548.
- [A.22] Pecht, O.Y. and Gur, M. [1995], "A Biologically-Inspired Improved MAXNET," *IEEE Trans. Neural Networks*, Vol. 6, pp. 757-759.
- [A.23] Petshe, T. and Dickinson, B.W. [1990], "Trellis Codes, Receptive Fields, and Fault-Tolerance Self-Repairing Neural Networks," *IEEE Trans. Neural Networks*, Vol. 1, No. 2, pp. 154-166.
- [A.24] Poggio, T. and Koch, C. [1987], "Synapses that Compute Motion", Scientific American, pp. 46-52, May.
- [A.25] Rao, D.H. and Gupta, M.M. [1993a], "A Generic Neural Model Based on Excitatory - Inhibitory Neural Population," *IJCNN-93*, Nagoya, Paper No. F-011, pp. 1393-1396, Oct.
- [A.26] Rosenblatt, F. [1958], "The Perceptron: A Probabilistic Model for Information Storage and Organization in the Brain," *Psychological Review*, Vol. 65, pp. 386-408.
- [A.27] Skarda, C.A. and Freeman, W.J. [1987], "How Brains Make Chaos in Order to Make Sense of the World," *Behavioral and Brain Sciences*, Vol. 10, pp. 161-195.
- [A.28] Stevens, C.F. [1968], "Synaptic Physiology," *Proc. IEEE*, Vol. 79, No. 9, pp. 916-930, June.

 [A.29] Wilson, H.R. and Cowan, J.D. [1972], "Excitatory and Inhibitory Interactions in Localized Populations of Model Neurons," *Biophysical J.*, Vol. 12, 1-24.

[B] Neuronal Morphology: Concepts and Mathematical Models

- [B.1] Amari, S. [1971], "Characteristics of Randomly Connected Threshold-Element Networks and Network Systems," *Proc. IEEE*, Vol. 59, No. 1 pp. 35-47.
- [B.2] Amari, S. [1972a], "Characteristics of Random Nets of Analog Neuron - Like Elements," *IEEE Trans. Systems, Man and Cybernetics*, Vol. SMC-2, pp. 643-654.
- [B.3] Amari, S. [1972b], "Learning Patterns and Pattern Sequences by Self-Organizing Nets of Threshold Elements," *IEEE Trans. on Computers*, Vol. C-21, pp. 1197-1206.
- [B.4] Amari, S. [1977a], "A Mathematical Approach to Neural Systems," Systems Neuroscience, (Ed.) J. Metzler, Academic Press, New York, pp. 67-118.
- [B.5] Amari, S. [1977b], "Neural Theory of Association and Concept Formation," *Biological Cybernetics*, Vol. 26, pp. 175-185.
- [B.6] Amari, S. [1990], "Mathematical Foundations of Neurocomputing," Proc. IEEE, Vol. 78, No. 9, pp. 1443-1462, Sept.
- [B.7] Amit, D.J., Gutfreund, G. and Sompolinsky, H., [1985], "Spin-Glass Model of Neural Networks", *Physical Review A*, Vol. 32, pp. 1007-1018.
- [B.8] Anagun, A.S. and Cin, I. [1998], "A Neural-Network-Based Computer Access Security System for Multiple Users," Proc. 23rd Inter. Conf. Comput. Ind. Eng., Vol. 35, pp. 351-354.
- [B.9] Anderson, J.A. [1983], "Cognition and Psychological Computation with Neural Models," *IEEE Trans. System, Man and Cybernetics*, Vol. 13, pp. 799-815.
- [B.10] Anninos, P.A. Beek, B., Csermel, T.J., Harth, E.E. and Pertile, G.
 [1970], "Dynamics of Neural Structures," *J. of Theoretical Biological*, Vol. 26, pp. 121-148.

- [B.11] Aoki, C. and Siekevltz, P. [1988], "Plasticity in Brain Development," *Scientific American*, pp. 56-64, Dec.
- [B.12] Churchland, P.S. and Sejnowski, T.J. [1988], "Perspectives on Cognitive Neuroscience," *Science*, Vol. 242, pp. 741-745.
- [B.13] Holmes C.C. and Mallick, B.K. [1998], "Bayesian Radial Basis Functions of Variable Dimension," *Neural Computations*, Vol. 10, No. 5, pp. 1217-1233.
- [B.14] Hopfield, J. [1990a], "Artificial Neural Networks are Coming," *IEEE Expert* An Interview by W. Myers, pp. 3-6, April.
- [B.15] Joshi, A., Ramakrishman, N., Houstis, E.N. and Rice, J.R. [1997],
 "On Neurobiological, Neurofuzzy, Machine Learning, and Statistical Pattern Recognition Techniques," *IEEE Trans. Neural Networks*, Vol. 8, Jan.
- [B.16] Kaneko, K. [1994], "Relevance of Dynamic Clustering to Biological Networks," *Phys. D*, Vol. 75. pp. 55-73.
- [B.17] Kaneko, K. [1997], "Coupled Maps with Growth and Death: An Approach to Cell Differentiation," *Phys. D*, Vol. 103, pp. 505-527.
- [B.18] Knopf, G.K. and Gupta, M.M. [1993c], "Dynamics of Antagonistic Neural Processing Elements", *Inter. J. of Neural Systems*, Vol. 4, No. 3, pp. 291-303, Sept.
- [B.19] Kohonen, T. [1988], "An Introduction to Neural Computing," Neural Networks, Vol. 1, No. 1, pp. 3-16.
- [B.20] Kohonen, T. [1990], "The Self-Organizing Map," Proc. of the IEEE, Vol. 78, No. 9, pp. 1464-1480.
- [B.21] Kohonen, T. [1991], "Self-Organizing Maps: Optimization Approaches," *Artificial Neural Networks*, (Eds.) T. Kohonen, K. Makisara, O. Simula, and J. Kangas, Amsterdam, The Netherlands, Elsevier, pp. 981-990.

- [B.22] Kohonen, T. [1993], "Things You Haven't Heard About The Self-Organizing Map," Proc. ICNN'93, Inter. Conf. Neural Networks, pp. 1147-1156.
- [B.23] Kohonen, T. [1998], "Self Organization of Very Large Document Collections: State of the Art," Proc. ICANN98, 8^h Inter. Conf. Artificial Neural Networks, (Eds.) L. Niklasson, M. Boden and T. Ziemke, Vol. 1, pp. 65-74.
- [B.24] LeCun, Y., Boser, B. and Solla, S.A. [1990], "Optimal Brain Damage," *Advances in Neural Information Processing Systems*, (Ed.) D. Touretzky, Vol. 2, pp. 598-605, Morgan Kaufmann.
- [B.25] Lippmann, R.P. [1987], "An Introduction to Computing with Neural Networks," *IEEE Acoustics, Speech and Signal Processing Magazine*, Vol. 4, No. 2, pp. 4-22, April.
- [B.26] Mantere, K., Parkkinen, J., Jaasketainen, T. and Gupta, M.M. [1993], "Wilson-Cowan Neural Network Model in Image Processing", J. of Mathematical Imaging and Vision, Vol. 2, pp. 251-259.
- [B.27] McCarthy, J. and Hayes, P.J. [1969], "Some Philosophical Problems from the Standpoint of Artificial Intelligence," *Machine Intelligence 4*, (Eds.) Meltzer and Michie, Edinburgh: Edinburgh Univ. Press, pp. 463-502.
- [B.28] McCulloch, W.S. and Pitts, W.H., [1943], "A Logical Calculus of the Ideas Imminent in Nervous Activity", *Bulletin of Mathematical Biophysics*, Vol. 5, pp. 115-133.
- [B.29] McDermott, D. [1982], "A Temporal Logic for Reasoning About Processes and Plans," *Cognitive Science*, Vol. 6, pp. 101-155.
- [B.30] Melkonian, D.S. [1990], "Mathematical Theory of Chemical Synaptic Transmission," *Biological Cybernetics*, Vol. 62, pp. 539-548.Petshe, T. and Dickinson, B.W. [1990], "Trellis Codes, Receptive Fields, and Fault-Tolerance Self-Repairing Neural

Networks," IEEE Trans. Neural Networks, Vol. 1, No. 2, pp. 154-166.

- [B.31] Poggio, T. and Koch, C. [1987], "Synapses that Compute Motion", Scientific American, pp. 46-52, May.
- [B.32] Sandewall, E. [1989], "Combining Logic and Differential Equations for Describing Real-World Systems," Proc. 1st Inter. Conf. on Principles of Knowledge Representation and Reasoning, San Mateo, CA, Morgan Kaufmann, pp. 412-420.
- [B.33] Setiono, R. and Liu, H. [1996], "Symbolic Representation of Neural Networks," *Computer*, Vol. 29, No. 3, pp. 71-77.
- [B.34] Wilson, H.R. and Cowan, J.D. [1972], "Excitatory and Inhibitory Interactions in Localized Populations of Model Neurons," *Biophysical J.*, Vol. 12, 1-24.

[C] Multilayered Neural Networks and Self-Organizing Maps: Theory and Design

- [C.1] Azimi-Sadjadi, M.R., Charleston, S., Wilbur, J. and Dobeck, G.
 [1998], "A New Time Delay Estimation in Subbands for Resolving Multiple Specula Reflections," *IEEE Trans. Signal Processing*, Vol. 46, pp. 3398-3403, Dec.
- [C.2] Babloyantz, A., Salazar, M. and Nicolis, C. [1985], "Evidence of Chaotic Dynamics of Brain Activity During the Sleep Cycle," *Phys. Lett.*, Vol. III A, No. 3, pp. 152-155.
- [C.3] Baxt, W.G., [1990], "Use of an Artificial Neural Network for Data Analysis in Clinical Decision-Making: The Diagnosis of Coronary Occlusion", *Neural Computation*, Vol. 2, pp. 480-489.
- [C.4] Bengio, S. and Bengio, Y. [2000], "Taking on the Curse of Dimensionality in Joint Distribution Using Neural Networks," *IEEE Trans. Neural Networks*, Vol. 11, No. 3, pp. 550-557, May.
- [C.5] Bengio, Y.R., Cardio, R., De Mori, R. and Cosi, P. [1989], "Use of Multilayered Networks for Coding Speech with Multi-Phonetic Speeches", *Advances in Neural Information Processing Systems*, Vol. 1, (Ed.) D.S. Touretzky, Morgan Kaufmann Publishers, San Mateo, CA.
- [C.6] Benitez, J.M., Castro, J.L. and Requena, I. [1997], "Are Artificial Neural Networks Black Boxes?", *IEEE Trans. Neural Networks*, Vol. 8, pp. 1156-1164.
- [C.7] Bishop, C.M. [1992], "Exact Calculation of the Hessian Matrix for the Multilayer Perceptron," *Neural Computation*, Vol. 4, pp. 494-501.
- [C.8] Bishop, C.M. [1994], "Novelty Detection and Neural Network Validation," *IEEE Proc. Vision, Image, Signal Processing*, Vol. 141, pp. 217-222.

- [C.9] Bishop, C.M. [1995a], "Training with Noise is Equivalent to Tikhonov Regularization," *Neural Computations*, Vol. 7, pp. 108-116.
- [C.10] Bounds, D.G., Lloyd, P.J., Mathew, B. and Wadell, G. [1988], "A Multilayer Perceptron Network for the Diagnosis of Low Back Pain," *Proc. IEEE Inter. Conf. on Neural Networks*, San Diego, CA, pp. II-481-489.
- [C.11] Buntine, W. and Weigend, A.S. [1994], "Computing Second Derivatives in Feed-Forward Networks: AReview," *IEEE Trans. Neural Networks*, Vol. 5, No. 3, pp. 480-488.
- [C.12] Burge, P.S., van Daalen, M. R., Rising, B.J.P. and Shawe-Taylor,
 J.S. [1999] "Stochastic Bit-Stream Neural Networks," *Pulsed Neural Networks*, (Eds.) W. Maass and C.M. Bishop, MIT Press,
 Cambridge, MA.
- [C.13] Card, H.C. [2001], "Compound Binomial Processes in Neural Integration," *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1505-1512, Nov.
- [C.14] Chester, D.L [1990], "Why Two Hidden Layers are Better than One," Proc. IEEE Joint Conf. on Neural Networks (IJCNN), Erlbaum, Vol. 1, pp. 265-268.
- [C.15] Choi, J.Y. and Choi, C.-H. [1992], "Sensitivity Analysis of Multilayer Perceptron with Differentiable Activation Functions," *IEEE Trans. Neural Networks*, Vol. 3, pp. 101-107, Jan.
- [C.16] Choi, Y. and Miikkulainen, R. [1988], "Self-Organization and Segmentation in a Laterally Connected Orientation Map of Spiking Neurons," *Neurocomputations*, Vol. 21, pp. 139-157.
- [C.17] Chua, L.O. and Yang, L. [1988], "Cellular Neural Networks: Theory," IEEE *Trans. Circuits System*, Vol. 35, pp. 1257-1272.
- [C.18] Cibas, T. Fogelman Soulie, F., Gallinari, P. and Raudys, S. [1996],"Variable Selection with Neural Networks," *Neurocomputations*, Vol. 12, pp. 223-248.

- [C.19] Cichocki, A. and Bargiela, A. [?], "Neural Networks for Solving Linear Inequality Systems?". *Parallel Computing*, Vol. 22, No. 11, pp. 1455-1475.
- [C.20] Cloete I. and Engelbrecht, A.P. [1994] "New Tools for Decision Support," AMSE Inter. Conf. Intell. Systems, Pretoria, South Africa.
- [C.21] Coiera, E.W. [1992], "Qualitative Superposition," Artificial Intelligence, Vol. 56, pp. 171-196.
- [C.22] Collins, D.R., Penz, P.A. and Barton, J.B. [1990], "Neural Network Architectures and Implementations," *Proc. 1990 IEEE Inter. Symp. on Circuits and Systems*, New Orleans, LA, May 1-3, pp. 2437-2440.
- [C.23] Cotter, N.E [1990], "The Stone Weierstrass Theorem and Its Application To Neural Networks," *IEEE-Trans. Neural-Networks*, Vol. 1, No. 4, pp. 290-295.
- [C.24] Cotter, N.E. and Gullerm, T.J. [1992], "The CMAC and a Theorem of Kolmogorov," *Neural Networks*, Vol. 5, pp. 221-228.
- [C.25] Cottrell, M., Girard, B., Girard, Y., Mangeas, M. and Muller, C. [1994], "SSM: A Statistical Stepwise Method for Weight Elimination," *Proc. Inter. Conf. Artificial Neural Network*, Vol. 1, pp. 681-684.
- [C.26] Crick, F. [1989], "The Recent Excitement About Neural Networks," *Nature*, Vol. 337, pp. 129-132.
- [C.27] Cruickshank, D.G.M. [1996], "Radial Basis Function Receivers for DS-CDMA," *Electron. Lett.*, Vol. 32, No. 3, pp. 188-190.
- [C.28] Dague, P. [1993], "Symbolic Reasoning with Relative Orders of Magnitude," Proc. of the 13th Inter. Joint Conf. on Artificial Intelligence, Morgan Kaufmann, San Mateo, CA.
- [C.29] Deco, G. and Schurmann [1997], "Dynamic Modelling Chaotic Time Series, Computational Learning Theory and Neural Learning

Systems," Vol. 4 of Making Learning Systems Practical, MIT Press, Cambridge, MA, Chapter 9.

- [C.30] Deerwester, S., Dumais, S.T., Furnas, G.W. and Landaucer, T.K.,
 [1990], "Indexing by Latent Semantic Analysis," J. Amer. Soc. Inform. Sci., Vol. 41, pp. 391-407.
- [C.31] Denker, J.S. [1986b], *Neural Networks for Computing*, AIP Conf.Proceedings, New York, American Institute of Physics.
- [C.32] DiZitti, W.E., et. al. [1989], "Analysis of Neural Algorithms for Parallel Architectures," *Proc. 1989 IEEE Inter. Symp. Circuits and Systems*, Portland, OR, May 9-12, New York, IEEE, pp. 2187-2190.
- [C.33] Dominguez, D. and Cerdeira, H.A. [1995], "Spatiotemporal Chaos in Rf-Driven Josephson Junction Series Arrays," *Phys. Rev. B.* Vol. 52, No. 1, pp. 513-526.
- [C.34] Dorizzi, B., Pellieux, G., Jacquet, F., Czernichow, T. and Munoz,
 A. [1996], "Variable Selection Using Generalized RBF Networks: Application to the Forecast of the French T-Bonds," *Proc. INACS*, Lille, France: IEEE, pp. 122-127.
- [C.35] Douglas, S.C. and Meng, T.H.Y. [1991], "Linearized Least-Squares Training of Multilayer Feedforward Neural Networks," *Proc. IEEE IJCNN*, Seattle, WA, Vol. I, pp. 307-312, June.
- [C.36] Doyle, J. and Sacks, E. [1991], "Markov Analysis of Qualitative Dynamics," *Computational Intelligence*, Vol. 7, pp. 1-10.
- [C.37] Dreyfus, S. [1962], "The Numerical Solution of Variational Problems," *Math. Anal.*, Vol. 5, No. 1, pp. 30-35.
- [C.38] Dreyfus, S.E. [1990], "Artificial Neural Networks, Back Propagation and the Kelley-Bryson Gradient Procedure," J. Guidance, Control Dynamics, Vol. 13, No. 5, pp. 926-928.

- [C.39] Dutta, S. and Shekhar, S. [1988], "Bond Rating: A Non-Conservative Application of Neural Networks," *Proc. IEEE Inter. Conf. on Neural Networks*, San Diego, CA.
- [C.40] Edwards, P. and Murray, A. [1995a], "Can Deterministic Penalty Terms Model the Effects of Synaptic Weight Noise on Network Fault Tolerance?", *Inter. J. Neural Systems*, Vol. 6, pp. 401-416.
- [C.41] Edwards, P. and Murray, A. [1995b], "Penalty Terms for Fault Tolerance", *Inter. Conf. Neural Networks*, Houston, TX, pp. 943-947.
- [C.42] Edwards, P. and Murray, A. [1996], Analogue Imprecision in MLO Training, (Eds.) P. Edwards and A. Murray, World Scientific, Singapore.
- [C.43] Engelbrecht, A.P. [2001], "A New Pruning Heuristic Based On Variance Analysis of Sensitivity Information", *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1386-1399, Nov.
- [C.44] Engelbrecht, A.P. and Cloete, I. [1996a], "A Sensitivity Analysis Algorithm for Pruning Feedforward Neural Networks", *Proc. IEEE Inter. Conf. Neural Networks*, Washington DC, Vol. 2, pp. 1274-1277.
- [C.45] Engelbrecht, A.P. Fletcher, L. and Cloete, I. [1996], "Variance Analysis of Sensitivity Information for Pruning Feedforward Neural Networks", *Proc. IEEE Inter. Conf. Neural Networks*, Washington DC, pp. 1829-1833.
- [C.46] Etemad, K. and Chellappa, R. [1988], "Separability-Based Multiscale Basis Selection and Feature Extraction for Signal and Image Classification", *IEEE Trans. Image Processing*, Vol. 7, Oct.
- [C.47] Feldman, J.A., Fanty, M.A. and Goddard, N., [1988], "Computing with Structured Neural Networks," *IEE Computer*, pp. 91-103, Mar.

- [C.48] Fletcher, L., Katkovnik, V., Steffens, F.E. and Engelbrecht, A.P. [1998],
 "Optimizing the Number of Hidden Nodes of a Feedforward Artificial Neural Network," *Proc. IEEE World Congr. Comput. Intell., Inter. Joint Conf. Neural Networks*, Anchorage, AK, pp. 1608-1612.
- [C.49] Fogelman-Soulie, F., Gallinari, P., le Cun, Y., and Thiria, S.
 [1987], "Automata Networks and Artificial Intelligence," *Automata Networks in Computer Science: Theory and Applications*, Princeton University Press, pp. 133-186.
- [C.50] Franco, L. and Cannas, S.A. [2001], "Generalization Properties of Modular Networks: Implementing the Parity Function", *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1306-1313, Nov.
- [C.51] Freidman, J. [1991], "Multivariate Adaptive Regression Splines", Ann. Statist., Vol. 19, pp. 1-141.
- [C.52] Fritzke, B. [1991], "Let It Grow Self-Organizing Feature Maps with Problem Dependent Cell Structure", Artificial Neural Networks, (Eds.) T. Kohonen, K. Makisara, O. Simula and J. Kangas, Amsterdam, The Netherlands, Elsevier, pp.403-408.
- [C.53] Fu, L.M. [1994a], "Learning in Certainty Factor Based Multilayer Neural Networks for Classification," *IEEE Trans. Neural Networks*, Vol. 9, No. 1, pp. 151-158.
- [C.54] Fu, L. [1996], "Incremental Knowledge Acquisition in Supervised Learning Networks," *IEEE Trans. Syst., Man, Cybern.*, A, Vol. 26, pp. 801-809., Nov.
- [C.55] Fu, L.M. and Chen, T. [1993], "Sensitivity Analysis for Input Vector in Multilayer Feedforward Neural Networks," *Proc. IEEE Inter. Conf. Neural Networks*, Vol. 1, San Francisco, CA, pp. 215-218.
- [C.56] Fu, L.M. and Shortliffe, E.H. [2000], "The Application of Certainty Factors to Neural Computing for Rule Discovery," *IEEE*

Trans. Neural Networks, Vol. 11, No. 3, May, pp. 647-657.Fujita, M., [1982], "Adaptive Filter Model of the Cerebellum," *Biological Cybernetics*, Vol. 45, pp. 195-206.

- [C.57] Fu, L., Hsu, H.H. and Principe, J.C. [1996], "Incremental Backpropagation Learning Networks," *IEEE Trans. Neural Networks*, Vol. 7, pp. 757-761, May.
- [C.58] Galicki, M., Leistritz, L. and Witte, H. [1999], "Dynamical Multilayer Neural Networks That Learn Continuous Trajectories," *Pattern Recognition and Image Analysis (Special Issue)*, Vol. 9, No. 4, pp. 604-608.
- [C.59] Geman, S., Bienenstock, E. and Doursat, R. [1992], "Neural Networks and the Bias/Variance Dilemma," *Neural Computations*, Vol. 4, pp. 1-58.
- [C.60] Ghosh, A., Pal, N.R. and Pal, S.K. [1993], "Self-Organization for Object Extraction Using Multilayer Neural Network and Fuzziness Measures," *IEEE Trans. Fuzzy Systems*, Vol. 1, pp. 54-68.
- [C.61] Girolami, M. [2001], "The Topographic Organization and Visualization of Binary Data Using Multivariate-Bernoulli Latent Variable Models", *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1367-1374, Nov.
- [C.62] Girolami, M., Cichocki, A. and Amari, S.I., [1998], "A Common Neural-Network Model for Exploratory Data Analysis and Independent Component Analysis," *IEEE Trans. Neural Networks*, Vol. 9, pp. 1495-1501.
- [C.63] Goles, E. [1982], "Fixed Point Behaviour of Threshold Functions on a Finite Set," *Discrete Appl. Math.*, Vol. 3, No. 4, pp. 529-531.
- [C.64] Goles, E. [1986], "Antisymmetric Neural Networks," Discrete Appl. Math., Vol. 13, pp. 97- 100.

- [C.65] Goles, E., Fogelman, F. and Pellegrin, D. [1985], "Decreasing Energy Functions as a Tool for Studying Threshold Networks," *Discrete Appl. Math.*, Vol. 12, pp. 261-277.
- [C.66] Goodhill, G.J. and Seinowski, T.J. [1996a], "A Unifying Objective Function for Topographic Mappings," *Neural Computation*, pp. 61-82.
- [C.67] Goodhill, G.J. and Seinowski, T.J. [1996b], "Quantifying Neighborhood Preservation in Topographic Mappings," Proc. 3rd Joint Symp. Neural Computation, pp. 61-82.
- [C.68] Graf, J. [1992], "Long-Term Stock Market Forecasting Using Neural Networks," *Neural Network World*, Vol. 2, No. 6, pp. 615-620.
- [C.69] Grossberg, S., [1988a], "Nonlinear Neural Networks: Principles, Mechanisms and Architectures, *Neural Networks*, Vol. 1, No. 1, pp. 17-61.
- [C.70] Gupta, M.M. and Knopf, G.K. [1991b], "Multi-Task Neuro-Vision Processor with Extensive Feedback and Feedforward Connections", *SPIE Conf. on Visual Communication and Image Processing*, Nov. 11-13, 1991, Boston, Paper #1606-069, pp. 482-495.
- [C.71] Gupta, M.M., Knopf, G.K. and Yu, C. [1992a], "Neural Population with Multi-Modal Threshold Distributions that Learn by Selection," SPIE Conf. on Intelligent Robots and Computer Vision XI, Biological, Neural Net and 3-D Models, Boston, Nov. 15-20, Paper #1826-22, pp. 196-208.
- [C.72] Hammerstrom, D. [1993], "Working with Neural Networks," IEEE Spectrum, Vol. 30, No. 6, pp. 26-32, June.
- [C.73] Harston, C.T. [1990], "The Neurological Basis for Neural Computation," *Handbook of Neural Computing Applications*, (Eds.) Maren A.J., Harston C.T. and Pap R.M., Academic Press, Inc. pp. 29-44.

- [C.74] Hartman, E.J., Keeler, J.D. and Kowalski, I.M., [1990], "Layered Neural Networks with Gaussian Hidden Units as Universal Approximators," *Neural Computation*, Vol. 2, No.2, pp. 210-215.
- [C.75] Heskes, T. [2001], "Self-Organizing Maps, Vector Quantization and Mixture Modeling", *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1299-1305, Nov.
- [C.76] Hinton, G.E., Dayan, P., Frey, B.J. and Neal, R.M. [1995], "The Wake-Sleep Algorithm for Unsupervised Neural Networks," *Science*, Vol. 268, pp. 1158-1161.
- [C.77] Hoffmann, G.W. and Benson, M.W. [1986], "Neurons with Hysteresis From a Network that Can Learn Without Any Changes in Synaptic Connection Strengths," *Amer. Inst. Phys.* pp. 229-225.
- [C.78] Hoffmann, G.W. and Davenport, M.R. [1990], "A Network that Uses the Other Product Rule, Hidden Neurons, and Peaks in the Energy Landscape", *Proc. 1990 IEEE Inter. Symp. on Circuits and Systems*, New Orleans, LA, New York, IEEE, pp. 196-199, May.
- [C.79] Hofmann, T. [1999a], "Probabilistic Latent Semantic Analysis", Proc. 15th Annu. Conf. Uncertainty Artificial Intell. (UAI-99), pp. 289-296.
- [C.80] Hofmann, T. [1999b], "Probabilistic Topic Maps: Navigating Through Large Text Collections", Proc. 3rd Symp. Intell. Data Anal.
- [C.81] Holmes C.C. and Mallick, B.K. [1998], "Bayesian Radial Basis Functions of Variable Dimension," *Neural Computations*, Vol. 10, No. 5, pp. 1217-1233.
- [C.82] Holtzman, J.M. [1992], "On Using Perturbation Analysis to do Sensitivity Analysis: Derivatives Versus Differences," *IEEE Trans. Automat. Contr*, Vol. 37, pp. 243-247.
- [C.83] Honkela, T., Kaski, S., Lagus, K. and Kohonen, T. [1997],"WEBSOM Self-Organizing Maps of Document Collections,"

Proc. WSOM'97, Workshop Self-Organization Maps, Espoo, Finland, pp. 310-315, June.

- [C.84] Hopfield, J. [1982], "Neural Networks and Physical Systems with Emergent Collective Computational Abilities," *Proc. Nat. Acad. Sci. USA*, Vol. 79, pp. 2554-2558.
- [C.85] Hopfield, J. [1984], "Neurons with Graded Response Have Collective Computational Properties Like Those of Two State Neurons," *Proc. Nat. Acad. Sci. USA*, Vol. 81, pp. 3088-3092.
- [C.86] Hopfield, J. [1990a], "Artificial Neural Networks are Coming," *IEEE Expert* An Interview by W. Myers, pp. 3-6, April.
- [C.87] Hopfield, J. and Tank, D.W. [1985], "Neural Computational of Decisions in Optimization Problems," *Biolog. Cybernetics*, Vol. 52, pp. 141-154.
- [C.88] Hopfield, J. and Tank, D.W. [1986a], "Computing with Neural Circuits: A Model," *Science*, Vol. 233, pp. 625-633.
- [C.89] Horikawa, S., Furuhashi, T. and Uchikawa, Y. [1995], "A New Type of Fuzzy Neural Network Based on a Truth Space Approach for Automatic Acquisition of Fuzzy Rules with Linguistic Hedges," *Inter. J. Approx. Reas.*, Vol. 13, pp. 249-268.
- [C.90] Hripcsak, G. [1988], "Problem-Solving Using Neural Network," San Diego, CA, SAIC Communication.
- [C.91] Hsu, K. Li, H.Y., and Psaltis, D. [1990], "Holographic Implementation of a Fully Connected Neural Network," *Proc. IEEE*, Vol. 78, No. 10, pp. 1637-1645.
- [C.92] Huang, S.C. and Huang, Y.F. [1991], "Bounds on the Number of Hidden Neurons in Multilayer Perceptrons," *IEEE Trans. Neural Networks*, Vol. 2, No. 1, pp. 47-55.
- [C.93] Huang, S.J. and Hung, C.C. [1995], "Genetic Algorithms Enhanced Kohonen's Neural Networks," Proc. IEEE Inter. Conf. Neural Networks, pp. 708-712.

- [C.94] Huang, W.Y. and Lippmann, R.R. [1991], "Neural Net and Traditional Classifiers," *Neural Information Processing Systems*, San Mateo CA: Morgan Kaufman Publishers, pp. 387-396.
- [C.95] Hudson, D.L., Cohen, M.E. and Anderson, M.F. [1991], "Use of Neural Network Techniques in a Medical Expert System," *Inter. J. Intel. Systems*, Vol. 6, pp. 213-233.
- [C.96] Hunt, K.J. and Sbarbaro, D. [1991], "Neural Networks for Nonlinear Internal Model Control," *IEE Proc.-D*, Vol. 138, No. 5, pp. 431-438.
- [C.97] Hunt, K.J., Sbarbaro, D., Zbikowski, R. and Gawthrop, P.J. [1992],
 "Neural Networks for Control Systems-A Survey," *Automatica*, Vol. 28, No. 6, pp. 1083-1117.
- [C.98] Hyvarinen, A. [1999], "Fast and Robust Fixed-Point Algorithms for Independent Component Analysis," *IEEE Trans. Neural Networks*, Vol. 10, pp. 626-634, May.
- [C.99] Hyvarinen, A. [2001], "Blind Source Separation by Nonstationarity of Variance: A Cumulant-Based Approach," *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1471-1474, Nov.
- [C.100] Hyvarinen, A., and Oja, E. [1997] "A Fast Fixed-Point Algorithm for Independent Component Analysis," *Neural Computations*, Vol. 9, No. 7, pp. 1483-1492.
- [C.101] Hyvarinen, A., Karhunen, J. and Oja, E. [2001], Independent Component Analysis, Wiley, New York.
- [C.102] Ienne, P. and Viredaz, M. [1996], "GENES IV: A BIT-Serial Processing Element for a Multi-Model Neural-Network Accelerator," *Neural Networks Theory, Technology and Applications*, (Ed.) P. Simpson, IEEE Press, New York, pp. 797-808.

- [C.103] Ilornik, K., Stinclicombe, M. and White, H. [1989], "Multilayer Feed-Forward Networks are Universal Approximators," Neural Networks, Vol. 2, No. 5, pp. 359-366.
- [C.104] Ito, Y. [1993], "Extension of Approximation Capability of a Three Layered Neural Networks To Derivatives," *Proc. of 1993 ICNN*, Vol. 1, pp. 377-381.
- [C.105] Iyer, M.S. and Wunsch, II, [2001]], "Dynamic Reoptimization of a Fed-Batch Fermentor Using Adaptive Critic Designs," *IEEE Trans.* on Neural Networks, Vol. 12, No. 6, pp. 1433-1444, Nov.
- [C.106] Jaakkola, T.S. and Jordan, M.I. [1997], "Bayesian Logistic Regression: A Variational Approach," Proc. 1997 Conf. Artificial Intel. Statist., pp. 283-294.
- [C.107] Jin, L., Gupta, M.M. and Nikiforuk, P.N. [1995e], "Approximation Capabilities and Feedforward and Recurrent Neural Networks," *Intelligent Control System: Theory and Applications*, (Eds.) M.M. Gupta and N.K. Sinha, Chapter 10, pp. 234-264.
- [C.108] Jin, L., Nikiforuk, P.N. and Gupta, M.M. [1992a], "Adaptive Tracking of SISO Nonlinear Systems Using Multilayered Neural Networks," *American Control Conf.*, Chicago, Paper No. 927, pp. 56-60, June.
- [C.109] Joshi, A., Ramakrishman, N., Houstis, E.N. and Rice, J.R. [1997],
 "On Neurobiological, Neurofuzzy, Machine Learning, and Statistical Pattern Recognition Techniques," *IEEE Trans. Neural Networks*, Vol. 8, Jan.
- [C.110] Josin, G. [1988], "Neural-Space Generalization of a Topological Transformation," *Biological Cybernetics*, Vol. 59, pp. 238-290.
- [C.111] Jutten, C., Guerin, A. and Herault, J. [1990], "Simulation Machine and Integrated Implementation of Neural Networks: A Review of Methods, Problems, and Realizations", *Neural Networks, Proc. of*

EURASIP Workshop, Sesimbra, Portugal, Feb. 15-17, (Eds.) L.B. Almeida and C.J. Wellekens.

- [C.112] Kambhatla, N. and Leen, T.K. [1997], "Dimension Reduction by Local Principal Analysis," *Neural Computat.*, Vol. 9, No. 7, pp. 1493-1516.
- [C.113] Kangas, J.A., Kohonen, T.K. and Laaksonen, J.T. [1990],
 "Variants of Self-Organizing Maps," *IEEE Trans. Neural Networks*, Vol. 1, pp. 93-99, Mar.
- [C.114] Karayiannis, N.B. and Mi, G.W. [1997], "Growing Radial Basis Function Neural Networks: Merging Supervised and Unsupervised Learning with Network Growth Techniques," *IEEE Trans. Neural Networks*, Vol. 6, pp. 1492-1506, Nov.
- [C.115] Kennedy, M.P. and Chua, L.O. [1988], "Neural Networks for Nonlinear Programming," *IEEE Trans. Circuits and Systems*, Vol. CAS-35, No. 5, pp. 554-562.
- [C.116] Kiang, M.Y., Kulkarni, U.R., Goul, M, Philippakis, A., Chi, R.T. and Turban, E. [1997], "Improving the Effectiveness of Self-Organizing Map Networks Using a Circular Kohonen Layer", Proc. 30th Hawaii Inter. Conf. System Sciences, pp. 521-529.
- [C.117] Kirrman, H., [1989], "Neural Computing: The New Gold Rush in Informatics," *IEEE Microworld*, June.
- [C.118] Ko, K., Choi, S. and Hong, D. [1999], "Multistage Interference Cancellation for an MC-CDMA Systems with Carrier Frequency Offset", *Proc. IEEE ICOIN-13*, pp. 4C3.1-4C3.6.
- [C.119] Koch, C. and Poggio, T. [1992], "Multiplying with Synapses and Neurons," *Single Neuron Computation*, (Eds.) T. McKenna, J. Davis, and S.F. Zornetzer, Boston, MA, Academic, pp. 315-345.
- [C.120] Koh, J. Suk, M. and Bhandarkar, S.M. [1995], "A Multilayer Self-Organizing Feature Map for Range Image Segmentation," *Neural Networks*, Vol. 8, No. 1, pp. 67-86.

- [C.121] Kohonen, T., [1982], "A Simple Paradigm for the Self-Organized Formulation of Structured Maps," *Competition and Cooperation in Neural Nets*, (Eds.) S. Amari, M. Arbib, Vol. 45, Berlin, Springer-Verlag.
- [C.122] Kohonen, T., [1987a], "Adaptive, Associative, and Self-Organizing Functions in Neural Computing," Appl. Opt., Vol. 26, No. 23, pp. 4910-4918.
- [C.123] Kohonen, T. [1988], "An Introduction to Neural Computing," *Neural Networks*, Vol. 1, No. 1, pp. 3-16.
- [C.124] Kohonen, T. [1990], "The Self-Organizing Map," Proc. of the IEEE, Vol. 78, No. 9, pp. 1464-1480.
- [C.125] Kohonen, T. [1991], "Self-Organizing Maps: Optimization Approaches," *Artificial Neural Networks*, (Eds.) T. Kohonen, K. Makisara, O. Simula, and J. Kangas, Amsterdam, The Netherlands, Elsevier, pp. 981-990.
- [C.126] Kohonen, T. [1993], "Things You Haven't Heard About The Self-Organizing Map," Proc. ICNN'93, Inter. Conf. Neural Networks, pp. 1147-1156.
- [C.127] Kohonen, T., [1987a], "Adaptive, Associative, and Self-Organizing Functions in Neural Computing," *Appl. Opt.*, Vol. 26, No. 23, pp. 4910-4918.
- [C.128] Kohonen, T. [1998], "Self Organization of Very Large Document Collections: State of the Art," Proc. ICANN98, 8^h Inter. Conf. Artificial Neural Networks, (Eds.) L. Niklasson, M. Boden and T. Ziemke, Vol. 1, pp. 65-74.
- [C.129] Kohonen, T. [1999], "Comparison of SOM Point Densities Based on Different Criteria," *Neural Computations*, Vol. 11, No. 8, pp. 2171-2185.

- [C.130] Kohonen, T., Oja, E., Simula, O., Visa, A. and Kangas, J. [1996],
 "Engineering Application of the Sellf-Organizing Map," *Proc. IEEE*, Vol. 84, pp. 1358-1383.
- [C.131] Koikkalainen, P. [1995], "Fast Deterministic Self-Organizing Maps", Proc. ICANN'95 Inter. Conf. Artificial Neural Networks, (Eds.) F. Fogelmann-Soulie and P. Gallinari, Nanterre, France, Vol. II, pp. 63-68.
- [C.132] Konig, P. and Schillen, T.B., [1994] "Binding by Temporal Structure in Multiple Feature Domains of an Oscillatory Neuronal Network," *Biological Cybernetics*, Vol. 70, pp. 397-405.
- [C.133] Kraaijveld, M.A., Mao, H. and Jain, A.K. [1995], "A Nonlinear Projection Method Based on Kohonen's Topology Preserving Maps," *IEEE Trans. Neural Networks*, Vol. 6, pp. 548-559, May.
- [C.134] Kung, S.Y. and Taur, J.S. [1995], "Decision-Based Neural Networks with Signal/Image Classification Applications," *IEEE Trans. Neural Networks*, Vol. 6, pp. 170-181.
- [C.135] Kulkarni, A.D., [1991], "Solving Ill-Posed Problems with Artificial Neural Networks," *Neural Networks*, Vol. 4, pp. 477-484.
- [C.136] Kwok, T.-Y. and Yeung, D.-Y, [1995], "Constructive Feedforward Neural Networks for Regression Problems: A Survey," *Tech Rep. HKUST-CS95-43*, Dept. Comput. Sci., Hong Kong University Science and Technology.
- [C.137] Lawrence, R.D., Almasi, G.S. and Rushmeier, H.E., [1999], "A Scalable Parallel Algorithm for Self-Organizing Maps with Applications to Sparse Data Problems," *Data Mining Knowl. Discovery*, Vol. 3, No. 2, pp. 171-195, June.
- [C.138] Lee, R.S.T., Liu, J.N.K. [2000], "Tropical Cyclone Identification and Tracking System Using Integrated Neural Oscillatory Elastic Graph Matching and Hybrid RBF Network Track Mining

Techniques", *IEEE Trans. on Neural Networks*, Vol. 11, No. 3, pp. 680-689, May.

- [C.139] Lee, S.C. and Kil, R.M. [1991], "A Gaussian Potential Function Network with Hierarchically Self-Organizing Learning," *Neural Networks*, Vol. 4, pp. 207-224.
- [C.140] Leung, C.S., Wong, K.W. and Tsoi, A.C. [1997], "Recursive Algorithms for Principal Component Extraction," *Network*: *Comput. Neural Systems*, Vol. 8, pp. 323-334.
- [C.141] Li, J.H., Michel, A.N. and Porod, W. [1988], "Qualitative Analysis and Synthesis of a Class of Neural Networks," *IEEE Trans. Circuit Systems*, Vol. 35, pp. 976-986.
- [C.142] Li, J.H., Michel, A.N. and Porod, W. [1989], "Analysis and Synthesis of a Class of Neural Networks: Linear Systems Operating on a Closed Hypercube," *IEEE Trans. Circuits and Systems*, Vol. CAS-36, pp. 1405-1422.
- [C.143] Lippmann, R.P. [1987], "An Introduction to Computing with Neural Networks," *IEEE Acoustics, Speech and Signal Processing Magazine*, Vol. 4, No. 2, pp. 4-22, April.
- [C.144] Lu, T. Wu, S., Xu, X. and Yu, F.T.S. [1989], "Two-Dimensional Programmable Optical Neural Network", *Appl. Opt.*, Vol. 28, No. 22, pp. 4908-4913.
- [C.145] Luttrell, S.P. [1994], "A Bayesian Analysis of Self-Organizing Maps", Neural Computat., Vol. 6, pp. 1243-1249.
- [C.146] Maa, C.Y. and Shanblatt, M.A. [1989], "Improved Linear Programming Neural Networks," Proc. 31st Midwest Symp. on Circuits and Systems, New York, IEEE, pp. 748-751, Aug.
- [C.147] Maa, C.Y., Chin, C. and Shanblatt, M.A. [1990], "A Constrained Optimization Neural Net Techniques for Economic Power Dispatch," *Proc. 1990 IEEE Intr. Symp. on Circuits and Systems*, New Orleans, LA, New York, IEEE, pp. 2945-2948, May.

- [C.148] Mann, J. [1990], "The Effects of Circuit Integration on a Feature Map Vector Quantizer", Advances in Neural Information Processing Systems, (Ed.) D. Touretzky, Vol. 2, San Mateo, CA, Morgan Kaufmann Publishers.
- [C.149] Mark, O.J.L. [1995], "Regularization in the Selection of Radial Basis Function Centers", *Neural Computations*, Vol. 7, pp. 606-623.
- [C.150] Martinez, T. and Schulten, K. [1991], "A 'Neural-Gas' Network Learns Topologies," *Artificial Neural Networks*, (Eds.) T. Kohonen, K. Makisara, O. Simula, and J. Kangas, Amsterdam, The Netherlands, Elsevier, pp. 397-402.
- [C.151] McInerney, M. and Dhawan, A. [1994], "Training the Self-Organizing Feature Map Using Hybrids of Genetic and Kohonen Methods," *Proc. IEEE Inter. Conf. Neural Networks*, pp. 641-644.
- [C.152] Melsa, P.J., Kenney, J.B., and Rohrs, C.E. [1990], "A Neural Network Solution for Routing in Three Stage Interconnection Network," *Proc. 1990 IEEE Inter. Symp. on Circuits and Systems*, Portland, OR, New York, IEEE, pp. 2181-2184, May.
- [C.153] Michel, A.N. and Farrell, J.A. [1989], "Qualitative Analysis of Neural Networks," *IEEE Trans. Circuits and Systems*, Vol. 36, pp. 229-243.
- [C.154] Mirchandini, G. and Cao, W. [1989]. "On Hidden Nodes in Neural Nets", *IEEE Trans. Circuits and Systems*, Vol. 36, No. 5, pp. 661-664.
- [C.155] Mitra, U. and Poor, H.V. [1994], "Neural Network Techniques for Adaptive Multiuser Demodulation," *IEEE Trans. Commun.*, Vol. 32, No. 3, pp. 188-190.
- [C.156] Moody, J.E., and Wu, L. [1992], "Optimization of Trading Systems and Portfolios," Proc. Neural Networks Capital Market Conf. Pasadena, CA, Nov.

- [C.157] Moody, T.J. and Darken, C.J. [1989], "Fast Learning in Networks of Locally Tuned Processing Units," *Neural Computation*, Vol. 1, pp. 151-160.
- [C.158] Murata, N., Yoshizawa, S. and Amari, S. [1994b], "Network Information - Criterion - Determining the Number of Hidden Units for an Artificial Neural Network Model", *IEEE Trans. Neural Networks*, Vol. 5, pp. 865-872.
- [C.159] Nagy, G. [1991], "Neural Networks-Then and Now," IEEE Trans. Neural Networks, Vol. 2, No. 2, pp. 316-318, Mar.
- [C.160] Niebur, E. and Koch, C. [1998], "Computational Architectures for Attention", *The Attentive Brain*, (Ed.) R. Parasuraman, MIT Press, Cambridge, MA, pp. 163-186.
- [C.161] Obaidat, M.S. and Macchiarolo, D.T. [1993], "An On-Line Neural-Network System for Computer Access Security," *IEEE Trans. Ind. Electron.*, Vol. 40, pp. 235-242.
- [C.162] Obaidat, M.S. and Macchiarolo, D.T. [1994], "A Multilayer Neural-Network System for Computer Access Security," *IEEE Trans. Systems, Man, Cybernetics*, Vol. 24, pp. 806-813, May.
- [C.163] Oh, S.-H. and Lee, Y. [1995], "Sensitivity Analysis of a Single Hidden-Layer Neural Networks with Threshold Function," *IEEE Trans. Neural Networks*, Vol. 6, pp. 1005-1007, July.
- [C.164] Optiz, D.W. and Shavlik, J.W. [1997a], "Connectionist Theory Refinement: Genetically Searching The Space of Network Topologies," J. Artif. Intel. Res., Vol. 6, pp. 177-209.
- [C.165] Pal, S., Datta, A. and Pal, N.R. [2001], "A Multilayer Self-Organizing Model for Convex-Hull", *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1341-1347, Nov.
- [C.166] Pal, S.K. and Mitra, S. [1992], "Multilayer Perceptron, Fuzzy Sets and Classification," *IEEE Trans. Neural Networks*, Vol. 3, No. 5, pp. 683-697, Sept.

- [C.167] Papadpopoulos, G., Edwards, P.J. and Murray, A.F. [2001],
 "Confidence Estimation Methods for Neural Networks: A Practical Comparison", *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1278-1287, Nov.
- [C.168] Parberry, I. [1996], "Circuit Complexity and Feedforward Neural Networks," *Mathematical Perspectives on Neural Networks*, (Eds.)
 P. Smolensky, M. Mozer, and D. Rumelhart, Lawrence Erlbaum, Hillsdale, NJ, pp. 85-111.
- [C.169] Paulos, J.J. and Hollis, P.W. [1988], "Neural Networks Using Analog Multipliers", Proc. 1988 IEEE Inter. Symp. on Circuits and Systems, Helsinki, Finland, pp. 494-502.
- [C.170] Perlovsky, L.I. and McManus, M.M. [1991], "Maximum Likelihood Neural Networks for Sensor Fusion and Adaptive Classification," *Neural Networks*, Vol. 4, pp. 89-102.
- [C.171] Psaltis, D., Sideris, A. and Yamamura, A.A. [1988], "A Multilayered Neural Network Controller," *IEEE Control Systems Magazine*, Vol. 8, pp. 17-21, April.
- [C.172] Puskorius, G.V. and Feldkamp, L.A. [1991], "Decoupled Extended Kalman Filter Training of Feed-Forward Layered Networks," *Proc.* of 1991 IJCNN, Seattle, Vol. I, pp. 771-777.
- [C.173] Quinlan, P.T. [1998], "Structural Change and Development in Real and Artificial Neural Networks," *Neural Networks*, Vol. 11, pp. 577-599.
- [C.174] Ramacher, U., Wesseling, M., [1989]. "A Geometrical Approach to Neural Network Design," *Proc. of the Joint Neural Conf.*, Washington, D.C., pp. II, 147-152.
- [C.175] Rao, D.H. Nikiforuk, P.N. and Gupta, M.M. [1993], "A Central Pattern Generator Model Using Dynamic Neural Processor," *World Congress on Neural Networks*, Portland, Vol. IV, pp. 533-536, July.

- [C.176] Rao, D.H. and Gupta, M.M. [1993], "A Neural Processor for Coordinating Multiple Systems with Dynamic Uncertainties," *Proc. Inter. Symp. Uncertainty and Management (ISUMA)*, Maryland, pp. 633-640, April.
- [C.177] Reed, R.D. and Geiger, R.L. [1989] "A Multiple-Input OTA Circuit for Neural Networks", *IEEE Trans. Circuits and Systems*, Vol. 36, No. 5, pp. 767-770.
- [C.178] Rhee, F.C.H. and Krishnapuram, R. [1993], "Fuzzy Rule Generation Methods for High-Level Computer Vision," *Fuzzy Sets* and Systems, Vol. 60, pp. 245-258.
- [C.179] Rhinehart, R.R. and Riggs, [1991], "Two Simple Methods for On-Line Incremental Model Parameterization," *Computations Chem. Eng.*, Vol. 15, No. 3, pp. 181-189.
- [C.180] Ridella, S. and Zunnio, R. [2001], "Empirical Measure of Multiclass Generalization Performance: The K-Winner Machine Class," *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1525-1528, Nov.
- [C.181] Ritter, H. and Kohonen, T. [1989], "Self-Organizing Semantic Maps," *Biolog. Cybernetics*, Vol. 61, pp. 241-254.
- [C.182] Roussinov, D. and Chen, H. [1998], "A Scalable Self-Organizing Map Algorithm for Textual Classification: A Neural Network Approach to Thesaurus Generation", CC-AI-Commun., Cogn. Artif. Intell., Vol. 15, pp. 81-111.
- [C.183] Schittenkopf, C., Deco, G. and Brauer, W. [1997], "Two Strategies to Avoid Over-Fitting in Feedforward Neural Networks", *Neural Networks*, Vol. 10, No. 30, pp. 505-516.
- [C.184] Sequin, C. and Clay, R. [1990], "Fault Tolerance in Artificial Neural Networks," *Proc. Inter. Joint. Conf. Neural Networks*, San Diego, CA, pp. 703-708.

- [C.185] Setiono, R. and Liu, H. [1996], "Symbolic Representation of Neural Networks," *Computer*, Vol. 29, No. 3, pp. 71-77.
- [C.186] Setiono, R. and Liu, H. [1997b], "NeuroLinear: From Neural Networks to Oblique Decision Rules," *Neurocomputation*, Vol. 17, pp. 1-24.
- [C.187] Shah, S. and Palmieri, F. [1990], "MEKA-A Fast, Local Algorithm for Training Feed-Forward Neural Networks," *Proc. IEEE IJCNN*, San Diego, CA, Vol. 3, pp. 41-46, June.
- [C.188] Shriver, B.D. [1988], "Artificial Neural Systems," *IEEE Computer*, pp. 8-9, Mar.
- [C.189] Sietsma, J. and Dow, R.J.F. [1991], "Creating Artificial Neural Networks That Generalize," *Neural Networks*, Vol. 4, pp. 67-79.
- [C.190] Simmon, D. [2001], "Distributed Fault Tolerance in Optimal Interpolative Nets", *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, Nov., pp. 1348-1357.
- [C.191] Sinha, M., Gupta, M.M. and Nikiforuk, P.N., [2001], "A Compensatory Wavelet Neuron Model," *Joint 9th IFSA World Congress and 20th NAFIPS Inter. Conf.*, Vancouver, B.C. Canada, July 25-28, Paper No. 243, pp. 1372-1376.
- [C.192] Siu K.Y. and Bruck, I. [1990], "Neural Computation of Arithmetic Functions," *Proc. IEEE*, Vol. 78, No. 10, Oct.
- [C.193] Softky, R. W., and Kammen, D. M. [1991], "Correlations in High Dimensional or Asymmetrical Data Sets: Hebbian Neuronal Processing." *Neural Networks*, Vol. 4, No. 3, pp. 337-347.
- [C.194] Somer, D. and Kopell, N. [1993], "Rapid Synchronization Through Fast Threshold Modulation," *Biological Cybernetics*, Vol. 68, pp. 393-407.
- [C.195] Song, H., Kang, S.M. and Lee, S.W. [1996], "A New Recurrent Neural Network Architecture for Pattern Recognition," *Proc. ICPR'96, 1996 IEEE*, pp. 718-722.

- [C.196] Sontag, E,D., [1989], "Sigmoids Distinguish More Efficiently than Heavisides," *Neural Computation*, Vol. 1, pp. 470-472.
- [C.197] Specht, D.F. [1990], "Probabilistic Neural Networks," Neural Networks, Vol. 3, pp. 109-118.
- [C.198] Specht, D.E. [1991], "A General Regression Neural Network," IEEE Trans. Neural Networks, Vol. 2, pp. 568-576, Nov.
- [C.199] Stevenson, M., Winter, R. and Widrow, B. [1990], "Sensitivity of Feedforward Neural Networks to Weight Errors," *IEEE Trans. Neural Networks*, Vol. 1, pp. 71-80., Mar.
- [C.200] Su, M.C. and Chan, H. [1998], "Extracting Rules from Composite Neural Networks for Medical Diagnostic Problems," *Neural Process. Lett.*, Vol. 8, pp. 253-263.
- [C.201] Su, M.C. and Chang, H.T. [1995], "Genetic-Algorithm-Based Approach to Self-Organizing Feature Map and its Application in Cluster Analysis," *Proc. IEEE Inter. Joint Conf. Neural Networks*, pp. 2116-2121.
- [C.202] Su, M.C., and Chang, H.-T. [2000], "Fast Self-Organizing Map Algorithm," *IEEE Trans. on Neural Networks*, Vol. 11, No. 3, pp. 721-733, May.
- [C.203] Sussmann, H.J. [1992], "Uniqueness of the Weights for Minimal Feedforward Nets with a Given Input-Output Map," *Neural Networks*, Vol. 5, pp. 589-593.
- [C.204] Suykens, J. Vanderwalle, J. and DeMoor, B. [1999], "Lur'e Systems with Multilayer Perceptron and Recurrent Neural Networks: Absolute Stability and Dissipativity," *IEEE Trans. Automat. Contr.*, Vol. 44, pp. 770-774.
- [C.205] Szu, H. [1990], "Reconfigurable Neural Nets by Energy Convergence Learning Principles Based on Extended McCulloch-Pitts Neurons and Synapses," *Proc. IEEE Inter. Neural Networks Conf.*, pp. I-485-I-496.

- [C.206] Taha, I.A. and Ghosh, J. [1999], "Symbolic Interpretation of Artificial Neural Networks," *IEEE Trans. Knowl. Data Eng.*, Vol. 11, pp. 448-463.
- [C.207] Tamura, S., Tateishi, M., Matumoto, M. and Akita, S. [1993],
 "Determination of the Number of Redundant Hidden Units in a Three-Layer Feedforward Neural Network," *Proc. 1993 Inter. Joint Conf. Neural Networks*, Vol. 1, pp. 335-338.
- [C.208] Tank, D.W. and Hopfield, J. [1986], "Collective Computation in Neuron-Like Circuits," *Scientific American*, Vol. 257, No. 6, pp. 104-114.
- [C.209] Tipping, M.E. [2000], "The Relevance Vector Machine," Advances in Neural Information Processing Systems 12, (Eds.) S.A. Solla, T.K. Leen and K.-R. Muller, Cambridge, MA, MIT Press.
- [C.210] Tseng, Y.-H. and Wu, J.-L. [1995], "On a Constant-Time, Low-Complexity Winner-Take-All Neural Network," *IEEE Trans. Computations*, Vol. 44, pp. 601-604.
- [C.211] Tsoi, A. and Black, A. [1994], "Locally Recurrent Globally Feedforward Networks - A Critical Review of Architectures", *IEEE Trans. Neural Networks.*, Vol. 5, pp. 229-239, Mar.
- [C.212] Vesanto, J. and Alhoniemi, E. [2000], "Clustering of the Self-Organizing Map", *IEEE Trans. on Neural Networks*, Vol. 11, No. 3, pp. 586-600, May.
- [C.213] Villalobos, L. and Gruber, S., [1990], "Interpolation Characteristics and Noise Sensitivity of Neural Network Based Inspection of Machined Surfaces", Proc. 1990 IEEE Inter. Conf. on Robotics and Automation.
- [C.214] Wagner, K. and Psaltis, D. [1987], "Multilayered Optical Learning Networks", *Appl. Opt.*, Vol. 26, No. 23, pp. 5061-5075.

- [C.215] Wang, L.X. and Mendel, J.M., [1990], "Structured Trainable Networks for Matrix Algebra," *Proc. IEEE 1990 Joint Conf. on Neural Networks*, San Diego, CA, pp. 125-132.
- [C.216] Wang, M. and Zhang, C.N. [1996], "Single Neuron Local Rational Arithmetic Revealed in Phase Space of Input Conductances", *Biophys. J.*, Vol. 71, pp. 2380-2393.
- [C.217] Watanabe, S. and Fukumizu, K. [1995], "Probabilistic Design of Layered Neural Networks Based on their Unified Framework," *IEEE Trans. Neural Networks*, Vol. 6, pp. 691-702.
- [C.218] Widrow, B. [1962], "Generalization and Information Storage in Networks of Adaline Neurons," *Self-Organizing Systems*, (Eds.)
 M.C. Jovitz, G.T. Jacobi, and G. Goldstein, Washington, DC, Spartan Books, pp. 435-461.
- [C.219] Widrow, B. and Hoff, M.E., Jr. [1960], "Adaptive Switching Circuits," *IRE WESCON Convention Record*, New York, IRS. Vol. 4, pp. 96-104.
- [C.220] Widrow, B and Lehr, L.A. [1990], "30 Years of Adaptive Neural Networks: Perceptron, Madaline, and Backpropagation," *Proc. IEEE*, Vol. 78, No. 9, pp. 1415-1442.
- [C.221] Widrow, B. and Winter, R.G. [1988], "Neural Nets for Adaptive Filtering and Adaptive Pattern Recognition," *IEEE Computer*, pp. 25-39, Mar.
- [C.222] Williams, C.K.I. and Rasmussen, R. [1996], "Gaussian Processes for Regression," Advances in Neural Information Processing Systems VIII, (Eds.) D.S. Touretzky, M.C. Mozer, and M.E. Hasselmo, Cambridge MA, MIT Press, pp. 514-520.
- [C.223] Wong, K.W. and Leung, C.S. [1998], "On-Line Successive Synthesis of Wavelet Networks," *Neural Processing Lett.*, Vol. 7, pp. 91-100.

- [C.224] Yamakawa, T. and Samatsu, T. [1994], "Wavelet Neural Networks Realizing High-Speed Learning," *Proc. Inter. Conf. Neural Inform. Processing*, Seoul, Korea, pp. 1571-1576.
- [C.225] Yan, L. and Miller, D.J. [2000], "General Statistical Inference for Discrete and Mixed Spaces by an Approximate Application of the Maximum Entropy Principle", *IEEE Trans. on Neural Networks*, Vol. 11, No. 3, pp. 558-573, May.
- [C.226] Yang, L., Hu, D., Luo, Y. and Zhang, X. [1997], "Robustness Analysis of Feedforward Neural Networks Composed of Threshold Neurons," *Proc. IEEE Inter. Conf. Intel. Processing Systems*, Vol. 1, pp. 502-506, Oct.
- [C.227] Yidliz, O.T. [2001], "Omnivariate Decision Trees," *IEEE Trans.* on Neural Networks, Vol. 12, No. 6, pp. 1539-1546, Nov.
- [C.228] Zadeh, L.A. [1994], "Fuzzy Logic, Neural Networks, and Soft Computing," *Commun. ACM*, Vol. 37, pp. 77-84.
- [C.229] Zhang, C.N, Zhao, M. and Wang, M. [2000], "Logic Operations Based on Single Neuron Rational Model," *IEEE Trans. on Neural Networks*, Vol. 11, No. 3, pp. 739-747, May.
- [C.230] Zhang, Q. and Benveniste, A. [1992], "Wavelet Networks," *IEEE Trans. Neural Networks*, Vol. 3, No. 6, pp. 889-898, Nov.
- [C.231] Zhang, Y.Q. and Kandel, A. [1998], "Compensatory Neuro-Fuzzy Systems with Fast Learning Algorithms," *IEEE Trans. Neural Networks*, Vol. 9, pp. 83-105, Jan.
- [C.232] Zurada, J.M., Kang, M.J. and Aronhime, P.B. [1990], "Vector Field Analysis of Single Layer Feedback Neural Network," Proc. Midwest Symp. on Circuits and Systems, Calgary, Canada, IEEE, New York, pp. 22-24, Aug.
- [C.233] Zurada, J.M., Malinowski, A. and Cloete, I. [1994], "Sensitivity Analysis for Minimization of Input Data Dimension for

Feedforward Neural Network," *Proc. IEEE Inter. Symp. Circuits Systems*, London, U.K., May 30-June 3.

- [C.234] Zurada, J.M., Malinowski, A. and Usui, S. [1997], "Perturbation Method for Deleting Redundant Inputs of Perceptron Networks," *Neurocomputations*, Vol. 14, pp. 177-193.
- [C.235] Zurada, J.M., Zigoris, D.M., Aronhime, P.B. and Desai, D. [1991],
 "Multi-Layer Feedforward Networks for Printed Character Classification", Proc. 34th Midwest Symp. on Circuits and Systems, Monterey, CA, May 14-16.

[D] Learning, Adaptation, Training and Optimization in Neural Networks

- [D.1] Alahakoon, L.D. and Halgamuge, S.K. [1998], "Knowledge Discovery with Supervised and Unsupervised Self Evolving Neural Networks," *Proc. Inter. Conf. Information-Intelligent Systems*, pp. 907-910.
- [D.2] Almeida, L.B. [1987], "A Learning Rule for Asynchronous Perceptrons with Feedback in a Combinatorial Environment," *Proc.* of the 1st IEEE Inter. Conf. on Neural Networks (ICNN), Vol. 1, pp. 609-618.
- [D.3] Almeida, L.B. [1987], "Backpropagation in Perceptrons with Feedback," *Neural Computers*, (Eds.) R. Eckmiller and Ch. v.d. Malsburg, Springer-Verlag, Berlin.
- [D.4] Alspector, J., Allen, R.B., Hu, V., Satyanarayana, [1988]
 "Stochastic Learning Networks and Their Electronic Implementation," *Neural Information Processing Systems*, (Ed.)
 D.Z. Anderson, New York, American Institute of Physics, pp. 9-21.
- [D.5] Alspector, J., Gupta, B. and Allen, R.B. [1989], "Performance of a Stochastic Learning Microship," *Advances in Neural Information Processing Systems*, Morgan Kaufmann Publishers San Mateo, CA.
- [D.6] Amari, S. [1972b], "Learning Patterns and Pattern Sequences by Self-Organizing Nets of Threshold Elements," *IEEE Trans. on Computers*, Vol. C-21, pp. 1197-1206.
- [D.7] Annaswamy, A.M. and Yu, S.-H. [1996], "?-Adaptive Neural Networks: A New Approach to Parameter Estimation," *IEEE Trans. Neural Networks*, Vol. 7, July.Anninos, P.A. Beek, B., Csermel, T.J., Harth, E.E. and Pertile, G. [1970], "Dynamics of Neural Structures," *J. of Theoretical Biological*, Vol. 26, pp. 121-148.
- [D.8] Artega-Bravo, F.J. [1990], "Multi-Layer Back-Propagation Network for Learning the Forward and Inverse Kinematics
Equations", Proc. Joint 1990 IEEE Inter. Neural Network Conf., pp. II-319-321.

- [D.9] Asari, V.K., [2001], "Training of a Feedforward Multiple-Valued Neural Network by Error Backpropagation with a Multilevel Threshold Function", *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp.1519-1520, Nov.
- [D.10] Atiya, A. and Parlos, A. [2000], "New Results on Recurrent Network Training: Unifying the Algorithms and Accelerating Convergence," *IEEE Trans. Neural Networks*, Vol. 11, No. 3, pp. 697-709.
- [D.11] Baldi, P. [1995], "Gradient Descent Learning Algorithm Overview: A General Dynamical System Perspective," *IEEE Trans. Neural Networks*, Vol. 6, pp. 182-195, Jan.
- [D.12] Barhen, J. Gulati, S. and Zak, M. [1989], "Neural Learning of Constrained Nonlinear Transformations," *IEEE Computer*, pp. 67-76, June.
- [D.13] Barmann, F. and Biegler-Konig, F. [1992], "On a Class of Efficient Learning Algorithms for Neural Networks," *Neural Networks*, Vol. 5, pp. 139-144.
- [D.14] Barto, A.G., [1990a], "Connectionist Learning for Control: An Overview," *Neural Networks for Control*, (Eds.) W.T. Miller, R.S. Sutton and P.J. Werbos, Cambridge, MA, MIT Press.
- [D.15] Battiti, R. [1992], "First and Second-Order Methods for Learning: Between Steepest Descent and Newton's Method", *Neural Computation*, Vol. 4, pp.141-166.
- [D.16] Beaufays, F. and Wan, E. [1994], "Relating Real-Time Backpropagation and Backpropagation - Through - Time: An Application of Flow Graph Interreciprocity," *Neural Computations*, Vol. 6, pp. 296-306, April.

- [D.17] Bengio, Y.R, Simard, P. and Frasconi, P. [1994], "Learning Long-Term Dependencies with Gradient Descent is Difficult," *IEEE Trans. Neural Networks*, Vol. 5, pp. 157-166, March.
- [D.18] Berenji., H.R and Khedkar, P.S. [1998], "Using Fuzzy Logic for Performance Evaluation in Reinforcement Learning," *Inter. J. Approx. Reas.*, Vol. 18, pp. 131-144.
- [D.19] Bernasconi, J. [1988], "Analysis and Comparison of Different Learning Algorithms for Pattern Association Problems," *Neural Information Processing Systems*, (Ed.), D. Anderson, New York, American Institute of Physics.
- [D.20] Biegler-Konig, F. and Barmann, F. [1993], "A Learning Algorithm for Multilayered Neural Networks Based on Linear Least Squares Problems," *Neural Networks*, Vol. 6, No. 1, pp. 127-132.
- [D.21] Brand, M. [1999], "Structural Learning in Conditional Probability Models Via An Entropic Prior and Parameter Extinction", *Neural Computat*., Vol. 11, No. 5, pp. 1155-1182.
- [D.22] Burrascano, P. [1991], "A Norm Selection Criterion for the Generalized Delta Rule", *IEEE Trans. on Neural Networks*, Vol. 2, No. 1, pp. 125-130.
- [D.23] Burrascano, P. [1993], "A Pruning Technique Maximizing Generalization," Proc. 1993 Inter. Joint Conf. Neural Networks, Vol. 1, pp. 347-350.
- [D.24] Carpenter, G.A., Grossberg, S, Markuzon, N., Reynolds, J.H. and Rosen, D.B. [1992], "Fuzzy ARTMAP: A Neural Network Architecture for Incremental Supervised Learning of Analog Multidimensional Maps," *IEEE Trans. Neural Networks*, Vol. 3, pp. 698-713.
- [D.25] Castro, J.L., Delgado, M. and Mantas, [2000], "SEPARATE: A Machine Learning Method Based on Semi-Global Partitions,"

IEEE Trans. on Neural Networks, Vol. 11, No. 3, pp. 710-720, May.

- [D.26] Chan, L. [1988], "Training Recurrent Network with Block-Diagonal Approximated Levenberg-Marquardt Algorithm," Proc. IJCNN'99, Washington D.C., July.
- [D.27] Chen, S., Cowan, C.F.N. and Grant P.M. [1991], "Orthogonal Least Squares Learning Algorithm for Radial Basis Function Networks," *IEEE Trans. Neural Networks*, Vol. 2, pp. 302-309, Feb.
- [D.28] Chen, S., Cowan, C.F.N., Billings, S.A. and Grant, P.M. [1990b],
 "Parallel Recursive Prediction Error Algorithm for Training Layered Neural Networks," *Inter. J. Control,* Vol. 51, No. 6, pp. 1215-1228.
- [D.29] Chiang, C. and Fu, H. [1994a], "A Divide-and-Conquer Methodology for Modular Supervised Neural Network Design," *Inter. Joint Conf. Neural Networks*, Orlando, FL, pp. 119-124, June.
- [D.30] Cohen, B., Saad, D. and Marom, E. [1997], "Efficient Training of Recurrent Neural Network with Time Delays," *Neural Networks*, Vol. 10, No. 1, pp. 51-59.
- [D.31] Coiera, E.W. [1992], "Qualitative Superposition," Artificial Intelligence, Vol. 56, pp. 171-196.
- [D.32] Dahl, E.D. [1987], "Accelerated Learning Using Generalized Delta Rule," *Proc. IEEE 1st Inter. Conf. on Neural Networks*, San Diego, CA, Vol. 2, pp. 523-530.
- [D.33] Darken, C., and Moody, J. [1991], "Towards Faster Stochastic Gradient Search," Morgan Kaufmann, San Mateo CA, NIPs 4, pp. 1009-1016.
- [D.34] Darken, C. and Moody, J. [1992], "Note on Learning Rate Schedules for Stochastic Optimization," Advances in Neural Information Processing Systems, (Eds.) R.P. Lippmann, J.E.

Moody and D.S. Touretzky, Morgan Kaufmann, San Mateo, Vol. 3, pp. 832-838.

- [D.35] Darken, C., Chang, J. and Moody, J.E. [1992], "Learning Rate Schedules for Faster Stochastic Gradient Search," Proc. Neural Networks for Signal Processing 2.
- [D.36] Davis, E. [1987], "Constraint Propagation With Interval Labels," *Artificial Intelligence*, Vol. 24, pp. 347-410.
- [D.37] den Broeck, C.V. and Kawai, R. [1990], "Learning in Feedforward Boolean Networks," *Phys. Rev.*, A, Vol. 42, No. 10, pp. 6210-6218.
- [D.38] Denker, J.S. [1986a], "Neural Network Models of Learning and Adaptation," *Physica-22D*, pp. 216-232.
- [D.39] Dickson, J.A., McLeod, R.D. and Card, H.C. [1993b], "Stochastic Arithmetic Implementations of Neural Networks with *in Situ* Learning," *Proc. Inter. Conf. Neural Networks*, San Francisco, CA, pp. 711-716.
- [D.40] Douglas, S.C. and Meng, T.H.Y. [1991], "Linearized Least-Squares Training of Multilayer Feedforward Neural Networks," *Proc. IEEE IJCNN*, Seattle, WA, Vol. I, pp. 307-312, June.
- [D.41] Draye, J.P., Pavisic, D., Cheron, G. and Libert, G. [1997], "An Inhibitory Weight Initialization Improves the Speed and Quality of Recurrent Neural Network Learning," *Neurocomputations*, Vol. 16, pp. 207-224.Dreyfus, S.E. [1990], "Artificial Neural Networks, Back Propagation and the Kelley-Bryson Gradient Procedure," *J. Guidance, Control Dynamics*, Vol. 13, No. 5, pp. 926-928.
- [D.42] Ersu, E. and Tolle, H. [1984], "A New Concept for Learning Control Inspired by Brain Theory," Proc. 9th World Congress IFAC, pp. 245-250.
- [D.43] Ersu, E. and Tolle, H. [1984], "A New Concept for Learning Control Inspired by Brain Theory," Proc. 9th World Congress IFAC, pp. 245-250.

- [D.44] Fahlman, S.E. and Lebiere, C. [1990], "The Cascade-Correlation Learning Architecture", Advances in Neural Information Processing Systems II, (Eds.) D.S. Touretzky, G. Hinton, and T. Sejnowski, San Mateo, CA, Morgan Kaufmann.
- [D.45] Fang, Y. and Sejnowski, T. [1990], "Faster Learning for Dynamic Recurrent Back-Propagation," *Neural Computa.*, Vol. 2, pp. 270-274.
- [D.46] Farhat, N.H. [1989b], "Optoelectronic Neural Networks and Learning Machines," *IEEE Circuits and Devices Magazine*, pp. 670-681, Sept.
- [D.47] Frey, B. [1988], Graphical Models for Machine Learning and Digital Communication, Cambridge, MA, MIT Press.
- [D.48] Fritzke, B. [1994], "Growing Cell Structures A Self-Organizing Network for Unsupervised and Supervised Learning", *Neural Networks*, Vol. 7, No. 9, pp. 1441-1460.
- [D.49] Frye, R.C., Rietman, R.A., Wong, Chin, B.L. [1989], "An Investigation of Adaptive Learning Implemented in an Optically Controlled Neural Network", *Proc. Joint IEEE Inter. Conf. on Neural Networks*, San Diego, CA, pp. 457-463.
- [D.50] Fu, H.C., Lee, Y.P., Chiang, C.C. and Pao, H.T., [2001], "Divideand-Conquer Learning and Modular Perceptron Networks," *IEEE Trans. Neural Networks*, Vol. 12, pp. 250-263, March.
- [D.51] Fu, K.S. [1970], "Learning Control Systems-Review and Outlook," IEEE Trans. on Autom. Contr., Vol. 16, pp. 210-221.
- [D.52] Fu, L.M. [1994b], "Rule Generation from Neural Networks," *IEEE Trans. Systems, Man, Cybern*, Vol. 24, No. 8, pp. 1114-1124.
- [D.53] Fu, L.M. [1996a], "Learning Capacity and Sample Complexity on Expert Networks," *IEEE Trans. Neural Networks*, Vol. 7, pp. 1517-1520.

- [D.54] Fu, L.M. [1996b], "Incremental Knowledge Acquisition in Supervised Learning Networks," *IEEE Trans. Syst., Man, Cybern.*, A, Vol. 26, pp. 801-809., Nov.
- [D.55] Fu, L.M. [1998], "A Neural-Network Model for Learning Domain Rules Based on its Activation Function Characteristics," *IEEE Trans. Neural Networks*, Vol. 9, pp. 787-795.
- [D.56] Fu, L., Hsu, H.H. and Principe, J.C. [1996], "Incremental Backpropagation Learning Networks," *IEEE Trans. Neural Networks*, Vol. 7, pp. 757-761, May.
- [D.57] Fukuoka, Y., Matsuki, H., Minamitani, H. and Ishida, A. [1998],
 "A Modified Backpropagation Method to Avoid False Local Minima," *Neural Networks*, Vol. 11, pp. 1059-1072.
- [D.58] Gallant, A.R. and White, H. [1988], "There Exists a Neural Network that Do Not Make Avoidable Mistakes," *Proc. IEEE Conf. Neural Networks*, San Diego, Vol. 1, pp. 657-664.
- [D.59] Gallant, A.R. and White, H. [1992], "On Learning The Derivatives of an Unknown Mapping With Multilayered Feed-Forward Networks," *Neural Networks*, Vol. 5, No. 1, pp. 129-138.
- [D.60] Gallant, S.I. [1994], Neural Network Learning and Expert System, Cambridge, MA, MIT Press.
- [D.61] Gers, F.A. and Schmidhuber, J. [2001], "LSTM Recurrent Networks Learn Simple Context-Free and Context-Sensitive Languages", *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1333-1380, Nov.
- [D.62] Gers, F.A., Schmidhuber, J. and Cummins, F. [2000] "Learning to Forget: Continual Prediction with LSTM," *Neural Computations*, Vol. 12, No. 10, pp. 2451-2471.
- [D.63] Giles, C.L. and Maxwell T, [1987], "Learning Invariance, and Generalization in Higher-Order Networks," *Appl. Optics*, Vol. 26, pp. 4972-4978.

- [D.64] Gold, S., Rangarajan, A. and Mjolsness, E. [1996], "Learning with Preknowledge: Clustering with Point and Graph Matching Distance Measures," *Neural Computations*, Vol. 8, pp. 787-804.
- [D.65] Goldberg, D.E. [1989], "Genetic Algorithm in Search, Optimization and Machine Learning," Addison-Wesley.
- [D.66] Goodhill, G.J. and Willshaw, D.J. [1990], "Application of the Elastic Net Algorithm to the Formation of Ocular Dominance Stripes," *Neural Networks*, Vol. 1, pp. 41-59.
- [D.67] Gori, M., Maggini, M., Martinelli, E. and Scarselli, F. [2000], "Learning User Profiles in NAUTILUS," Proc. Inter. Conf. Adaptive Hypermedia Adaptive Web-Based Systems-Lecture Notes Comput. Sci., 1892, Trento, Italy, Aug.
- [D.68] Gorman, R. and Sejnowski, T. [1988], "Learned Classification of Sonar Targets Using a Massively Parallel Network," *IEEE Trans. Acoustics, Speech, and Signal Proc.*, Vol. 36, pp. 1135-1140.
- [D.69] Grossberg, S., [1977], "Classical and Instrumental Learning by Neural Networks," *Progress in Theoretical Biology*, Vol. 3, New York, Academic Press, pp. 51-141.
- [D.70] Gupta, M.M. [1975b], "Learning and Adaptation," Proc. of the Institute of Elect. and Electronic Engineers Symposium on Adaptive and Decision Processes, December 10-12, Houston, Texas, Session FP8.
- [D.71] Gupta, M.M. and Jin, L. [1999a], "Stable Dynamic Backpropagation Learning in Recurrent Neural Networks," *IEEE Trans. on Neural Networks*, Vol. 10, No. 6, Nov., pp. 1321-1334.
- [D.72] Gupta, M.M. and Rao, D.H. [1993b], "General Learning Schemes for Robotic Coordinate Transformation Using Dynamic Neural Network," SPIE Conf. on Intelligent Robotics and Computer Vision XII, Algorithms and Techniques, Boston, Sept. 7-9, Paper No. 2055-45, pp. 524-535.

- [D.73] Gupta, M.M. and Rao, D.H. [1994f], "General Learning Scheme for Robot Coordinate Transformation Using Dynamic Neural Network," *Neuro-Control Systems, Theory and Applications*, IEEE Press Book, New York, pp. 439-450, (Reprinted from the SPIE Conf. on Intelligent Robots and Computer Vision, XI: Algorithms and Techniques, Vol. Proc. SPIE 2055, pp. 524-535).
- [D.74] Gupta, M.M. and Rao, D.H. [1994g], "Neural Learning of Robot Inverse Kinematics Transformations", *Neural and Fuzzy Systems: The Emerging Science of Intelligent Computing*, (Eds.) S. Mitra, M.M. Gupta and W. Kraske), The Inter. Society for Optical Engineering (SPIE) Press Series, Bellingham, Washington, April, pp. 85-112.
- [D.75] Gupta, M.M., Rao, D.N. and Gao, J. [1992b], "Learning and Adaptation in Neural Control of Higher-Order Linear Systems", *American Control Conf.*, Chicago, June 24-26, pp. 3044-3048.
- [D.76] Gupta, M.M., Knopf, G.K. and Yu, C. [1992a], "Neural Population with Multi-Modal Threshold Distributions that Learn by Selection," SPIE Conf. on Intelligent Robots and Computer Vision XI, Biological, Neural Net and 3-D Models, Boston, Nov. 15-20, Paper #1826-22, pp. 196-208.
- [D.77] Gurney, K. [1993], "Training Nets of Stochastic Units Using System Identification," *Neural Networks*, Vol. 6, No. 1, pp. 133-146.
- [D.78] Hagiwara, M. [1993] "Removal of Hidden Units and Weights for Backpropagation Networks," Proc. 1993 Inter. Joint Conf. Neural Networks, Vol. 1, pp. 351-354.
- [D.79] Halgamuge, S.K. [1997], "Self Evolving Neural Networks for Rule Based Data Processing," *IEEE Trans. Signal Processing*, Vol. 44, No. 11.

- [D.80] Han, L., [1997], "Initial Weight Selection Methods for Self-Organizing Training," *Proc. IEEE Inter. Conf. Intelligent Processing Systems*, pp. 404-406.
- [D.81] Hassibi, B. and Stork, D.G. [1993], "Second-Order Derivatives for Network Pruning: Optimal Brain Surgeon," Advances in Neural Information Processing Systems. (Eds.) C. Lee Giles, S.J. Hanson and J. D. Cowan, Vol. 5, pp. 164-171.
- [D.82] Hassibi, B., Stork, D. and Wolff, G. [1996], "Optimal Brain Surgeon and General Network Pruning," *Neural Networks Theory, Technology and Applications*, (Ed.) P. Simpson, IEEE Press, New York, pp. 56-68.
- [D.83] Hecht-Nielsen, R. [1987a], "Counterpropagation Networks," *Appl. Optics*, Vol. 26, No. 3, pp. 4979-4984.
- [D.84] Hecht-Nielsen, R. [1989], "Theory of the Back-Propagation Neural Network", *Proc. of the Inter. Joint Conf. on Neural Networks*, Vol. 1, pp. I-593-605.
- [D.85] Hernandez, E. and Arkun, Y. [1992], "Study of the Control-Relevant Properties of Back-propagation Neural Models of Nonlinear Dynamical Systems," *Computer Chem. Eng.*, Vol. 6, No. 4, pp. 227-240.
- [D.86] Hinton, G.E. [1989], "Connectionist Learning Procedures", Artificial Intelligence, Vol. 40, pp. 185-243.
- [D.87] Hinton, G.E., Williams, C.K.I., and Revow, M.D. [1992],
 "Adaptive Elastic Model for Handprinted Character Recognition," *Advances Neural Inform. Processing Syst*, Vol. 4, pp. 512-519.
- [D.88] Hinton, G.E., Dayan, P., Frey, B.J. and Neal, R.M. [1995], "The Wake-Sleep Algorithm for Unsupervised Neural Networks," *Science*, Vol. 268, pp. 1158-1161.

- [D.89] Hirose, Y., Yamashita, K. and Hijiya, S. [1991], "Back-Propagation Algorithm which Varies the Number of Hidden Units," *Neural Networks*, Vol. 4, pp. 61-66.
- [D.90] Hoffmann, G.W. and Benson, M.W. [1986], "Neurons with Hysteresis From a Network that Can Learn Without Any Changes in Synaptic Connection Strengths," *Amer. Inst. Phys.* pp. 229-225.
- [D.91] Hoffmann, G.W. and Davenport, M.R., [1990], "A Network that Uses the Other Product Rule, Hidden Neurons, and Peaks in the Energy Landscape", *Proc. 1990 IEEE Inter. Symp. on Circuits and Systems*, New Orleans, LA, New York, IEEE, pp. 196-199, May.
- [D.92] Holtzman, J.M. [1992], "On Using Perturbation Analysis To Do Sensitivity Analysis: Derivatives Versus Differences," *IEEE Trans. Automat. Contr*, Vol. 37, pp. 243-247.
- [D.93] Homma, N. and Gupta, M.M., [2002], "Superimposing Neural Learning by Dynamic and Spatial Changing Weights," Proc. of 7th Int'l. Symposium on Artificial Life and Robotics, Vol. 1, pp. 165-168.
- [D.94] Honma, N., Kitagawa and Abe, K. [1998], "Effect of Complexity on Learning Ability of Recurrent Neural Networks," *Artificial Life and Robotics*, Vol. 2, No. 2, pp. 97-101, Springer-Verlag.
- [D.95] Honma, N., Kamauchi, T., Abe, K. and Takada, H. [1999], "Auto-Learning by Dynamical Recognition Networks," *Proc. of 1999 IEEE Int'l. Conference on SMC*, Vol. III, pp. 211-216.
- [D.96] Hopfield, J. and Tank, D.W. [1985], "Neural Computational of Decisions in Optimization Problems," *Biolog. Cybernetics*, Vol. 52, pp. 141-154.
- [D.97] Hopfield, J. and Tank, D.W. [1986], "Computing with Neural Circuits: A Model," *Science*, Vol. 233, pp. 625-633.
- [D.98] Horikawa, S., Furuhashi, T. and Uchikawa, Y. [1993], "On Fuzzy Modeling Using Fuzzy Neural Networks with Back-Propagation

Algorithm," IEEE Trans. Neural Network, Vol. 3, pp. 801-809, Sept.

- [D.99] Hush D.R, and Horne, B.G. [1993], "Progress in Supervised Neural Networks," *IEEE Signal Processing Magazine*, Vol. 10, No. 1, pp. 8-39.
- [D.100] Hush, D.R, Salas, J.M. and Horne, B.G. [1992], "Error Surfaces for Multi-layer Perceptrons," *IEEE Trans. on Systems, Man and Cybernetics*, Vol. 22, No. 5.
- [D.101] Hyvarinen, A., and Oja, E. [1997] "A Fast Fixed-Point Algorithm for Independent Component Analysis," *Neural Computations*, Vol. 9, No. 7, pp. 1483-1492.
- [D.102] Hyvarinen, A., Karhunen, J. and Oja, E. [2001], *Independent Component Analysis*, Wiley, New York.
- [D.103] Iiguni, Y., Sakui, H. and Tokumaru, H. [1992], "A Real-Time Learning Algorithm for a Multilayered Neural Network Based on the Extended Kalman Filter," *IEEE Trans. Signal Processing*, Vol. 40, No. 4, pp. 959-966, April.
- [D.104] Ishibuchi, H., Kwon, K. and Tanaka, H. [1994], "A Learning Algorithm of Fuzzy Neural Networks with Triangular Fuzzy Weights," *Fuzzy Sets and Systems*, Vol. 71, pp. 277-293.
- [D.105] Ishibuchi, H., Morioka, K. and Turken, I.B. [1995], "Learning by Fuzzified Neural Networks," *Inter. J. Approx. Reas.*, Vol. 13, pp. 327-358.
- [D.106] Ishikawa, M. [1996a], "Prediction of Time Series by a Structured Learning of Neural Network," *Fuzzy Sets and Systems*, Vol. 82, pp. 167-176.
- [D.107] Ishikawa, M. [1996b], "Structural Learning with Forgetting", *Neural Networks*, Vol. 9, No. 3, pp. 509-521.
- [D.108] Iyer, M.S. and Wunsch, II, [2001]], "Dynamic Reoptimization of a Fed-Batch Fermentor Using Adaptive Critic Designs," *IEEE Trans.* on Neural Networks, Vol. 12, No. 6, pp. 1433-1444, Nov.

- [D.109] Jaakkola, T.S. and Jordan, M.I. [1997], "Bayesian Logistic Regression: A Variational Approach," *Proc. 1997 Conf. Artificial Intel. Statist.*, pp. 283-294.
- [D.110] Jacobs, R.A. [1988], "Increased Rates of Convergence Through Learning Rate Adaptation," *Neural Networks*, Vol. 1, No. 4, pp. 295-308.
- [D.111] Jang J.S.R [1992], "Self-Learning Fuzzy Controllers Based on Temporal Back-Propagation," *IEEE Trans. Neural Networks*, Vol. 3, pp. 714-723, Sept.
- [D.112] Jang, J.S.R., Mizutani, E. and Sun, C.-T. [1997], Neuro-Fuzzy and Soft-Computing: A Computational Approach to Learning and Machine Intelligence, Prentice-Hall.
- [D.113] Jin. L., Nikiforuk, P.N. and Gupta, MM. [1993b], "Stable Dynamic Back-propagation Learning in Recurrent Neural Networks," *IEEE Trans. on Signal Processing*.
- [D.114] Jin, L., Nikiforuk, P.N. and Gupta, M.M. [1992b], "Decoupled Recursive Estimation Training and Trainable Degree of Feedforward Neural Networks," *Inter. Joint Confer. on Neural Networks*, Baltimore, Paper No. 691, Vol. I, pp. 894-900, June.
- [D.115] Jin, L., Nikiforuk, P.N. and Gupta, MM. [1993b], "Stable Dynamic Back-Propagation Learning in Recurrent Neural Networks," *The* 1993 Inter. Joint Conf. on Neural Networks (IJCNN).
- [D.116] Jin, L., Nikiforuk, P.N. and Gupta, MM. [1993h], "Stable Dynamic Backpropagation Using Constrained Learning Rate Algorithm," *The 1993 Inter. Joint Conf. on Neural Networks (IJCNN).*
- [D.117] Jin, L., Nikiforuk, P.N. and Gupta, M.M. [1995k], "Fast Neural Learning and Control of Discrete-Time Non-Linear Systems," *IEEE Trans. on Systems, Man and Cybernetics*, Vol. 25, No. 3, pp. 478-488.\

- [D.118] Jones, W.P. and Hoskins, J. [1987], "Backpropagation: A Generalized Delta Learning Rule," *Byte*, pp. 155-162, Oct.
- [D.119] Jouffe, L., [1998], "Fuzzy Inference System Learning by Reinforcement Methods," *IEEE Trans. Systems Man, Cybern*, Vol. 28, pp. 338-355.
- [D.120] Jun, Y.P., Yoon, H. and Cho, J.W. [1993], "L* Learning: A Fast Self-Organizing Feature Map Learning Algorithm Based on Incremental Ordering," *IEICE Trans. Inform. Systems*, Vol. E76, No. 6, pp. 698-706.
- [D.121] Kamimura, R. [1992], "Activated Hidden Connections to Accelerate the Learning in Recurrent Neural Networks," Proc. of Inter. Joint Conf. on Neural Networks (IJCNN), pp. I-693-700.
- [D.122] Karayiannis, N.B. and Mi, G.W. [1997], "Growing Radial Basis Function Neural Networks: Merging Supervised and Unsupervised Learning with Network Growth Techniques," *IEEE Trans. Neural Networks*, Vol. 6, pp. 1492-1506, Nov.
- [D.123] Karnin, E.D. [1990], "A Simple Procedure for Pruning Back-Propagation Trained Neural Networks," *IEEE Trans. Neural Networks*, Vol. 1, No. 2, pp. 239-242.
- [D.124] Kasabov, N.K. and Woodford, B. [1996], "Adaptable Neuro Production Systems," *Neurocomputation*, Vol. 13, pp. 95-117.
- [D.125] Kelly, H.J. [1960], "Gradient Theory of Optimal Flight Path," ARS J., Vol. 30, No. 10, pp. 947-954.
- [D.126] Kollias, S. and Anastassiou, D. [1989], "An Adaptive Least Square Algorithm for the Efficient Training of Artificial Neural Network", *IEEE Trans. Circuit System*, Vol. 36, No. 8, pp. 1092-1101.
- [D.127] Kramer, A.H., and Sangiovanni-Vincentelli, A. [1989], "Efficient Parallel Learning Algorithms for Neural Networks," Advances in Neural Information Processing Systems I, San Mateo, CA, Morgan Kaufmann, pp. 40-48.

- [D.128] Krishnan, R., Sivakumar, G. and Bhattacharya, P. [1999], "A Search Technique for Rule Extraction from Trained Neural Networks", *Pattern Recognit. Lett.*, Vol. 20, pp. 273-280.
- [D.129] Kung, S.Y. and Taur, J.S. [1995], "Decision-Based Neural Networks with Signal/Image Classification Applications," *IEEE Trans. Neural Networks*, Vol. 6, pp. 170-181.
- [D.130] LeCun, Y. [1988], "A Theoretical Framework for Back-Propagation", Proc. 1988, Connectionist Model Summer School, (Eds.) D. Touretzky, C. Hinton and T. Sejnowski, Morgan Kaufmann, pp. 21-28, June.
- [D.131] LeCun, Y., Bottou, L., Bengio, Y. and Haffner, P. [1988], "Gradient-Based Learning Applied to Document Recognition", *Proc. IEEE*, Vol. 86, No. 11, pp. 2278-2324.
- [D.132] LeCun, Y., Boser, J.S., Denker, J.S., Henderson, Howard, R.E., Hubbard, W. and Jackel, L.D., [1989], "Backpropagation Applied to Handwritten Zip Code Recognition", *Neural Computation*, Vol. 1, pp. 541-551.
- [D.133] Lee, S.C. and Kil, R.M. [1991], "A Gaussian Potential Function Network with Hierarchically Self-Organizing Learning," *Neural Networks*, Vol. 4, pp. 207-224.
- [D.134] Leistritz, L., Galicki, M. and Witte, H. [1998], "Training Continuous Trajectories by Means of Dynamic Neural Networks with Time Dependent Weights," *Proc. Inter. ICSC/IFAC Symp. Neural Comput.*, Vienna, Austria, pp. 591-596.
- [D.135] Leistritz, L., Galicki, M. and Witte, H. [1999], "Learning Continuous Trajectories in Recurrent Neural Networks with Time-Dependent Weights," *IEEE Trans. Neural Networks*, Vol. 10, pp. 741-756.

- [D.136] Leung, C.S., Wong, K.W., Sum, J. and Chan, L.W. [1996], "On-Line Training and Pruning for RLS Algorithms," *Electron. Lett.*, Vol. 32, pp. 2152-2153.
- [D.137] Leung, H.C. and Zue, V.W. [1989], "Applications of Error Back-Propagation to Phonetic Classification," Advances in Neural Information Processing Systems, Vol. 1, (Eds.) D.S. Touretzky, San Mateo, CA, Morgan Kaufmann Publishers, pp. 206-214.
- [D.138] Levin, A.U., Leen, T.K. and Moody, J.E. [1994], "Fast Pruning Using Principal Components," Advances in Neural Information Processing Systems, (Eds.) J.D. Cowan, G. Tesauro and J. Alspector, Morgan Kaufmann, San Mateo, CA., Vol. 6, pp. 35-42.
- [D.139] Lin, C.T. and Lu, Y. [1995], "A Neural Fuzzy System with Linguistic Teaching Signals," *IEEE Trans. Fuzzy Systems*, Vol. 3, pp. 169-189.
- [D.140] Luttrell, S.P. [1990], "Deviation of a Class of Training Algorithms", *IEEE Trans. Neural Networks*, Vol. 1, pp. 229-232.
- [D.141] Ma, S. and Ji, C. [1998a], "A Unified Approach on Fast Training of Feedforward and Recurrent Networks Using EM Algorithm," *Trans. Signal Processing*, Vol. 46, pp. 2270-2274, Aug.
- [D.142] Ma, S. and Ji, C. [1998b], "Fast Training of Recurrent Networks Based on EM-Algorithm," *IEEE Trans. Neural Networks*, Vol. 9, pp. 11-26, Jan.
- [D.143] Mackay, D. [1992a], "A Practical Bayesian Framework for Backpropagation Networks", *Neural Computations*, Vol. 4, pp. 448-472.
- [D.144] Maeda, Y. and De Figulerido, J.P. [1997], "Learning Rule for Neuro-Controller Via Simultaneous Perturbation", *IEEE Trans. Neural Networks*, Vol. 8, pp. 1119-1130.
- [D.145] Maire, F. [1999], "Rule Extraction by Backpropagation of Polyhedra", *Neural Networks*, Vol. 12, pp. 717-725.

- [D.146] Martinez, T. and Schulten, K. [1991], "A 'Neural-Gas' Network Learns Topologies," *Artificial Neural Networks*, (Eds.) T. Kohonen, K. Makisara, O. Simula, and J. Kangas, Amsterdam, The Netherlands, Elsevier, pp. 397-402.
- [D.147] McInerney, M. and Dhawan, A. [1994], "Training the Self-Organizing Feature Map Using Hybrids of Genetic and Kohonen Methods," *Proc. IEEE Inter. Conf. Neural Networks*, pp. 641-644.
- [D.148] Meert, K. and Ludik, J. [1997], "A Multilayer Real-Time Recurrent Learning Algorithm for Improved Convergence," Proc. Artificial Neural Networks - ICANN'97, pp. 505-510.
- [D.149] Mitra, S. and Pal, S.K. [1995], "Fuzzy Multilayer Perceptron, Inferencing and Rule Generation," *IEEE Trans. Neural Networks*, Vol. 6, pp. 51-63, Jan.
- [D.150] Mitra, S. and Pal, S.K. [1996], "Fuzzy Self Organization, Inferencing and Rule Generation," *IEEE Trans. Neural Network*, Vol. 8, pp. 1338-1350.
- [D.151] Mitra, S., De, R.K. and Pal, S.K. [1997], "Knowledge-Based Fuzzy MLP for Classification and Rule Generation," *IEEE Trans. Neural Networks*, Vol. 8, pp. 1338-1350.
- [D.152] Mitra, U. and Poor, H.V. [1994], "Neural Network Techniques for Adaptive Multiuser Demodulation," *IEEE Trans. Commun.*, Vol. 32, No. 3, pp. 188-190.
- [D.153] Moller, M. [1993], "A Scaled Conjugate Gradient Algorithm for Fast Supervised Learning," *Neural Networks*, Vol. 6, No. 4, pp. 525-534.
- [D.154] Moody, J.E. [1992], "The Effective Number of Parameters: An Analysis of Generalization and Regularization in Nonlinear Learning Systems," Advances in Neural Information Processing Systems, (Eds.) J.E. Moody, S.J. Hanson and R.P. Lippmann, Vol. 4, pp. 847-854.

- [D.155] Moody, J.E. [1993], "Prediction Risk and Architecture Selection for Neural Networks," *From Statistics to Neural Networks: Theory and Pattern Recognition Applications*, (Eds.) V. Cherkassky, J.H. Friedman, and H. Wechsler, Springer-Verlag, New York, pp. 147-165.
- [D.156] Moody, J.E. and Antsaklis, P.J. [1996], "The Dependence Identification Neural Network Construction Algorithm," *IEEE Trans. Neural Networks*, Vol. 7, pp. 3-15, Jan.
- [D.157] Moody, T.J. and Darken, C.J. [1989], "Fast Learning in Networks of Locally-Tuned Processing Units," *Neural Computation*, Vol. 1, pp. 151-160.
- [D.158] Mozer, M.C. and Smolensky, P. [1989], "Skeletonization: A Technique for Trimming the Fat From a Network Via Relevance Assessment," *Advances in Neural Information Processing Systems*, (Ed.) D. Touretzky, Vol. 1, pp. 107-115.
- [D.159] Murata, N., Yoshizawa, S. and Amari, S. [1994a], "Learning Curves, Model Selection and Complexity of Neural Networks", *Advances in Neural Information Processing Systems*, (Eds.) C.L.
 Giles, S.J. Hanson, and J.D. Cowan, Morgan Kaufmann, San Mateo, CA, Vol. 5, pp. 607-614.
- [D.160] Nadeau, C. and Benjio, Y. [2000] "Inference for the Generalization Error," Advances in Neural Information Processing Systems 12, Cambridge, MA, MIT Press.
- [D.161] Neal, R.M. [1996], "Bayesian Learning for Neural Networks," *Lecture Notes in Statistics*, Springer-Verlag, New York.
- [D.162] Nie, J. [1995], "Constructing Fuzzy Model by Self-Organizing Counterpropagation Network," *IEEE Systems Man, Cybernetics*, Vol. 25, pp. 963-970.

- [D.163] Omlin, C.W. and Lee Giles, C. [1996a], "Extraction of Rules from Discrete-Time Recurrent Neural Networks," *Neural Networks*, Vol. 9, pp. 41-52.
- [D.164] Omlin, C.W. and Lee Giles, C. [1996b], "Rule Revision with Recurrent Neural Networks," *IEEE Trans. Knowl. Data Eng.*, Vol. 8, pp. 183-188.
- [D.165] Osborne, M. and Briscoe, E. [1997], "Learning Stochastic Categorial Grammars," Proc. Assoc. Comp. Linguistics. Comp. Nat. Lg. Learning (CoNLL97) Workshop, Madrid, Spain, pp. 80-87.
- [D.166] Parker, D.B. [1987], "Optimal Algorithms for Adaptive Networks: Second Order Back-Propagation, Second Order Direct Propagation and Second Order Hebbian Learning," *Proc. of the Inter. Conf. on Neural Networks*, IEEE Press, New York, pp. 593-600.
- [D.167] Pedersen, M.W., Hansen, L.K. and Larsen, J. [1996], "Pruning with Generalization Based Weight Saliencies: ? OBD, ? OBS," *Advances in Neural Information Processing Systems*, (Eds.) D.S. Touretzky, M.C. Mozer, and M.E. Hasselmo, Cambridge, MA, MIT Press, Vol. 8, pp. 521-528.
- [D.168] Peek, M.D. and Antsaklis, P.J. [1990], "Parameter Learning for Performance Adaptation," *IEEE Control System* Magazine, pp. 3-11, Dec.
- [D.169] Pineda, F.J. [1987], "Generalization of Back-Propagation to Recurrent Neural Networks," *Phys. Rev. Lett.*, Vol. 59, No. 19, pp. 2229-2232.
- [D.170] Pineda, F.J. [1989], "Recurrent Back-Propagation and the Dynamic Approach to Adaptive Neural Computation," *Neural Computation*, Vol. 1, pp. 161-172.
- [D.171] Prechelt, L. [1997], "Connection Pruning with Static and Adaptive Pruning Schedules," *Neurocomputations*, Vol. 16, No. 1, pp. 49-61.

- [D.172] Reed, R.D., [1993], "Pruning Algorithms-A Survey," IEEE Trans. Neural Networks, Vol. 4, No. 5, pp. 740-747.
- [D.173] Robinson, A.J. and Fallside, F. [1987], "Static and Dynamic Error Propagation Networks with Application to Speech Coding," *Proc.* of Neural Information Processing Systems, (Ed.) D.Z. Anderson, American Institute of Physics.
- [D.174] Rumelhart, D.E. [1990], "Brain Style Computation: Learning and Generalizations", *Introduction to Neural and Electronic Networks*, New York, Academic Press.
- [D.175] Rumelhart, D.E., Hinton, G.E. and Williams, R.J. [1986], "Learning Internal Representations by Error Propagation", *Parallel Distributed Processing: Explorations in the Microstructure of Cognition*, (Eds.) D.E. Rumelhart. and J.L. McClelland, MIT Press, Cambridge, MA., Vol. 1, pp. 318-362.
- [D.176] Saerens, M. and Soquet, A. [1991], "Neural Controller Based on Back-Propagation Algorithm," *IEE Proc.*, *Part F*, Vol. 138, No. 1, pp. 55-62.
- [D.177] Sahami, M. [1998], "Using Machine Learning to Improve Information Access," *Ph.D.*, Stanford University.
- [D.178] Segee, B.E. and Carter, M.J. [1991], "Fault Tolerance of Pruned Multilayer Networks," *Proc. Inter. Joint Conf. Neural Networks*, Seattle, Vol. II, pp. 447-452.
- [D.179] Sejnowski, T. and Rosenberg, C.R. [1986], "Net-Talk: A Neural Network That Learns to Read Aloud," *Tech. Rep. JHU/EECS-*86101, Johns Hopkins Univ.
- [D.180] Sejnowski, T. and Rosenberg, C.R., [1987], "Parallel Networks that Learn to Pronounce English Text," *Complex Systems*, Vol. 1, pp. 145-168.
- [D.181] Sejnowski, T.J. [1988], "Neural Network Learning Algorithms," Neural Computers, Springer-Verlag, pp. 291-300.

- [D.182] Setiono, R. [1997], "Extracting Rules from Neural Networks by Pruning and Hidden-Unit Splitting," *Neural Computat.*, Vol. 9, pp. 205-225.
- [D.183] Shah, S. and Palmieri, F. [1990], "MEKA-A Fast, Local Algorithm for Training Feed-Forward Neural Networks," *Proc. IEEE IJCNN*, San Diego, CA, Vol. 3, pp. 41-46, June.
- [D.184] Shah, S., Palmieri, F. and Datum, M. [1992], "Optimal Filtering Algorithms for Fast Learning in Feed-Forward Neural Networks," *Neural Networks*, Vol. 5, No. 5, pp. 779-788.
- [D.185] Sietsma, J. and Dow, R.J.F. [1988], "Neural Networks Pruning-Why and How," Proc. 1988 IEEE Inter. Conf. on Neural Networks, San Diego, CA, Vol. I, pp. 325-333.
- [D.186] Silva, F.M. and Almeida, L.B. [1990a], "Acceleration Technique for the Back Propagation Algorithm," *Neural Networks EURASIP Workshop Proc.*, (Eds.) L.B. Almeida and C.J. Wellekens, Sesimbra, Portugal, Feb., pp. 110-119.
- [D.187] Silva, F.M. and Almeida, L.B. [1990b], "Speeding Up Backpropagation," Advances of Neural Computers, (Ed.) R. Eckmiller, Elsevier Science Publishers B.V., North-Holland, pp. 151-158.
- [D.188] Simon, D and El-Sherief, H. [1995], "Fault-Tolerant Training for Optimal Interpolative Nets," *IEEE Trans. Neural Networks*, Vol. 6, pp. 1531-1535.
- [D.189] Sin, S. and deFigueiredo, R. [1992], "An Evolution-Oriented Learning Algorithm for the Optimal Interpolative Net," *IEEE Trans. Neural Networks*, Vol. 3, pp. 315-323.
- [D.190] Singhal, S. and Wu, L. [1989], "Training Multilayer Perceptrons with the Extended Kalman Algorithm," Advances in Neural Information Processing Systems I, San Mateo, CA, Morgan Kaufmann, pp. 133-140.

- [D.191] Smagt, P. [1994], "Minimisation Methods for Training Feed-Forward Neural Networks," *Neural Networks*, Vol. 7, No. 1, pp. 1-11.
- [D.192] Stevenson, M., Winter, R. and Widrow, B. [1990], "Sensitivity of Feedforward Neural Networks to Weight Errors," *IEEE Trans. Neural Networks*, Vol. 1, pp. 71-80., Mar.
- [D.193] Su, M.C. and Chang, H.T. [1995], "Genetic-Algorithm-Based Approach to Self-Organizing Feature Map and its Application in Cluster Analysis," *Proc. IEEE Inter. Joint Conf. Neural Networks*, pp. 2116-2121.
- [D.194] Su, M.C., and Chang, H.-T. [2000], "Fast Self-Organizing Map Algorithm," *IEEE Trans. on Neural Networks*, Vol. 11, No. 3, pp. 721-733, May.
- [D.195] Sudharsanan, S.I. and Sundareshan, M.K. [1991b], "Training of a Three-Layer Dynamical Recurrent Neural Network for Nonlinear Input-Output Mapping," *Proc. Inter. Joint Conf. Neural Networks* (*IJCNN*), pp. III-115, Nov.
- [D.196] Suetake, N., Yamauchi, N. and Yamakawa, T. [1999], Wavelet Neuron Filter with the Local Statistics Oriented to the Preprocessor for the Image Signals," *Proc. 2nd Inter. Conf. Inform. Fusion*, Vol. 1, pp. 626-633.
- [D.197] Sum, J., Leung, C.S. Young, G. and Kan, W.K. [1999], "On the Kalman Filtering Method in Neural Networks Training and Pruning," *IEEE Trans. Neural Networks*, Vol. 10, pp. 161-165.
- [D.198] Sum, J., Leung, C.S., Chan, L.W., Kan, W.K. and Young, G. [1999], "An Adaptive Bayesian Pruning for Neural Networks in Nonstationary Environment," *Neural Computations*, Vol. 11, pp. 965-976.
- [D.199] Tonkes, B. and Wiles, J. [1997], "Learning a Context-Free Task with a Recurrent Neural Network: An Analysis of Stability", Proc. 4th Biennial Conf. Australasian Cognitive Sci. Soc.

- [D.200] Toomarian N. and Barhen, J. [1991], "Adjoint-Functions and Temporal Learning Algorithms in Neural Networks", Advances in Neural Information Processing Systems, 3, pp. 113-120.
- [D.201] Toomarian N. and Barhen, J. [1992], "Learning a Trajectory Using Adjoint Functions and Teacher Forcing", *Neural Networks*, Vol. 5, No. 3, pp. 473-484.
- [D.202] Tseng, Y.-H. and Wu, J.-L. [1995], "On a Constant-Time, Low-Complexity Winner-Take-All Neural Network," *IEEE Trans. Computations*, Vol. 44, pp. 601-604.
- [D.203] Tsutsumidani, G., Ohnishi, N. and N. Sugie, N. [1991], "Properties and Learning Algorithm of Discrete Neural Network with Time Delay," *Proc. Inter. Joint Conf Neural Networks (IJCNN)*, pp. 529-534, Nov.
- [D.204] Van Hulle, M.M. and Leuven, K.U. [1995], "Globally-Ordered Topology-Preserving Maps Achieved with a Learning Rule Performing Local Weight Updates Only," Proc. IEEE Workshop Neural Networks for Signal Processing, pp. 95-104.
- [D.205] Vogl, T.P, Mangis, J.K., Rigler, A.K, Zink, W.T. and Allcon, D.L.
 [1988], "Accelerating the Convergence of the Back-Propagation Method", *Biological Cybernetics*, Vol. 59, pp. 257-263.
- [D.206] Wagner, K. and Psaltis, D. [1987], "Multilayered Optical Learning Networks", Appl. Opt., Vol. 26, No. 23, pp. 5061-5075.
- [D.207] Waibel, A. [1989], "Consonant Recognition by Modular Construction of Large Phonemic Time-Delay Networks", *Advances in Neural Information Processing Systems*, Vol. 1, (Ed.)
 D.S. Touretzky, San Mateo, CA, Morgan Kaufmann Publishers, pp. 215-223.
- [D.208] Wan, E.W. [1990], "Temporal Back-Propagation for FIR Neural Networks," Proc. Inter. Joint. Conf. Neural Networks (IJCNN), pp. 575-580, June.

- [D.209] Wan, E.W. and Beaufays, F. [1996], "Diagrammatic Derivation of Gradient Algorithms for Neural Networks," *Neural Computation.*, Vol. 8, pp. 182-201.
- [D.210] Wang, D.L. and Brown, G.J. [1999], "Separation of Speech From Interfering Sounds Based on Oscillatory Correlation," *IEEE Trans. Neural Networks*, Vol. 10, pp. 684-697.
- [D.211] Wang, D.L. and Terman, D. [1996a], "Image Segmentation Based on Oscillatory Correlation," *Neural Computations*, Vol. 9, pp. 805-836.
- [D.212] Wang, D.L. and Terman, D. [1996b], "Image Segmentation by Neural Oscillator Networks," *IEEE Trans. Neural Networks*, pp. 1534-1539.
- [D.213] Wang, L.X., and Mendel, J.M. [1992], "Generating Fuzzy Rules From Numerical Data, with Applications," *IEEE Trans. System*, *Man and Cybernetics*, Vol. 32, pp. 1414-1472.
- [D.214] Watanabe, S. [2001], "Learning Efficiency of Redundant Neural Networks in Bayesian Estimation," *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1475-1486, Nov.
- [D.215] Werbos, P.J. [1974], "Beyond Regression: New Tools for Prediction and Analysis in the Behavioral Sciences," *Ph.D. Dissertation*, Applied Mathematics, Harvard University, Boston, MA. Nov.
- [D.216] Werbos, P.J. [1988], "Generalization of Backpropagation with Application to a Recurrent Gas Market Model," *Neural Networks*, Vol. 1, pp. 339-356.
- [D.217] Werbos, P.J. [1990], "Backpropagation Through Time: What It Does and How To Do It," *Proc. IEEE*, Vol. 78, Oct.
- [D.218] Weymaere, N. and Martens, J.P. [1991], "A Fast Robust Learning Algorithm for Feed-Forward Neural Networks," *Neural Networks*, Vol. 4, pp. 361-369.

- [D.219] White, D. and Ligomenides, P. [1993], "GANNET: A Genetic Algorithm for Optimizing Topology and Weights in Neural Network Design," *Inter. Workshop on Artificial Neural Networks, in New Trends in Neural Computation*, (Eds.) J. Mira, J. Cabestany and A. Prieto, Springer-Verlag, Berlin, Germany, pp. 332-327.
- [D.220] White H. [1989], "Learning in Artificial Neural Networks: A Statistical Perspective, *Neural Computat.*, Vol. 1, No. 4, pp. 425-469.
- [D.221] Whitley, D. and Bogart, C. [1990], "The Evolution of Connectivity: Pruning Neural Networks Using Genetic Algorithms," *Inter. Joint Conf. Neural Networks*, Vol. 1, pp. 134-137.
- [D.222] Widrow, B. [1962], "Generalization and Information Storage in Networks of Adaline Neurons," *Self-Organizing Systems*, (Eds.)
 M.C. Jovitz, G.T. Jacobi, and G. Goldstein, Washington, DC, Spartan Books, pp. 435-461.
- [D.223] Widrow, B and Lehr, L.A. [1990], "30 Years of Adaptive Neural Networks: Perceptron, Madaline, and Backpropagation," *Proc. IEEE*, Vol. 78, No. 9, pp. 1415-1442.
- [D.224] Williams, C.K.I. and Rasmussen, R. [1996], "Gaussian Processes for Regression," Advances in Neural Information Processing Systems VIII, (Eds.) D.S. Touretzky, M.C. Mozer, and M.E. Hasselmo, Cambridge MA, MIT Press, pp. 514-520.
- [D.225] Williams, P.M. [1995], "Bayesian Regularization and Pruning Using a Laplace Prior," *Neural Computations*, Vol. 7, pp. 117-143.
- [D.226] Williams, R.J. and Zipser, D. [1989a], "A Learning Algorithm for Continually Running Fully Recurrent Neural Networks," *Neural Computations*, Vol. 1, pp.270-280.

- [D.227] Williams, R.J. and Zipser, D. [1989b], "Experimental Analysis of the Real-Time Recurrent Learning Algorithm," *Connection Science*, Vol. 1, pp. 87-111.
- [D.228] Williams, R.J. and Zipser, D. [1989c], "A Learning Algorithm for Continually Running Fully Recurrent Neural Networks," *Neural Computation*, Vol. 1, No. 2, pp. 270-280.
- [D.229] Williams, R.J. and Peng, J. [1990a] "An Efficient Gradient-Based Algorithm for On-Line Training of Recurrent Network Trajectories [Letter]," *Neural Computations*, Vol. 2, No. 4, pp. 490-501.
- [D.230] Williams, R.J. and Zipser, D. [1990b], "Gradient-Based Learning Algorithms for Recurrent Networks and their Computational Complexity," *Backpropagation: Theory, Architectures, and Applications,* (Eds.) Y. Chauvin and D.E Rumelhart, Lawrence Erlbaum, Hillsdale, NJ, pp. 433-486.
- [D.231] Williams, R.J. and Zipser, D. [1992], "Gradient-Based Learning Algorithms for Recurrent Networks," *Technical Report NU-CCS-*90-9, Boston, Northeastern University, College of Computer Science.
- [D.232] Wittner, B.S. and Denker, S. [1988], "Strategies for Teaching Layered Networks Classification Tasks," *Neural Information Processing Systems*, (Ed.) D.L. Anderson, New York, American Institute of Physics, pp. 850-857.
- [D.233] Xu, L., Oja, E., and Suen, C.Y. [1992], "Modified Hebbian Learning for Curve and Surface Fitting, *Neural Networks*, Vol. 5, No. 3, pp. 441-457.
- [D.234] Xu, Q., Hu, Y. and Tompkins, W.J. [1990], "Analysis of the Hidden Units of Backpropagation Model," *Proc. 1993 Inter. Joint Conf. Neural Networks*, Vol. 1, pp. 739-742.
- [D.235] Yager, R.R. [1989], "Some Extensions of Constraint Propagation of Label Sets," *Inter. J. of Approximate Reasoning*, 3, pp. 417-435.

- [D.236] Yahed, A. and Omlin, C.W. [1999], "Rule Extraction from Recurrent Neural Networks Using a Symbolic Machine Learning Algorithm," *Proc. Inter. Conf. Neural Inform. Processing ICONIP'99*, Perth, Australia, pp. 712-717, Nov.
- [D.237] Yamakawa, T. and Samatsu, T. [1994], "Wavelet Neural Networks Realizing High-Speed Learning," *Proc. Inter. Conf. Neural Inform. Processing*, Seoul, Korea, pp. 1571-1576.
- [D.238] Yamanishi, K. [1998], "A Decision-Theoretic Extension of Stochastic Complexity and its Applications to Learning," *IEEE Trans. Inform. Theory*, Vol. 44, pp. 1424-1439.
- [D.239] Yamauchi, K., Yamaguchi, N. and Ishii, N. [1999], "Incremental Learning Methods with Retrieving of Interfered Patterns," *IEEE Trans. Neural Networks*, Vol. 10, pp. 1351-1365, Nov.
- [D.240] Yan, L. and Miller, D.J. [2000], "General Statistical Inference for Discrete and Mixed Spaces by an Approximate Application of the Maximum Entropy Principle", *IEEE Trans. on Neural Networks*, Vol. 11, No. 3, pp. 558-573, May.
- [D.241] Yen, G.G. and Michel, A.N. [1991], "A Learning and Forgetting Algorithm in Associative Memories: Results Involving Pseudo Inverses," *IEEE Trans. Circuts and Systems*, Vol. 38, No. 10, pp. 1193-1205.
- [D.242] Yupu, Y., Xiaoming, X and Wengyuan, Z. [1998], "Real-Time Stable Self-Learning FNN Controller Using Genetic Algorithm," *Fuzzy Sets and Systems*, Vol. 100, pp. 173-178.
- [D.243] Zeng, Z. and Yeung, D.S. [2001], "Sensitivity Analysis of Multilayer Perceptron to Input and Weight Perturbations", *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1358-1366, Nov.
- [D.244] Zhang, J. and Morris, A.J. [1997], "A Sequential Learning Approach for Single Hidden Layer Neural Networks," *Neural Networks*, Vol. 11, pp. 65-80.

- [D.245] Zhao, J., Shawe-Taylor, J. and van Daalen, M. [1996] "Learning in Stochastic Bitstream Neural Networks," *Neural Networks*, Vol. 9, pp. 991-998.
- [D.246] Zigoris, D.M. [1989], "Performance Evaluation of the Back-Propagation Algorithm for Character Recognition," *M. Eng. Thesis*, University of Louisville, Kentucky.
- [D.247] Zipser, D. [1989], "A Subgrouping Strategy That Reduces Complexity and Speeds Up Learning in Recurrent Networks," *Neural Computation*, Vol. 1, pp. 552-558.
- [D.248] Zurada, J.M. [1992a], "Gradient-Type Neural Systems for Computation and Decision-Making", *Progress in Neural Networks*, (Ed.) O.M. Omidvar, Vol. II, Norwood, New Jersey, Ablex Publishing Company.
- [D.249] Zurada, J.M. and Kang M.J. [1988], "Computational Circuits Using Neural Optimization Concept", *Inter. J. Electronics*, Vol. 67, No. 3, pp. 311-320.
- [D.250] Zurada, J.M. and Lozowski, A. [1996], "Generating Linguistic Rules from Data Using Neuro-Fuzzy Framework", Proc. 4th Inter. Conf. Soft Comput., Iizuka, Japan, pp. 618-621.
- [D.251] Zurada, J.M. and Shen, W., [1990], "Sufficient Conditions for Convergence of Relaxation Algorithm in Neural Optimization Circuits", *IEEE Trans. Neural Networks*, Vol. 1, No. 4, pp. 300-303.
- [D.252] Zurada, J.M., Malinowski, A. and Cloete, I. [1994], "Sensitivity Analysis for Minimization of Input Data Dimension for Feedforward Neural Network," *Proc. IEEE Inter. Symp. Circuits Systems*, London, U.K., May 30-June 3.

[E] Pattern Recognition and Neural Classifiers

- [E.1] Abe, S and Thawonmas, R. [1997], "A Fuzzy Classifier with Ellipsoidal Regions," *IEEE Trans. Fuzzy Systems*, Vol. 5, Aug., pp. 358-368.
- [E.2] Alahakoon, L.D., Halgamuge, S.K. and Srinivasan, B. [1998a], "A
 Self-Growing Cluster Development Approach to Data Mining," *Proc. IEEE Conf. Systems, Man, and Cybernetics*, pp. 2901-2906.
- [E.3] Alahakoon, L.D., Halgamuge, S.K. and Srinivasan, B. [1998b], "A Structure Adapting Feature Map for Optimal Cluster Representation," *Proc. Inter. Conf. Neural Information Processing*, pp. 809-812.
- [E.4] Alahakoon, L.D., Halgamuge, S.K. and Srinivasan, B. [2000],
 "Dynamic Self Organizing Maps with Controlled Growth for Knowledge Discovery," *IEEE Trans. Neural Networks*, Vol. 11, No. 3, May, pp. 601-614.
- [E.5] Anderberg, M.R. [1973], Cluster Analysis for Applications, New York, Academic Press.
- [E.6] Anderson, J.A., Silverstein, J.W., Ritz, S.A. and Jones, R.S. [1988],
 "Distinctive Features, Categorical Perception, and Probability Learning: Some Applications of a Neural Model," *Neurocomputing: Foundations of Research*, (Ed.) J.A. Anderson and E. Rosenfeld, Cambridge, MA, MIT Press.
- [E.7] Anderson, J.A., Silverstein, W., Rite, S.A., and Jones, R.S., [1977],
 "Distinctive Features, Categorical Perception, and Probability Learning: Some Applications of a Neural Model", *Physical Review*, 84, pp. 413-451.
- [E.8] Andres, R., Diederich, J and Tickle, A.B. [1995], "A Survey and Critique of Techniques for Extracting Rules from Trained Artificial Neural Networks," *Knowl. -Based Systems*, Vol. 8, pp. 373-389.

- [E.9] Aonishi, T. and Kurata, K. [1998], "Deformation Theory of the Dynamic Link Matching," *Neural Computations*, Vol. 10, pp. 651-669.
- [E.10] Aonishi, T. and Kurata, K. [2000], "Extension of Dynamic Link Matching by Introducing Local Linear Maps," (CORD) Classification Problems via Two-Layer Perceptron Networks," *IEEE Trans. on Neural Networks*, Vol. 11, No. 3, pp. 817-822, May.
- [E.11] Azimi-Sadjadi, M.R., Yao, D., Huang, Q. and Dobeck, G.J. [2000],
 "Underwater Target Classification Using Wavelet Packets and Neural Networks," *IEEE Trans. on Neural Networks*, Vol. 11, No. 3, pp. 784-794, May.
- [E.12] Bargiela, A. [2000], "Operational Decision Support Through Confidence Limits Analysis and Pattern Classification," *Plenary Lecture*, 5th Inter. Conf. Computer Simulation and AI, Mexico, Feb.
- [E.13] Behnke, S. and Karayiannis, B. [1998], "Competitive Neural Trees for Pattern Classification," *IEEE Trans. Neural Networks*, Vol. 9, pp. 1352-1369.
- [E.14] Bellman, R.E., Kalaba, R. and Zadeh, L.A. [1966], "Abstraction and Pattern Classification," J. Math. Anal. Appl., Vol. 13, pp. 1-7.
- [E.15] Belouchrani, A., Abed Meraim, K., Cardoso, J.-F. and Moulines, E.
 [1997], "A Blind Source Separation Technique Based on Second-Order Statistics," *IEEE Trans. Signal Processing*, Vol. 45, pp. 434-444.
- [E.16] Belue, L.M. and Bauer K.W. [1995], "Determining Input Features for Multilayer Perceptrons," *Neurocomputations*, Vol. 7, pp. 111-121.
- [E.17] Benediktsson, J.A., Sveinsson, J.R., Ersoy, O.K. and Swain, P.H.
 [1997], "Parallel Consensual Neural Network," *IEEE Trans. Neural Networks*, Vol. 8, No. 1, pp. 54-64, Jan.

- [E.18] Behnke, S. and Karayiannis, B. [1998], "Competitive Neural Trees for Pattern Classification," *IEEE Trans. Neural Networks*, Vol. 9, pp. 1352-1369.
- [E.19] Bezdek, J.C. [1998], "Some New Indexes of Cluster Validity," *IEEE Trans. Systems, Man, Cybernetics, B*, Vol. 28, pp. 301-315.
- [E.20] Bienenstock, E. and Doursat, R. [1994], "A Shape-Recognition Model Using Dynamical Links," *Network*, Vol. 5, pp. 241-258.
- [E.21] Bigus, J.P. [1996], *Data Mining with Neural Networks*, New York, Clarendon.
- [E.22] Bishop, C.M. [1995b], Neural Networks for Pattern Recognition, Oxford, U.K., McGraw Hill.
- [E.23] Bishop, C.M. [1997], Neural Networks for Pattern Recognition, New York, Clarendon.
- [E.24] Bishop, C.M. and Tipping, M.E. [1998a], "A Hierarchical Latent Variable Model for Data Visualization," *IEEE Trans. Pattern Anal. Machine Intell.*, Vol. 20, pp. 282-293, Mar.
- [E.25] Bishop, C.M., Svensen, M. and Williams, C.K.I. [1988b], "GTM: Developments of the Generative Topographic Mapping," *Neurocomputations*, Vol. 21, pp. 203-204.
- [E.26] Bishop, C.M., Svensen, M. and Williams, C.K.I. [1988c], 'GTM: The Generative Topographic Mapping," *Neural Computations*, Vol. 10, No. 1.
- [E.27] Blackmore, J. [1995], "Visualizing High Dimensional Structure with the Incremental Grid Growing Neural Network", M.S. Thesis, Univ. Texas, Austin, Texas.
- [E.28] Blair, A.D. and Pollack, J.B. [1997], "Analysis of Dynamical Recognizers," *Neural Comput*, Vol. 9, No. 5, pp. 1127-1142.
- [E.29] Blatt, M. Wiseman, S. and Domany E. [1996], "Superparamagnetic Clustering of Data", *Phys. Rev. Lett.*, Vol. 76, No. 18, pp. 3251-3254.

- [E.30] Bosch, H. Milanese, R. and Labbi, A. [1998], "Object Segmentation by Attention Induced Oscillations," *Proc. IEEE Inter. Joint Conf. Neural Network*, Vol. 2, pp. 1167-1171.
- [E.31] Boudailler, E. and Hebrail, G. [1998], "Interactive Interpretation of Hierarchical Clustering," *Intel. Data. Anal.*, Vol. 2, No. 3.
- [E.32] Bounds, D.G., Lloyd, P.J., Mathew, B. and Wadell, G. [1988], "A Multilayer Perceptron Network for the Diagnosis of Low Back Pain," *Proc. IEEE Inter. Conf. on Neural Networks*, San Diego, CA, pp. II-481-489.
- [E.33] Breslow, L.A. and Aha, D.W.[1997], "Simplifying Decision Trees: A Survey", Navy Center for Applied Research in AI. Naval Research Laboratory, Washington, DC, NCARAI Tech. Rep. AIC-96-014.
- [E.34] Burr, D. [1988], "Experiments on Neural Net Recognition of Spoken and Written Text," *IEEE Trans. Acoustics, Speech, and Signal Proc.*, Vol. 36, pp. 1162-1168.
- [E.35] Burton, L.L. and Lai, H., [1995], "Active Sonar Target Imaging and Classification System", Proc. SPIE Inter. Symp. Aerospace/Defense Contr., Vol. 3079, Orlando, FL, pp. 19-33, April.
- [E.36] Cabena, P., Hadjinian, P., Stadler, R., Verhees, J. and Zanasi, A.,
 [1998], Discovering Data Mining From Concept to Implementation, Englewood Cliffs, NJ, Prentice-Hill.
- [E.37] Cabrelli, C., Molter, U. and Shonkwiler, R. [2000], "A Constructive Algorithm to Solve "Convex Recursive Deletion,"
 (CoRD) Classification Problems Via Two-Layer Perceptron Networks," *IEEE Trans. on Neural Networks*, Vol. 11, No. 3, pp. 811-816, May.

- [E.38] Cai, L.Y. and Kwan, H.K. [1998], "Fuzzy Classifications Using Fuzzy Inference Networks," *IEEE Trans. Systems, Man, Cybern*, Vol. 28, pp. 334-347.
- [E.39] Cajal, S.R.Y. [1934], Les Preuves Objectives de 1' Unite Anatomique de Cellules Nerveuses. *Trob. Lab. Inest. Biological Univ. Madrid*, Vol. 29, pp. 1-37, (Translation: Purkiss, M.V. and Fox, C.A., Madrid: Instituto "Ramon y Cajal", 54.)
- [E.40] Carpenter, G.A. [1989], "Neural Network for Pattern Recognition and Associative Memory," *Neural Networks*, Vol. 2, pp. 243-257.
- [E.41] Carpenter, G.A. and Grossberg, S. [1987a], "A Massively Parallel Architecture for a Self-Organizing Neural Pattern Recognition Machine," *Computations Vison, Graphics, Image Process*, Vol. 37, pp. 54-115.
- [E.42] Carpenter, G.A. and Grossberg, S. [1987b], "ART2: Self-Organization of Stable Category Recognition Codes for Analog Input Pattern," *Proc. IEEE Inter. Conf. Neural Networks*, Vol. II, San Diego, CA, pp. 727-736.
- [E.43] Carpenter, G.A. and Streilein, W.W. [1998], "ARTMAP-FTR: A Neural Network For Fusion Target Recognition with Application to Sonar Classification," *Proc. 1998 SPIE Intr. Symp. Aerospace/Defense Sensing Contr.*, Orlando, FL, pp. 342-356, April.
- [E.44] Carter, P.H. and Dobeck, G. [1976], "Classification of Acoustic Backscatter Using The Generalized Target Description," Proc. SPIE Inter. Symp. Aerospace/Defense Sensing Contr., Vol. 2765, Orlando, FL, pp.190-200, April.
- [E.45] Chandra, V. and Sudhakar, R. [1988], "Recent Developments in Artificial Neural Network Based Character Recognition: A Performance Study," *Proc. IEEE Southeastcon*, Knoxville, Tennessee, pp. 633-637.

- [E.46] Chang, C.C., Tsu, S.M. and Chen, C.Y. "Remote Scheme for Password Authentication Based on Theory of Quadratic Residues," *Computations Commun.*, Vol. 18, pp. 936-942, Dec.
- [E.47] Chen, H. Schuffels, C. and Orwig, R. [1996], "Internet Categorization and Search: A Self-Organizing Approach," J. Vis. Commun. Image Represent., Vol. 7, No. 1, pp. 88-102.
- [E.48] Chen, K. and Wang, D.L. [2001], "Perceiving Geometric Patterns: From Spirals to Inside-Outside Relations by a Neural Oscillator Network," *IEEE Trans. Neural Networks*, Vol. 12. pp. 1084-1102, Sept.
- [E.49] Chiang, C. and Fu, H. [1994b], "The Classification Capability of a Dynamic Threshold Neural Network," *Pattern Recognit. Lett.*, Vol. 15, pp. 409-418.
- [E.50] Chiu, H.P. and Tseng, D.C. [1997], "Invariant Handwritten Chinese Character Recognition Using Fuzzy Min-Max Neural Networks," *Pattern Recognition Lett.*, Vol. 18, No. 5, pp. 481-491.
- [E.51] Cichocki, A. and Bargiela, A. [?], "Neural Networks for Solving Linear Inequality Systems?" *Parallel Computing*, Vol. 22, No. 11, pp. 1455-1475.
- [E.52] Cybenko, G. [1990], "Complexity Theory of Neural Networks and Classification Problems," *Neural Networks EURASIP Workshop Proc.*, (Eds.) L.B. Almeida and C.J. Wellekens, Sesimbra, Portugal, Feb., pp. 24-44.
- [E.53] Dash, M. and Liu, H. [1997], "Feature Selection for Classification," *Intelligent Data Analysis*, New York, Elsevier Science, Vol. 1.
- [E.54] Delfosse, N. and Loubaton, P. [1995] "Adaptive Blind Separation of Independent Sources: A Deflation Approach," Signal Processing, Vol. 45, pp. 59-83.

- [E.55] Demartines, P. and Herault, J. [1997], "Curvilinear Component Analysis: A Self-Organizing Neural Network for Nonlinear Mapping of Data Sets," *IEEE Trans. Neural Networks*, Vol. 8, pp. 148-154, Jan.
- [E.56] Desai, M.S. [1990], "Noisy Pattern Retrieval Using Associative Memories," *MSEE Thesis*, University of Louisville, Kentucky.
- [E.57] Duch, W., Adamczak, R. and Grabczewski, K. [1998], "Extraction of Logical Rules from Neural Networks," *Neural Process. Lett.*, Vol. 7, pp. 211-219.
- [E.58] Eberhart, R.C. and Dobbins, R.W., [1990a], "Case Study I: Detection of Electroencephalogram Spikes," *Neural Networks PC Tools*, (Eds.) R.C. Eberhart and R.W. Dobbins, San Diego, Calif., Academic Press.
- [E.59] Engelbrecht, A.P. and Cloete, I. [1996b], "Feature Extraction from Feedforward Neural Networks Using Sensitivity Analysis," *Proc. Inter. Conf. Systems, Signals, Contr., Computations,* Vol. 2, Durban, South Africa, pp. 221-225.
- [E.60] Etemad, K. and Chellappa, R. [1988], "Separability-Based Multiscale Basis Selection and Feature Extraction for Signal and Image Classification", *IEEE Trans. Image Processing*, Vol. 7, Oct.
- [E.61] Farhat, N.H. [1989a], "Microwave Diversity Imaging and Automated Target Identification Based on Models of Neural Networks," *Proc. IEEE*, Vol. 77, No. 5, pp. 670-681.
- [E.62] Fu, L.M. [1999], "An Expert Network for DNA Sequence Analysis," *IEEE Intel. Systems*, Vol. 14, No. 1, pp. 65-71.
- [E.63] Fujita, T. and Ando, H. [1997], "Image Segmentation for 3D Object Recognition Using Bidirectional Networks," *Proc. Inter. Conf. Artificial Neural Networks (ICANN'97)*, pp. 943-948.

- [E.64] Fukumi, M. and Akamatsu, N. [1999], "A New Rule Extraction Method from Neural Networks", Proc. IEEE Inter. Joint Conf. Neural Networks IJCNN'99, Washington, DC, July.
- [E.65] Fukushima, K. and Miyaka, S., [1980], "Neocognitron: A Self-Organizing Neural Network Model for a Mechanism of Pattern Recognition Unaffected by Shift in Position", *Biological Cybernetics*, Vol. 36, No. 4, pp. 193-202.
- [E.66] Fukushima, K., Miyake, S. and Ito, T. [1993], "Neocognitron: A Neural Network Model for a Mechanism of Visual Pattern Recognition," *IEEE Trans. System, Man, Cybernetics*, Vol. 13, No. 5, Sept./Oct., pp. 826-834.
- [E.67] Gabrys, B. and Bargiela, A. [2000], "General Fuzzy Min-Max Neural Network for Clustering and Classification," *IEEE Trans. on Neural Networks*, Vol. 11, No. 3, pp. 769-783, May.
- [E.68] Galicki, M., Leistritz, L. and Witte, H. [1999], "Dynamical Multilayer Neural Networks That Learn Continuous Trajectories," *Pattern Recognition and Image Analysis (Special Issue)*, Vol. 9, No. 4, pp. 604-608.
- [E.69] Girolami, M. [2001], "The Topographic Organization and Visualization of Binary Data Using Multivariate-Bernoulli Latent Variable Models", *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1367-1374, Nov.
- [E.70] Golub, T.R., et al. [1999], "Molecular Classification of Cancer: Class Discovery and Class Prediction by Gene Expression Monitoring," *Science*, Vol. 286, pp. 531-537, Oct.
- [E.71] Goo, G. and Au, W.W.L., [1996], "Detection and Identification of Buried Objects in Shallow Water," Proc. SPIE Inter. Symp. Aerospace/Defense Sensing Contr., Vol. 2765, Orlando, FL, pp. 201-214, April.

- [E.72] Guo, H. and Gelfand, S.B. [1992], "Classification Trees with Neural-Network Feature Extraction," *IEEE Trans. Neural Networks*, Vol. 3, pp. 923-933.
- [E.73] Hasan, M. and Azimi-Sadjadi, M.R. [1996], "A Modified Block FTF Adaptive Algorithm with Applications to Underwater Target Detection," *IEEE Trans. Signal Processing*, Vol. 44, pp. 2172-2185, Sept.
- [E.74] Hayashi, Y. [1994b], "Oscillatory Neural Network and Learning of Continuously Transformed Patterns," *Neural Networks*, Vol. 7, pp. 219-231.
- [E.75] Homma, N., Sakai, M., Gupta, M.M. and Kenichi, Abe, [2001],
 "Stochastic Analysis of Chaos Dynamics in Recurrent Neural Networks," *Joint 9th IFSA World Congress and 20th NAFIPS Inter. Conf.*, Vancouver, B.C., Canada, Paper No. 243, pp. 1372-1376, July.
- [E.76] Hinton, G.E., Dayan, P. and Revow, M. [1997], "Modeling the Manifolds of Images of Handwritten Digits", *IEEE Trans. Neural Networks*, Vol. 8, pp. 65-74, Jan.
- [E.77] Hinton, G.E., Williams, C.K.I., and Revow, M.D. [1992],
 "Adaptive Elastic Model for Handprinted Character Recognition," *Advances Neural Inform. Processing Syst*, Vol. 4, pp. 512-519.
- [E.78] Homma, N. and Gupta, M.M., [2002], "Superimposing Neural Learning by Dynamic and Spatial Changing Weights," Proc. of 7th Int'l. Symposium on Artificial Life and Robotics, Vol. 1, pp. 165-168.
- [E.79] Honma, N., Kamauchi, T., Abe, K. and Takada, H. [1999], "Auto-Learning by Dynamical Recognition Networks," *Proc. of 1999 IEEE Int'l. Conference on SMC*, Vol. III, pp. 211-216.
- [E.80] Hoppensteadt, F.C. and Izhikevich, [2000], "Pattern Recognition Via Synchronization in Phase-Locked Loop Neural Networks,"
IEEE Trans. on Neural Networks, Vol. 11, No. 3, pp. 734-738, May.

- [E.81] Howard, R.E., Boser, B., Denker, J.S., Graf, H.P., Henderson, D., Hubbard, W, Jackel, D, LeCun, Y. and Baird, H.S. [1990],
 "Optical Character Recognition A Technology Driver for Neural Networks," *Proc. IEEE Inter. Joint Neural Network Conf.*, pp. 2433-2436.
- [E.82] Hoya, T. and Chambers, J.A. [2001], "Heuristic Pattern Correction Scheme Using Adaptively Trained Generalized Regression Neural Networks," *IEEE Trans. Neural Networks*, Vol. 12, pp. 91-100, Jan.
- [E.83] Huang, G.-B., Chen, Y.-Q. and Babri, H. A. [2000],
 "Classification Ability of Single Hidden Layer Feedforward Neural Networks," *IEEE Trans. on Neural Networks*, Vol. 11, No. 3, pp. 799-801, May.
- [E.84] Huang, Q., Azimi-Sadjadi, M.R. and Dobeck, G. [1998],
 "Underwater Target Classification Using Wavelet Packets and Neural Networks," *Proc. 1998 IEEE Inter. Conf. Neural Networks*, Vol. 1, Anchorage, AK, pp. 177-182.
- [E.85] Huang, S.C. and Huang, Y.F. [1991], "Bounds on the Number of Hidden Neurons in Multilayer Perceptrons," *IEEE Trans. Neural Networks*, Vol. 2, No. 1, pp. 47-55.
- [E.86] Huang, W.Y. and Lippmann, R.R. [1991], "Neural Net and Traditional Classifiers," *Neural Information Processing Systems*, San Mateo CA: Morgan Kaufman Publishers, pp. 387-396.
- [E.87] Hyvarinen, A. [2001], "Blind Source Separation by Nonstationarity of Variance: A Cumulant-Based Approach," *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1471-1474, Nov.
- [E.88] Intrator, N., Huynh, Q.Q. and Dobeck, G. [1997], "Feature Extraction from Acoustic Backscattered Signals Using Wavelet

Dictionaries," Proc. SPIE Inter. Symp. Aerospace/Defense Sensing Contr., Vol. 3079, Orlando, FL, pp. 183-190, April.

- [E.89] Ishibuchi, H., Nozaki, K. and Tanaka, H. [1992], "Distributed Representation of Fuzzy Rules and its Applications to Pattern Classification," *Fuzzy Sets and Systems*, Vol. 59, pp. 295-304.
- [E.90] Ishibuchi, H., Nozaki, K., Yamamoti, N. and Tanaka, H. [1995],
 "Selecting Fuzzy If-Then Rules for Classification Problems Using Genetic Algorithms," *IEEE Trans. Fuzzy Systems*, Vol. 3, pp. 260-270.
- [E.91] Jackel, L.D., Graf, H.P., Hubbard, W., Denker, J.S. and Henderson,
 D. [1988], "An Application of Neural Net Chips: Handwritten
 Digit Recognition," *Proc. IEEE Inter. Conf. on Neural Networks*,
 San Diego, CA, pp. II-107-115.
- [E.92] Jin, Y., von Seelen, W. and Sendhoff, B. [1998], "An Approach to Rule-Based Knowledge Extraction," *Proc. IEEE Inter. Conf. Fuzzy Systems FUZZ-IEEE*'98, Anchorage, AK, pp. 1188-1193, May.
- [E.93] Jockusch, S. [1990], "A Neural Network Which Adapts Its Structure to a Given Set of Patterns," *Parallel Processing in Neural Systems and Computers*, (Eds.) R. Eckmiller, G. Hartmann, and G. Hauske, Amsterdam, The Netherlands, Elsevier, pp. 169-172.
- [E.94] Jun, Y.P., Yoon, H. and Cho, J.W. [1993], "L* Learning: A Fast Self-Organizing Feature Map Learning Algorithm Based on Incremental Ordering," *IEICE Trans. Inform. Systems*, Vol. E76, No. 6, pp. 698-706.
- [E.95] Jutten, C. and Hdrault, J. [1991], "Blind Separation of Sources, Part I: An Adaptive Algorithm Based on Neuromimetic Architecture," *Signal Processing*, Vol. 24, pp. 1-10.

- [E.96] Karypis, G. Han, E.-H. and Kumar, V. [1999], "Chameleon: Hierarchical Clustering Using Dynamic Modeling," *IEEE Comput.*, Vol. 32, pp. 68-74.
- [E.97] Kaski, S. [1997], "Dimensionality Reduction By Random Mapping: Fast Similarity Computation for Clustering," D.Sc. Thesis, Helsinki Univ. Technol., Finland, March.
- [E.98] Kaski, S., Venna, J. and Kohonen, T. [1999], "Coloring that Reveal High-Dimensional Structures in Data," Proc. 6th Inter. Conf. Neural Inform. Process., pp. 729-734.
- [E.99] Kaski, S., Honkela, T., Lagus, K. and Khonen, T. [1996],
 "Creating an Order in Digital Libraries with Self-Organizing Maps," *Proc. WCNN '96 World Congr. Neural Network*, San Diego, CA, pp. 814-817, Sept.
- [E.100] Kaski, S., Honkela, T., Lagus, K. and Khonen, T. [1998],
 "WEBSOM Self-Organizing Maps of Document Collections," *Neurocomputations*, Vol. 21, pp. 101-117.
- [E.101] Kewley, R., Embrechts, M. and Breneman, C. [2000], "Data Strip Mining for the Virtual Design of Pharmaceuticals with Neural Networks", *IEEE Trans. Neural Networks*, Vol. 11, No. 3, pp. 668-679, May.
- [E.102] Ko, K., Choi, S. and Hong, D. [1999], "Multistage Interference Cancellation for an MC-CDMA Systems with Carrier Frequency Offset", *Proc. IEEE ICOIN-13*, pp. 4C3.1-4C3.6.
- [E.103] Ko, K., Choi, S. and Hong, D. [2000], "Multiuser Detector with an Ability of Channel Estimation Using an RBF Network in an MC-CDMA System", *Proc. IJCNN 2000*, Vol. 5, pp. 348-353.
- [E.104] Ko, K., Choi, S., Kang, C. and Hong, D. [2000], "RBF Multiuser Detector with Channel Estimation Capability in a Synchronous MC-CDMA System", *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1536-1538, Nov.

- [E.105] Kohavi, R., Langley, P. and Yun, Y. [1996], "The Utility of Feature Weighting in Nearest-Neighbor Algorithms", *Proc. ECML-97*, pp. 725-730.
- [E.106] Kohler, C., Konig, A., Temelkova-Kurktschiev, T. and Hanefeld, M. [1999], "Application of Interactive Multivariate Data Visualization to the Analysis of Patients Findings in Metabolic Research", Proc. 3rd Inter. Conf. Knowledge-Based Intelligent Information Engineering Systems KES'99, Adelaide, Australia, pp. 397-402.
- [E.107] Koller, D. and Sahami, M. [1996], "Toward Optimal Feature Selection", *Machine Learning: Proc. Thirteenth Inter. Conf.* (*ICML* '96), (Ed.) L. Saitta, pp. 284-292.
- [E.108] Konen, W.K., Maurer, T. and von der Malsburg [1994], "A Fast Dynamic Link Matching Algorithm for Invariant Pattern Recognition", *Neural Networks*, Vol. 7, pp. 1019-1030.
- [E.109] Konig, A. [2000], "Interactive Visualization and Analysis of Hierarchical Neural Projections for Data Mining", *IEEE Trans. on Neural Networks*, Vol. 11, No. 3, pp. 615-624, May.
- [E.110] Krishnapuram, R. and Keller, J.M. [1993], "A Possible Approach to Clustering," *IEEE Trans. Fuzzy Systems*, Vol. 1, pp. 98-110, May.
- [E.111] Kwan, H.K.K. and Cai, Y. [1994], "A Fuzzy Neural Network and Its Application to Pattern Recognition," *IEEE Trans. Fuzzy Systems*, Vol. 2, No. 3, pp. 185-193.
- [E.112] Lang, K.J. Waibel, A. H. and Hinton, G. E. [1990], "A Time-Delay Neural Network Architecture from Isolated Word Recognition," *Neural Networks*, Vol. 3, No. 1, pp. 23-44.
- [E.113] Lawrence, R.D., Almasi, G.S. and Rushmeier, H.E., [1999], "A Scalable Parallel Algorithm for Self-Organizing Maps with

Applications to Sparse Data Problems," *Data Mining Knowl. Discovery*, Vol. 3, No. 2, pp. 171-195, June.

- [E.114] LeCun, Y., Bottou, L., Bengio, Y. and Haffner, P. [1988], "Gradient-Based Learning Applied to Document Recognition", *Proc. IEEE*, Vol. 86, No. 11, pp. 2278-2324.
- [E.115] LeCun, Y., Boser, J.S., Denker, J.S., Henderson, Howard, R.E., Hubbard, W. and Jackel, L.D., [1989], "Backpropagation Applied to Handwritten Zip Code Recognition", *Neural Computation*, Vol. 1, pp. 541-551.
- [E.116] Lee, R., Liu, J. and You, Y. [1999], "Face Recognition: Elastic Relation Encoding and Structural Matching," Proc. IEEE Inter. Conf. Systems, Man, Cybernetics, Vol. II, Tokyo, Japan, pp. 172-177.
- [E.117] Lehtokangas, M. [2000], "Cascade-Correlation Learning for Classification," *IEEE Trans. on Neural Networks*, Vol. 11, No. 3, pp. 784-794, May.
- [E.118] Lesteven, S., Poncot, P. and Murtagh, F. [1996], "Neural Networks and Information Extraction in Astronomical Information Retrieval," *Vistas Astron.*, Vol. 40, p. 395.
- [E.119] Leung, C.S, Tsoi, A.-C. and Chan, L.W. [2001], "Two Regularizers for Recursive Least Squared Algorithms in Feedforward Multilayered Neural Networks", *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1314-1332, Nov.
- [E.120] Leung, C.S., Wong, K.W. and Tsoi, A.C. [1997], "Recursive Algorithms for Principal Component Extraction," *Network: Comput. Neural Systems*, Vol. 8, pp. 323-334.
- [E.121] Li, L.-H., Lin, I.-C. and Hwang, M.-S. [2001], "A Remote Password Authentication Scheme for Multiserver Architecture Using Neural Networks," *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1498-1504, Nov.

- [E.122] Lim, T.-S., Loh, W.-Y. and Shih, Y.-S. [2000], "A Comparison of Prediction Accuracy, Complexity, and Training Time of 33 Old and New Classification Algorithms, *Machine Learning*, Vol. 40, pp. 203-228. Lippmann, R.P. [1989], "Review of Neural Networks for Speech Recognition," *Neural Computation*, Vol. 1, No. 1, pp. 1-38, April.
- [E.123] Loh, W.-Y. and Shih, Y.-S. [1997], "Split Selection Methods for Classification Trees," *Statistica Sinica*, Vol 7, pp. 815-880.
- [E.124] Luo, L., Wang, Y. and Kung, S.Y. [1999], "Hierarchy of Probabilistic Principal Component Subspaces for Data Mining", *Proc. IEEE Workshop Neural Nets for Signal Processing*, Aug.
- [E.125] Mangiameli, P., Chen, S.K. and West, D. [1996], "A Comparison of SOM Neural Network and Hierarchical Clustering Methods", *Eur. J. Oper. Res.*, Vol. 93, No. 2, Sept.
- [E.126] Marko, K.A., James, J., Dosdall, J. and Murphy, J. [1989],
 "Automotive Control System Diagnostics Using Neural Nets for Rapid Pattern Classification of Large Data Sets," *Proc. 2nd Inter. IEEE Joint Conf. on Neural Networks*, Washington, D.C., pp. 13-17, June.
- [E.127] Matsuoka, K., Ohya, M. and Kawamoto, M. [1995], "A Neural Net for Blind Separation of Nonstationary Signals," *Neural Networks*, Vol. 8, No. 3, pp. 411-419.
- [E.128] Meneganti, M., Saviello, F.S. and Tagliaferri, R. [1998], "Fuzzy Neural Networks for Classification and Detection of Anomalies," *IEEE Trans. Neural Networks*, Vol. 9, Sept.
- [E.129] Micchelli, C.A. [1986], "Interpolation of Scattered Data: Distance Matrices and Conditionally Positive Definite Functions," *Constructive Approximations*, Vol. 2, pp. 11-22.
- [E.130] Mitra, S. [1994], "Fuzzy MLP Based Expert System for Medical Diagnosis," *Fuzzy Sets and Systems*, Vol. 65, pp. 285-296.

77

- [E.131] Mitra, S. and Pal, S.K. [1994a], "Logical Operation Based On Fuzzy MLP for Classification and Rule Generation," *Neural Networks*, Vol. 7, No. 2, pp. 353-374.
- [E.132] Mitra, S. and Pal, S.K. [1994b], "Self-Organizing Neural Network as a Fuzzy Classifier," *IEEE Trans. Systems, Man, Cybernetics*, Vol. 24, Mar.
- [E.133] Mitra, S. and Pal, S.K. [1995], "Fuzzy Multilayer Perceptron, Inferencing and Rule Generation," *IEEE Trans. Neural Networks*, Vol. 6, pp. 51-63, Jan.
- [E.134] Mitra, S. and Pal, S.K. [1996], "Fuzzy Self Organization, Inferencing and Rule Generation," *IEEE Trans. Neural Network*, Vol. 8, pp. 1338-1350.
- [E.135] Mitra, S, Banerjee, M. and Pal, S.K. [1998], "Rough Knowledge-Based Network, Fuzziness and Classification," *Neural Computations Applicat.*, Vol. 7, pp. 17-25.
- [E.136] Mitra, S., De, R.K. and Pal, S.K. [1997], "Knowledge-Based Fuzzy MLP for Classification and Rule Generation," *IEEE Trans. Neural Networks*, Vol. 8, pp. 1338-1350.
- [E.137] Moallemi, M. [1991], "Classifying Cells for Cancer Diagnosis Using Neural Networks," *IEEE Expert*, Vol. 6, No. 6, pp. 812, Dec.
- [E.138] Mohan, R. and Nevatia, R. [1992], "Perceptual Organization for Scene Segmentation and Description," *IEEE Trans. Pattern Anal. Machine Intell.*, Vol. 14, pp. 616-635.
- [E.139] Moody, J.E. [1991], "Note on Generalization, Regularization, and Architecture Selection in Nonlinear Systems," *Proc. IEEE Workshop Neural Networks Signal Processing*, pp. 1-10.
- [E.140] Musavi, M., Ahmed, W., Chan, K.H., Faris, K.B. and Hummels, D.M., [1992], "On the Training of Radial Basis Function Classifiers," *Neural Networks*, Vol. 5, pp. 595-603.

- [E.141] Nabney, T. [1999], "Efficient Training of RBF Networks for Classification," Proc. 9th ICANN, Vol. 1, pp. 210-215.
- [E.142] Newton, S.C. Pemmaraju, S. and Mitra, S. [1992], "Adaptive Fuzzy Leader Clustering of Complex Data Sets in Pattern Recognition," *IEEE Trans. Neural Networks*, Vol. 3, pp. 794-800, Sept.
- [E.143] Obaidat, M.S., Macchiarolo, D.T. and Bleha, S. [1991], "An Intelligent Neural Network System for Identifying Computer Users," *Intel. Eng. Systems Through Artificial Neural Networks*, pp. 953-959.
- [E.144] Okamoto, S. and Satoh, K. [1995], "An Average-Case Analysis of K-Nearest Neighbor Classifier," *Proc. ICCBR-95*, (Eds.) A.
 Aamodt and M. Veloso, pp. 224-264.
- [E.145] Pak, S.K. and Ghosh, A. [1996], "Neuro-Fuzzy Computing for Image Processing and Pattern Recognition," *Inter. J. Systems Sci.*, Vol. 27, pp. 1179-1193.
- [E.146] Park, Y. [1994], "A Comparison of Neural-Net Classifiers and Linear Tree Classifiers: Their Similarities and Differences," *Pattern Recognition*, Vol. 27, pp. 1493-1503.
- [E.147] Paul, S.K. and Mitra, S. [1992], "Multilayer Perceptron, Fuzzy Sets, and Classification," *IEEE Trans. Neural Networks*, Vol. 3, No. 5, pp. 683-697, Sept.
- [E.148] Pedrycz, W. [1990], "Fuzzy Sets in Pattern Recognition: Methodology and Methods," *Pattern Recognition*, Vol. 23, No. ¹/₂, pp. 121-146.
- [E.149] Pedrycz, W. [1991b], "Neurocomputations in Relational Systems," *IEEE Trans. Pattern Analysis and Machine Intelligence*, Vol. 13, pp. 289-297.

- [E.150] Pedrycz, W. [1992], "Fuzzy Neural Networks with Reference Neurons as Pattern Classifiers," *IEEE Trans. Neural Networks*, Vol. 3, Sept.
- [E.151] Pedrycz, W. and Waletzky, J. [1997], "Fuzzy Clustering with Partial Supervision," *IEEE Trans. Systems, Man, Cybernetics*, Vol. 27, pp. 787-795, Oct.
- [E.152] Perantonis, S.J. and Virvilis, V. [1999], "Feature Selection Using Supervised Principal Components Analysis," *Neural Processing Lett.*, Vol. 10, No. 3, pp. 243-253.
- [E.153] Perlovsky, L.I. and McManus, M.M. [1991], "Maximum Likelihood Neural Networks for Sensor Fusion and Adaptive Classification," *Neural Networks*, Vol. 4, pp. 89-102.
- [E.154] Pham, D.-T. and Cardoso, J.-F. [2000], "Blind Separation of Instantaneous Mixtures of Nonstationary Sources," *Proc. Inter. Workshop on Independent Component Analysis and Blind Signal Separation (ICA2000)*, Helsinki, Finland, pp. 187-193.
- [E.155] Piche, S.W. [1995], "The Selection of Weight Accuracies for Madalines," *IEEE Trans. Neural Networks*, Vol. 6, pp. 432-445, Mar.
- [E.156] Rao, D.H., Nikiforuk, P.N. and Gupta, M.M. [1993], "A Central Pattern Generator Model Using Dynamic Neural Processor", 1993 World Congress on Neural Networks (WCNN), Portland, Oregon, Vol. IV, pp. 533-536, July.
- [E.157] Reed, R.D., Marks, R. and Oh, S. [1995], "Similarities of Error Regularization, Sigmoid Gain Scaling, Target Smooth and Training with Jitter," *IEEE Trans. Neural Networks*, Vol. 6, pp. 529-538, May.
- [E.158] Roth, M. [1990], "Survey of Neural-Network Technology for Automatic Target Recognition," *IEEE Trans. Neural Networks*, Vol. 1, pp. 28-43, Mar.

- [E.159] Ruck, D.W. Rogers, S.K. and Kabrisky, M. [1990], "Feature Selection Using a Multilayer Perceptron," *Neural Network Computing*, Vol. 2. No. 2, pp. 40-48.
- [E.160] Sabourin, M. and Mitiche, A. [1992], "Optical Character Recognition by a Neural Network," *Neural Networks*, Vol. 5, pp. 943-852.
- [E.161] Setiono, R. and Liu, H. [1997a], "Neural-Network Feature Selector," *IEEE Trans. Neural Networks*, Vol. 8, pp. 654-662, June.
- [E.162] Shareef, N., Wang, D.L. and Yagel, R. [1999], "Segmentation of Medical Images Using Legion," *IEEE Trans. Medical Imaging*, Vol. 18, pp. 74-91.
- [E.163] Shin, Y. and Ghosh, J., [1992], "Approximation of Multivariate Functions Using Ridge Polynomial Networks," *Proceeding of Inter. Joint Conf. on Neural Networks*, Baltimore, Maryland, Vol. II, pp. 380-385, June.
- [E.164] Shonkwiler, R., [1993], "Separating the Vertices of N-Cubes by Hyperplanes and Its Application to Artificial Neural Networks," *Trans. Neural Networks*, Vol. 4, pp. 343-347, Jan.
- [E.165] Simone, G. and Morabito, F.C. [2001], "RBFNN-Based Hole Identification System in Conducting Plates," *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, Nov., pp. 1445-1454.
- [E.166] Softky, R. W., and Kammen, D. M. [1991], "Correlations in High Dimensional or Asymmetrical Data Sets: Hebbian Neuronal Processing." *Neural Networks*, Vol. 4, No. 3, pp. 337-347.
- [E.167] Sperduti, A. and Staraita, A. [1997], "Supervised Neural Networks for the Classification of Structures," *IEEE Trans. Neural Networks*, Vol. 8, pp. 714-735.
- [E.168] Steppe, J.M. Bauer, K.W. and Rogers, S. K. [1996], "Integrated Feature and Architecture Selection," *IEEE Trans. Neural Networks*, Vol. 7, pp. 1007-1014, July.

- [E.169] Stoecker, M., Reitboech, H.J. and Eckhorn, R. [1996], "A Neural Network for Scene Segmentation by Temporal Coding," *Neurocomputations*, Vol. 11, pp. 123-134.
- [E.170] Strumillo, P. and Durani, T.S. [1991], "Simulations of Cardiac Arrhythmia Based on Dynamical Interactions Between Neural Models of Cardiac Pace-makers," *IEE Publication No. 349*, *Second Inter. Conf Artificial Neural Networks*, pp. 195-199, Nov.
- [E.171] Su, M.C. and Chan, H. [1998], "Extracting Rules from Composite Neural Networks for Medical Diagnostic Problems," *Neural Process. Lett.*, Vol. 8, pp. 253-263.
- [E.172] Su, M.C., DeClaris, N. and Liu, T.K. [1997], "Application of Neural Networks in Cluster Analysis," *Proc. IEEE Inter. Conf. Systems, Man, and Cybernetics*, Orlando, FL, pp. 1-6, Oct.
- [E.173] Tanaka, Y. and Shimojo, S. [1996], "Location vs Feature: Reaction Time Reveals Dissociation Between Two Visual Functions," *Vision Res.*, Vol. 36, No. 14, pp. 2125-2140, July.
- [E.174] Tipping, M.E. [1999], "Probabilistic Visualization of High-Dimensional Binary Data," Advances Neural Inform. Processing Systems, pp. 592-598.
- [E.175] Triesch, J. and von der Malsburg, C. [1996], "Robotic Gesture Recognition", Proc. 2nd Conf. Automatic Face and Gesture Recognition, pp. 170-175.
- [E.176] Tsao, E., Bezdek, J.C. and Pal, N.R. [1992], "Fuzzy Kohonen Clustering Networks", *Pattern Recognit.*, Vol. 27, pp. 1179-1193.
- [E.177] Udapa L. and Udapa, S.S. [1991], "Neural Networks for the Classification of Non-Destructive Evaluation Signals," *IEE Proc.* F, Vol. 138, No. 1, pp. 41-45, Feb.
- [E.178] Vesanto, J. and Alhoniemi, E. [2000], "Clustering of the Self-Organizing Map", *IEEE Trans. on Neural Networks*, Vol. 11, No. 3, pp. 586-600, May.

- [E.179] Waibel, A. [1989], "Consonant Recognition by Modular Construction of Large Phonemic Time-Delay Networks", *Advances in Neural Information Processing Systems*, Vol. 1, (Ed.) D.S. Touretzky, San Mateo, CA, Morgan Kaufmann Publishers, pp. 215-223.
- [E.180] Waibel, A., Hanazawa, T. G. Hinton, G. K. Shikano, S. and K. J. Lang, K.L. [1989], "Phoneme Recognition Using Time-Delay Neural Networks," *IEEE Trans. Acoust., Speech, Signal Process.*, Vol. 37, No. 3, pp. 328-339, Mar.
- [E.181] Widrow, B. and Winter, R.G. [1988], "Neural Nets for Adaptive Filtering and Adaptive Pattern Recognition," *IEEE Computer*, pp. 25-39, Mar.
- [E.182] Xie, F.-G. and Hu, G. [1997], "Clustering Dynamics in Globally Coupled Map Lattices," *Phys. Rev. E.*, Vol. 56, No. 2, pp. 1567-1570.
- [E.183] Yamauchi, K., Yamaguchi, N. and Ishii, N. [1999], "Incremental Learning Methods with Retrieving of Interfered Patterns," *IEEE Trans. Neural Networks*, Vol. 10, pp. 1351-1365, Nov.
- [E.184] Yidliz, O.T. and Alpaydin, E. [2000], "Linear Discriminant Trees," *Proc. 17th Inter. Conf. Machine Learning*, (Ed.) P. Langely, Morgan Kaufmann, San Mateo, CA, pp. 1175-1182.
- [E.185] Yoon, Y.O., Brobst, R.W., Bergstresser, P.R. and Peterson, L.L.
 [1989], "A Desktop Neural for Dermatology Diagnosis," J. of Neural Network Computing, (Summer), pp. 43-52.
- [E.186] Yuan, C. and Azimi-Sadjadi, M.R., Wilbur, J. and Dobeck, G., [2000], "Underwater Target Detection Using Multichannel Subb and Adaptive Filtering and High Order Correlation Schemes," *IEEE J. Oceanic Eng.*, Vol. 25, pp. 192-205, Jan.
- [E.187] Yuhas, M.H., Goldstein, Jr., Sejnowski, I.J. and Jenkins, R.E.[1990], "Neural Network Models of Sensory Integration for

Improved Vowel Recognition," *Proc. IEEE*, Vol. 78, No. 10, pp. 1658-1668, Oct.

- [E.188] Zador, A.M., Claiborne, B.J. and Brown, T.J. [1992], "Nonlinear Pattern Separation in Single Hippocampal Neurons with Active Dendritic Membrane," *Advances in Neural Information Processing Systems*, (Eds.) J. Moody, S. Hanson and R. Lippmann, San Mateo, CA, Morgan Kaufmann, Vol. 4, pp. 51-58.
- [E.189] Zhang, X. and Li, Y. [1993], "Self-Organizing Map as a New Method for Clustering and Data Analysis," Proc. Inter. Joint Conf. Neural Networks, pp. 2448-2451.
- [E.190] Zhao, L. and Macau, E.E.N. [2001], "A Network of Dynamically Coupled Chaotic Maps for Scene Segmentation", *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1375-1385, Nov.
- [E.191] Zhao, L. Macau, E.E.N. and Omar, N. [2000], "Scene Segmentation of the Chaotic Oscillator Network," *Inter. J. Bifurcation Chaos*, Vol. 10, No. 7, pp. 1697-1708.
- [E.192] Zurada, J.M., Zigoris, D.M., Aronhime, P.B. and Desai, D. [1991],
 "Multi-Layer Feedforward Networks for Printed Character Classification", Proc. 34th Midwest Symp. on Circuits and Systems, Monterey, CA, May 14-16.

[F] Functions Approximations and Forecasting Using Neural Networks

- [F.1] Abe, S. and Lan, M.S. [1995], "Fuzzy Rule Extraction Directly From Numerical Data for Function Approximation," *IEEE Trans. Systems Man, Cybernetics*, Vol. 25, pp. 119-129.
- [F.2] Alahakoon, L.D. and Halgamuge, S.K. [1998], "Knowledge Discovery with Supervised and Unsupervised Self Evolving Neural Networks," *Proc. Inter. Conf. Information-Intelligent Systems*, pp. 907-910.
- [F.3] Albertini, F. and Sontag, E.D. [1992], "For Neural Networks, Function Determines Form," *Neural Networks*, Vol. 6, pp. 975-990.
- [F.4] Albu, F. and Martinez, D. [1999], "The Application of Support Vector Machines with Gaussian Kernels for Overcoming Cochannel Interference," *Proc.* 9th IEEE Inter. Workshop Neural Networks Signal Processing, Madison, WI, Aug. 23-25, pp. 49-57.
- [F.5] Alessandri, A. Parisini, T. and Zoppoli, R. [1997], "Neural Approximators for Nonlinear Finite-Memory State Estimation," *Inter. J. Contr.*, Vol. 67, No. 2, pp. 275-301.
- [F.6] Atiya, A., El-Shoura, S., Shaheen, S. and El-Sherif, M. [1999], "A
 Comparison Between Neural-Network Forecasting Techniques Case Study: River Flow Forecasting", *IEEE Trans. Neural Networks*, Vol. 10, pp. 402-409, Mar.
- [F.7] Azimi-Sadjadi, M.R., Wilbur, J. and Dobeck, G. [1995], "Isolation of Resonances in Acoustic Backscatter from Elastic Targets Using Adaptive Estimation Schemes," *IEEE J. Oceanic Eng.*, Vol. 20, pp. 346-353, Oct.
- [F.8] Barron, A.R. [1994], "Approximation and Estimation Bounds for Artificial Neural Networks," *Machine Learning*, Vol. 14, No. 1, pp. 115-133.
- [F.9] Bassi, D.F. [1995], "Stock Price Predictions by Recurrent Multilayer Neural Network Architectures," *Proc. Neural Networks*

in the Capital Markets Conf., (Ed.) A. Refenes, London Business School, London, U.K., pp. 331-340, Oct.

- [F.10] Bently, L.J., Faust, G.M. and Preparata, F.P. [1982],"Approximation Algorithm for Convex Hulls," *Commun. ACM.*,pp. 64-68.
- [F.11] Blum, E.K. and Li, L.K. [1991], "Approximation Theory and Feedforward Networks," *Neural Networks*, Vol. 4, No. 4, pp. 511-515.
- [F.12] Broomhead, DS., and Lowe, D. [1988], "Multivariable Functional Interpolation and Adaptive Networks," *Complex System*, Vol. 2, pp. 321-355.
- [F.13] Bruck, J. [1990a], "Harmonic Analysis of Polynomial Threshold Functions," *SIAMJ. Dis. Math*, Vol. 3, No. 2, pp. 168-177.
- [F.14] Cardaliaguet, P. and Euvrard, C. [1992], "Approximation of a Function and its Derivative with a Neural Network," *Neural Networks*, Vol. 5, No. 2, pp. 207-220.
- [F.15] Chak, C.K., Feng, G. and Ma, J. [1998], "An Adaptive Fuzzy Neural Network for MIMO System Model Approximation in High-Dimensional Spaces," *IEEE Trans. Systems, Man, Cybernetics*, Vol. 28, pp. 436-466.
- [F.16] Cybenko, G. [1989], "Approximation by Superpositions of a Sigmoidal Function," *Math. Control Signal System*, Vol. 2, No. 3, pp. 303-314.
- [F.17] Daunicht, W.I., [1990], "Defanet-A Deterministic Approach to Function Approximation by Neural Networks," Proc. IEEE Inter. Joint Conf. Neural Networks (IJCNN), pp. 161-164.
- [F.18] Deco, G. and Schurmann [1997], "Dynamic Modelling Chaotic Time Series, Computational Learning Theory and Neural Learning Systems," Vol. 4 of Making Learning Systems Practical, MIT Press, Cambridge, MA, Chapter 9.

- [F.19] Falkenhainer, B. [1992], "Modeling Without Amnesia: Making Experience-Sanctioned Approximations," Proc. 6th Inter.
 Workshop on Qualitative Reasoning about Physical Systems, Edinburgh, Scotland.
- [F.20] Freuder E.C. and Snow, P. [1990], "Improved Relaxation and Search Methods for Approximate Constraint Satisfaction with a Maximum Criterion", Proc. of the 8th Biennial Conf. on the Canadian Society for Computational Studies of Intelligence, Ontario, pp. 227-230.
- [F.21] Funahashi, K. [1989a], "Approximation of Dynamical Systems by Continuous Time Recurrent Neural Networks," *Neural Networks*, Vol. 6, pp. 801-806.
- [F.22] Funahashi, K. [1989b], "On the Approximate Realization of Continuous Mappings by Neural Networks," Vol. 2, No. 3, pp. 183-192.
- [F.23] Girosi, F. and Poggio, T. [1990], "Networks and the Best Approximation Property," *Biological Cybernetics*, Vol. 63, pp. 169-176.
- [F.24] Hammer, B. [1999a], "Approximation Capabilities of Folding Networks," *ESANN'99*, Bruges, Belgium, pp. 33-38, April.
- [F.25] Hammer, B. and Sperschneider, V. [1997], "Neural Networks can Approximate Mappings on Structured Objects," *Inter. Conf. Comput. Intel. Neural Networks*'97, (Ed.) P.P. Wang, pp. 211-214.
- [F.26] Hecht-Nielsen, R. [1987b], "Kolmogorov's Mapping Neural Network Existence Theorem," *Proc. of 1987 ICNN*, Vol. III, pp. 11-14.
- [F.27] Hofmann, T. [1999b], "Probabilistic Topic Maps: Navigating Through Large Text Collections", Proc. 3rd Symp. Intell. Data Anal.

- [F.28] Hornik, K. [1991], "Some New Results on Neural Network Approximation," *Neural Networks*, Vol. 6, No. 8, pp. 1069-1072.
- [F.29] Hornik, K., Stinchcombe, M. and White, H. [1989], "Multilayer Feed-Forward Networks are Universal Approximators," *Neural Networks*, Vol. 2, No. 5, pp. 359-366.
- [F.30] Hornik, K., Stinchcombe, M. and White, H [1990], "Universal Approximation of an Unknown Mapping and Its Derivatives Using Multilayer Feed-Forward Networks," Vol. 3, No. 6, pp 551-560.Ilornik, K., Stinclicombe, M. and White, H. [1989], "Multilayer Feed-Forward Networks are Universal Approximators," Neural Networks, Vol. 2, No. 5, pp. 359-366.
- [F.31] Ito, Y. [1991], "Approximation of Functions On a Compact Set by Finite Sums of a Sigmoid Function Without Scaling," *Neural Networks*, Vol. 4, No. 1, pp.105-115.
- [F.32] Ito, Y. [1993], "Extension of Approximation Capability of a Three Layered Neural Networks To Derivatives," *Proc. of 1993 ICNN*, Vol. 1, pp. 377-381.
- [F.33] Jang, J.S.R. and Sun, C.T. [1993], "Functional Equivalence Between Radial Basis Function Networks and Fuzzy Inference Systems," *IEEE Trans. Neural Networks*, Vol. 4. No. 1, pp. 156-159, Jan.
- [F.34] Jin, L. and Gupta, M.M. [1995b], "Functional Equivalence Between Neural Networks and Fuzzy Systems with Sinusoidal Membership Functions," *Proc. of the Joint Inter. Symposium on Uncertainty Modeling and Analysis*, University of Maryland, College Park, Maryland, USA, pp. 305-310.
- [F.35] Jin, L. Gupta, M.M. and Nikiforuk, P.N. [1994a], "Approximation Capabilities of Feed-Forward and Recurrent Neural Networks," *Intelligent Control Systems*, (Eds.) M.M. Gupta and N.K. Sinha, IEEE Press, Chapter 10, pp. 234-264.

- [F.36] Jin, L. Gupta, M.M. and Nikiforuk, P.N. [1995f], "Neural Networks and Fuzzy Basic Functions for Functional Approximations," *Fuzzy Logic and Intelligent Systems*, Kluwer Academic Publishers, Boston, Chapter 2, pp. 17-68.
- [F.37] Jin, L. Gupta, M.M. and Nikiforuk, P.N. [1995d], "Uniform Approximation of Continuous-Time Dynamic Systems Using Dynamic Neural Networks, 1995 World Congress on Neural Networks (WCNN'95), Washington DC, USA, Vol. 2, pp. 54-57, July.
- [F.38] Jin, L., Nikiforuk, P.N. and Gupta, M.M. [1992b], "Decoupled Recursive Estimation Training and Trainable Degree of Feedforward Neural Networks," *Inter. Joint Confer. on Neural Networks*, Baltimore, Paper No. 691, Vol. I, pp. 894-900, June.
- [F.39] Jin, L., Nikiforuk, P.N. and Gupta, M.M. [1995j], "Approximation of Discrete-Time State Space Trajectories Using Dynamic Recurrent Neural Networks," *IEEE Trans. on Auto. Contr.*, Vol. 40, No. 7, pp. 1266-1270.
- [F.40] Jin, L., Nikiforuk, P.N. and Gupta, M.M. [1999b], "Dynamic Recurrent Neural Networks for Approximation of Nonlinear Systems," 14th IFAC World Congress, Beijing, Paper No. K-31 -05-2, pp. 45-50, July.
- [F.41] Kolmogorov, A.N. [1957], "On the Representation of Continuous Functions of Several Variables by Superposition of Continuous Functions of One Variable and Addition" Dokl. Akad. Nauk USSR, Vol. 114, pp. 953-956.
- [F.42] Kosko, B. [1994], "Fuzzy Systems as Universal Approximators," IEEE Trans. Computers.
- [F.43] Kurkova, V. [1992], "Kolmogorov's Theorem and Multilayer Neural Networks," *Neural Networks*, Vol. 5, No. 3, pp. 501-506.

- [F.44] Lee, B.W., Liu, J. and Dai, H. [1998], "Forecasting From Low Quality Data with Applications in Weather Forecasting," *Inter. J. Comput. Inform.*, Vol. 22, No. 3, pp. 351-358.
- [F.45] Leonard, J.A. Kramer, M.A. and Ungar, L.H. [1992], "Using Radial Basis Functions to Approximate a Function and Its Error Bounds," *IEEE Trans. Neural Networks*, Vol. 3, No. 4, pp. 624-626.
- [F.46] Liu, J. and Wong, L., [1996], "A Case Study for Hong Kong Weather Forecasting," Proc. Inter. Conf. Neural Information Processing, Hong Kong, pp. 787-792.
- [F.47] Liu, J.N.K. [1999], "Rainfall Forecasting From Multiple Point Source Using Neural Network," Proc. IEEE Inter. Conf. Systems, Man, Cybernetics, Vol. II, Tokyo, Japan, pp. 429-434.
- [F.48] Liu, J.N.K. and Tang, T.I. [1996], "An Intelligent System for Financial Market Predictions," Proc. 2nd South China Inter. Business Symp., Macau, pp. 199-209.
- [F.49] Mackay, D. [1992b], "Bayesian Interpolation", Neural Computations, Vol. 4, pp. 415-447.
- [F.50] Poggio, T. and Girosi, F. [1990], "Networks for Approximation and Learning," *Proc. IEEE*, Vol. 78, No. 9, pp. 1481-1497, Sept.
- [F.51] Rao, D.H. and Gupta, M.M. [1994], "Dynamic Neural Units and Function Approximation," *Neuro-Control Systems, Theory and Applications*, IEEE Press Book, New York, pp. 289-294, (Reprinted from *IEEE Conf. on Neural Networks, San Francisco*, CA, March 28-April 1, 1993, pp. 743-748).
- [F.52] Rao, D.H. and Gupta, M.M. [1994], "Functional Approximation Using Dynamic Neural Processor," *Inter. J. of Neural and Mass-Parallel Computing and Information Systems*, Vol. 4, No. 5, pp. 573-592.

- [F.53] Scarselli, F. and Tsoi, A.C. [1998], "Universal Approximation Using Feedforward Neural Networks: A Survey of Some Existing Methods and Some New Results," *Neural Networks*, Vol. 11, No. 1, pp. 15-37.
- [F.54] Shin, Y. and Ghosh, J. [1991], "The Pi-Sigma Network: An Efficient Higher-Order Neural Network for Pattern Classification and Function Approximation," *Proc. of IJCNN*, Seattle, Washington, Vol. 1, pp.13-18.
- [F.55] Shin, Y. and Ghosh, J., [1992], "Approximation of Multivariate Functions Using Ridge Polynomial Networks," *Proceeding of Inter. Joint Conf. on Neural Networks*, Baltimore, Maryland, Vol. II, pp. 380-385, June.
- [F.56] Sprecher, D.A. [1965], "On the Structure of Continuous Functions of Several Variables," *Trans. Amer. Math. Soc.*, Vol. 115, pp. 340-355.
- [F.57] Sprecher, D.A. [1993], "A Universal Mapping for Kolmogorov Superposition Theorem," *Neural Networks*, Vol. 6, No. 8, pp. 1089-1094.
- [F.58] Tawel, R. [1992], "Nonlinear Functional Approximation with Networks Using Adaptive Neurons," Proc. of Inter. Joint Conf. on Neural Networks (IJCNN), pp. III-491-496.
- [F.59] Taylor, J.G. and Commbes, S. [1993], "Learning Higher Order Correlations," *Neural Networks*, Vol. 6, No. 3, pp. 423-428.
- [F.60] Wang, L.X. and Mendel, J.M. [1992], "Fuzzy Basis Functions, Universal Approximation, and Orthogonal Least Square Learning," *IEEE Trans. Neural Networks*, Vol. 3, No. 5, pp. 807-814.
- [F.61] Wang, L.X. and Mendel, J.M. [1993], "Fuzzy Adaptive Filters, with Application to Non-Linear Channel Equalization," *IEEE Trans. Fuzzy System*, Vol. 1, pp. 161-170, Mar.

[F.62] Wang, Y.F., Zhou, J. and Wang, S. [1998], "Neural Network for Time Series Prediction and its Applications", *Proc. ICONNIP/JNNS*, Vol. 2, Kitakyushu, Japan, pp. 1041-1044.

[G] Dynamic Neural Networks: Continuous and Discrete

- [G.1] Adachi, M. and Aihara, K. [1997], "Associative Dynamics in a Chaotic Neural Network," *Neural Networks*, Vol. 10, pp. 83-98.
- [G.2] Aiyer, S.V.B., Niranjan, M. and Faliside, F. [1990], "A Theoretical Investigation into the Performance of the Hopfield Model," *IEEE Trans. Neural Networks*," Vol. 1, No. 2, pp. 204-215.
- [G.3] Atiya, A. and Parlos, A. [1993], "Unifying Recurrent Network Training Algorithms", *Proc. World Congr. Neural Networks*, Portland, OR., July.
- [G.4] Baldi, P. and Atiya, A. [1994], "How Delays Affect Neural Dynamics and Learning," *IEEE Trans. Neural Networks*, Vol. 5, pp. 612-621, July.
- [G.5] Bianchini, M., Gori, M. and Scarselli, [2001a], "Theoretical Properties of Recursive Networks with Linear Neurons," *IEEE Trans. Neural Networks*, Vol. 12, pp. 953-967, Sept.
- [G.6] Bianchini, M., Gori, M. and Scarselli, F. [2001b], "Processing Directed Acyclic Graphs With Recursive Neural Networks", *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1464-1470, Nov.
- [G.7] Bosch, H. Milanese, R. and Labbi, A. [1998], "Object Segmentation by Attention Induced Oscillations," *Proc. IEEE Inter. Joint Conf. Neural Network*, Vol. 2, pp. 1167-1171.
- [G.8] Brown, B.D. and Card, H.C. [2001], "Stochastic Neural Computation I and II," *IEEE Trans. Computations*, Vol. 59, Sept.
- [G.9] Campbell, S.R. and Wang, D.L. [1996], "Synchronization and Desynchronization in a Network of Locally Coupled Wilson-Cowan Oscillators," *IEEE Trans. Neural Networks*, Vol. 7, pp. 541-554, May.
- [G.10] Campbell, S.R., Wang, D.L. and Jayaprakash, C. [1999],
 "Synchrony and Desynchrony in Integrate and Fire Oscillators," *Neural Computations*, Vol. 11, pp. 1595-1619.

- [G.11] Card, H.C. [1998], "Doubly Stochastic Poisson Processes in Artificial Neural Learning," *IEEE Trans. Neural Networks*, Vol. 9, pp. 229-231.
- [G.12] Casey, M.P. [1996], "The Dynamics of Discrete-Time Computation, with Application to Recurrent Neural Networks and Finite State Machine Extraction," *Neural Computations*, Vol. 8, No. 6, pp. 1135-1178.
- [G.13] Cesmeli, E. and Wang, D.L. [1999], "Motion Segmentation Based on Motion/Brightness Integration and Oscillatory Correlation," *IEEE Trans. Neural Networks*, Vol. 11, pp. 935-947.
- [G.14] Chen, L.H., Chua, H.C. and Tan, P.B. [1998], "Grammatical Inference Using An Adaptive Recurrent Neural Network," *Neural Process. Lett.*, Vol. 8, pp. 211-219.
- [G.15] Chen, T.P. [1999], "Convergence of Delayed Dynamical Systems," *Neural Processing Lett.*, Vol. 10, No. 3. pp. 267-271.
- [G.16] Chen, T. [2001], "Global Convergence of Delayed Dynamical Systems," *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1532-1535, Nov.
- [G.17] Chen, T.P. and Amari, S. [2001a], "Exponential Convergence of Delayed Dynamical Systems?" *Neural Computations*, Vol. 13, No. 3, pp. 621-636.
- [G.18] Chen, T.P. and Amari, S. [2001b], "New Theorems on Global Convergence of Some Dynamical Systems," *Neural Networks*, Vol. 14, No. 3. pp. 251-255.
- [G.19] Chen, T.P. and Amari, S. [2001c], "Stability of Asymmetric Hopfield Networks," *IEEE Trans. Neural Network*, Vol. 12, pp. 159-163, Jan.
- [G.20] Cohen, B., Saad, D. and Marom, E. [1997], "Efficient Training of Recurrent Neural Network with Time Delays," *Neural Networks*, Vol. 10, No. 1, pp. 51-59.

- [G.21] Connors, J., Martin, D. and Atlas, L. [1994], "Recurrent Neural Networks and Robust Time Series Prediction," *IEEE Trans. Neural Networks*, Vol. 5, pp. 244-254, March.
- [G.22] Das, K. and Schieve, W.C. [1995], "A Bifurcation Analysis of the Four-Dimensional Generalized Hopfield Neural Network," *Phys. D*, Vol. 88, pp. 14-28.
- [G.23] Datta, A. and Parui, S.K. [1996], "A Dynamic Neural Net to Computer Convex-Hull," *Neurocomputations*, Vol. 10, pp. 377-384.
- [G.24] Datta, A., Pal, S. and Pal, N.R. [2000], "A Connectionist Model for Convex-Hull of a Planar Set," *Neural Networks*, Vol. 13, pp. 377-384.
- [G.25] Draye, J.P.S. Pavisic, D.A., Cheron, G.A. and Libert, G.A. [1996],
 "Dynamic Recurrent Neural Networks: A Dynamical Analysis," *IEEE Trans. Systems, Man, Cybernetics*, Vol. 26, pp. 692-706.
- [G.26] Ermentrout, G.B. [1992], "Complex Dynamics in Winner-Take-All Neural Nets with Slow Inhibition", *Neural Networks*, Vol. 5, pp. 415-431.
- [G.27] Ermentrout, G.B. and Cowan, J.D., [1979], "Temporal Oscillations in Neuronal Nets", *J. of Mathematical Biology*, Vol. 7, pp. 265-280.
- [G.28] Fabri, S. and Kadirkamanathan, V. [1996], "Dynamic Structure Neural Networks for Stable Adaptive Control of Nonlinear Systems," *IEEE Trans. Neural Networks*, Vol. 7, pp. 1151-1166.
- [G.29] Fang, Y. and Kincaid, T. [1996], "Stability Analysis of Dynamical Neural Networks," *IEEE Trans. Neural Networks*, Vol. 7, pp. 996-1006.
- [G.30] Fang, Y. and Sejnowski, T. [1990], "Faster Learning for Dynamic Recurrent Back-Propagation," *Neural Computa.*, Vol. 2, pp. 270-274.

- [G.31] Fernandez de Canete, J. Barreiro, A. Garcia-Cerezo, A. and Garcia-Moral, [2001], "An Input-Output Based Robust Stabilization Criterion for Neural-Network Control of Nonlinear Systems," *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1491-1497, Nov.
- [G.32] Floreen, P. [1991], "Worst-Case Convergence Times for Hopfield Memories," *IEEE Trans. Neural Networks*, Vol. 2, No. 5, pp. 533-535.
- [G.33] Fogelman, F. and Goles, E. [1983], "Transient Length in Sequential Iteration of Threshold Functions," *Discrete Appl. Math.*, Vol. 6, pp. 95-98.
- [G.34] Gers, F.A. and Schmidhuber, J. [2000] "Recurrent Nets that Time and Count," Proc. IJCNN'2000, Inter. Joint Conf. Neural Networks, Como, Italy.
- [G.35] Gupta M.M. and Rao, D.H. [1992h], "Dynamic Neural Units in the Control of Linear and Nonlinear Systems," *Inter. Joint Conf. on Neural Networks*, Baltimore, June 7-11, Vol.II, Paper No. 691, pp. 100-105.
- [G.36] Gupta M.M. and Rao, D.H. [1992d], "Adaptive Control of Nonlinear Systems Using Multi-Stage Dynamic Neural Networks," SPIE Conf. on Intelligent Robots and Computer Vision, Boston, Nov. 15-20, Paper #1826-15, pp. 130-142.
- [G.37] Gupta, M.M. and Rao, D.H. [1994e], "Dynamic Neural Units With Applications to the Control of Unknown Nonlinear Systems," *Neuro-Control Systems, Theory and Applications*, IEEE Press Book, New York, pp. 352-371, (Reprinted from the *J. of Intell. and Fuzzy Systems*, Vol. 1, No. 1, pp. 73-92).
- [G.38] Habtom, R. and Litz, L. [1997], "Estimation of Unmeasured Inputs Using Recurrent Neural Networks and the Extended Kalman Filter," *Inter. Conf. Neural Networks*, Vol. 4, pp. 2067-2071.

- [G.39] Hammer, B. [1999b], "Learning with Recurrent Neural Networks,"
 Ph.D. Dissertation, Fachbereich Mathematik/Informatik -Universitat Osnabruck.
- [G.40] Homma, N., Sakai, M., Gupta, M.M. and Kenichi, Abe, [2001],
 "Stochastic Analysis of Chaos Dynamics in Recurrent Neural Networks," *Joint 9th IFSA World Congress and 20th NAFIPS Inter. Conf.*, Vancouver, B.C., Canada, Paper No. 243, pp. 1372-1376, July.
- [G.41] Honma, N., Sakai, M., Abe, K. and Takada, H. [1999], "Control Methods of the Lyapunov Exponents for Recurrent Neural Networks," *Proc. of the 14th World Congress of IFAC*, Vol. K, pp. 51-56.
- [G.42] Hopfield, J. [1982], "Neural Networks and Physical Systems with Emergent Collective Computational Abilities," *Proc. Nat. Acad. Sci. USA*, Vol. 79, pp. 2554-2558.
- [G.43] Hopfield, J. [1984], "Neurons with Graded Response Have Collective Computational Properties Like Those of Two State Neurons," *Proc. Nat. Acad. Sci. USA*, Vol. 81, pp. 3088-3092.
- [G.44] Jin, L. and Gupta, M.M. [1997b], "Globally Asymptotical Stability of Discrete-Time Analog Neural Networks," *IEEE Trans. on Neural Networks*, Vol. 7, No. 4, pp. 1024-1031, July.
- [G.45] Jin L., Nikiforuk, P.N. and Gupta, MM. [1993f], "Stable Fixed Point Learning Using Parallel Synaptic and Somatic Adaptation", *Proc. of the 1993 World Congress on Neural Networks*, Vol. II, pp. 945-950.
- [G.46] Jin, L. Gupta, M.M. and Nikiforuk, P.N. [1994a], "Approximation Capabilities of Feed-Forward and Recurrent Neural Networks," *Intelligent Control Systems*, (Eds.) M.M. Gupta and N.K. Sinha, IEEE Press, Chapter 10, pp. 234-264.

- [G.47] Jin, L. Gupta, M.M. and Nikiforuk, P.N. [1994b], "Computational Neural Architecture for Control Applications," Soft Computing: Fuzzy Logic, Neural Networks and Distributed Artificial Intelligence, Prentice Hall, (Eds.) F. Aminzadeh and M. Jamshidi, Chapter 6, pp. 121-152.
- [G.48] Jin, L. Gupta, M.M. and Nikiforuk, P.N. [1995a], "Equilibrium Number of Analog Dynamic Neural Networks," 1995 World Congress on Neural Networks (WCNN'95), Washington DC, USA, Vol. 1, pp. 308-311, July.
- [G.49] Jin, L. Gupta, M.M. and Nikiforuk, P.N. [1995b], "Intelligent Control Using Dynamic Neural Networks for Robotics Applications," *Fuzzy Logic and Intelligent Systems*, Kluwer Academic Publishers, Boston, Chapter 13, pp. 367-408.
- [G.50] Jin, L. Gupta, M.M. and Nikiforuk, P.N. [1995d], "Uniform Approximation of Continuous-Time Dynamic Systems Using Dynamic Neural Networks, 1995 World Congress on Neural Networks (WCNN'95), Washington DC, USA, Vol. 2, pp. 54-57, July.
- [G.51] Jin, L., Gupta, M.M. and Nikiforuk, P.N. [1994b], "Computational Neural Architectures for Control Applications", *Soft Computing: Fuzzy Logic, Neural Networks, and Distributed Artificial Intelligence,* (Eds.) F. Aminzadeh and M. Jamshidi, Prentice Hall, Englewood Cliffs, New Jersey, Chapter 6, pp. 121-152.
- [G.52] Jin, L., Gupta, M.M. and Nikiforuk, P.N. [1993b], "Control Relevant Dynamics of Recurrent Neural Networks," *IJCNN-93*, Nagoya, Paper No. K-006, pp. 2823-2826, Oct.
- [G.53] Jin, L. Gupta, M.M. and Nikiforuk, P.N. [1995b], "Intelligent Control Using Dynamic Neural Networks for Robotics Applications," *Fuzzy Logic and Intelligent Systems*, Kluwer Academic Publishers, Boston, Chapter 13, pp. 367-408.

- [G.54] Jin, L., Gupta, M.M. and Nikiforuk, P.N. [1995e], "Approximation Capabilities and Feedforward and Recurrent Neural Networks," *Intelligent Control System: Theory and Applications*, (Eds.) M.M.
 Gupta and N.K. Sinha, Chapter 10, pp. 234-264.
- [G.55] Jin, L., Nikiforuk, P.N. and Gupta, M.M. [1992b], "Decoupled Recursive Estimation Training and Trainable Degree of Feedforward Neural Networks," *Inter. Joint Confer. on Neural Networks*, Baltimore, Paper No. 691, Vol. I, pp. 894-900, June.
- [G.56] Jin, L., Nikiforuk, P.N. and Gupta, M.M. [1993e], "Dynamics and Stability of Multilayered Recurrent Neural Networks," *IEEE Conf.* on Neural Networks (ICNN), San Francisco, pp. 1135-1140, March 28-April 1.
- [G.57] Jin, L., Nikiforuk, P.N. and Gupta, MM. [1993g], "Stable Dynamic Back-Propagation Learning in Recurrent Neural Networks," *The* 1993 Inter. Joint Conf. on Neural Networks (IJCNN).
- [G.58] Jin, L., Nikiforuk, P.N. and Gupta, MM. [1993h], "Stable Dynamic Backpropagation Using Constrained Learning Rate Algorithm," *The 1993 Inter. Joint Conf. on Neural Networks (IJCNN).*
- [G.59] Jin, L., Nikiforuk, P.N. and Gupta, MM. [1994d], "Absolute Stability Conditions for Discrete-Time Recurrent Neural Networks," *IEEE Trans. on Neural Networks*, Vol. 5, No. 6, pp. 954-964, Nov.
- [G.60] Jin, L., Nikiforuk, P.N. and Gupta, MM. [1994c], "Adaptive Control of Discrete-Time Nonlinear Systems Using Recurrent Neural Networks," *IEE Proc. - D: Control Theory and Applications*, Vol. 141, No. 3, pp. 169-176, May.
- [G.61] Jin, L., Nikiforuk, P.N. and Gupta, MM. [1994e], "Direct Adaptive Output Tracking Control Using Multilayered Neural Networks," *Neuro-Control Systems, Theory and Applications*, IEEE Press

Book, New York, pp. 314-320, (Reprinted from the *IEEE Proc - D*, Vol. 140, No. 6, pp. 393-398).

- [G.62] Jin, L., Nikiforuk, P.N. and Gupta, MM. [1994f], "Dynamic Recurrent Neural Networks for Control of Unknown Nonlinear Systems," ASME J. of Dynamic Systems, Measurement and Control, Vol. 116, No. 4, pp. 567-576, Dec.
- [G.63] Jin, L., Nikiforuk, P.N. and Gupta, MM. [1994g], "Neural Modeling and Control of Flexible Spacecraft Using Neural Networks," Advances in Astronautical Science, Vol. 85, pp. 2179-2198.
- [G.64] Jin, L., Nikiforuk, P.N. and Gupta, MM. [1994h], "On the Multilayered Dynamic Neural Structures," *1994 IEEE Inter. Conf.* on Neural Networks (ICNN), Orlando, Vol. III, pp. 1443-1448, June 29-July 2.
- [G.65] Jin, L., Nikiforuk, P.N. and Gupta, MM. [1994i], "On the Principles of Dynamic Neural Units: Part I: Mechanism, Dynamics and Stability," *Inter. J. of Neural, Parallel and Scientific Computations*, Invited Article, Vol. 2, No. 4, pp. 491-515, Dec.
- [G.66] Jin, L., Nikiforuk, P.N. and Gupta, M.M. [19951], "Diagonal Lypunov Functions for Global Stability of Discrete-Time Neural Networks," *Inter. J. on Neural and Mass-Parallel Computing and Information Systems*, Vol. 5, No. 1, pp. 71-80.
- [G.67] Jin, L., Nikiforuk, P.N. and Gupta, M.M. [1995h], "Weight-Decoupled Kalman Filter Learning Algorithm of Multilayered Neural Networks," *Inter. J. on Neural and Mass-Parallel Computing and Information Systems*, Vol. 8, No. 1, pp. 51-70.
- [G.68] Jin, L., Nikiforuk, P.N. and Gupta, M.M. [1995i], "Adaptive Model Reference Control for Discrete-Time Nonlinear System Using Neural Networks," *Inter. J. of Contr. Theory and Advanced Technology*, Vol. 10, No. 4, Part 3, pp. 1379-1399, Sept.

- [G.69] Jin, L., Nikiforuk, P.N. and Gupta, M.M. [1995j], "Approximation of Discrete-Time State Space Trajectories Using Dynamic Recurrent Neural Networks," *IEEE Trans. on Auto. Contr.*, Vol. 40, No. 7, pp. 1266-1270.
- [G.70] Jin, L., Nikiforuk, P.N. and Gupta, M.M. [1995k], "Fast Neural Learning and Control of Discrete-Time Non-Linear Systems," *IEEE Trans. on Systems, Man and Cybernetics*, Vol. 25, No. 3, pp. 478-488.
- [G.71] Jin, L., Nikiforuk, P.N. and Gupta, M.M. [19951], "On the Principles of Dynamic Neural Units: Part II: Adaptive Synthesis and Learning Algorithms," *Inter. J. of Neural, Parallel and Scientific Computations*, Vol. 3, No. 1, pp.77-103, Mar.
- [G.72] Jin, L., Nikiforuk, P.N. and Gupta, M.M. [1999a], "Modelling Flexible Robot Dynamics Using Discrete-Time Dynamic Recurrent Neural Networks," 14th IFAC World Congress, Beijing, Paper No. B-1d -10-1, pp. 325-330, July.
- [G.73] Jin, L., Nikiforuk, P.N. and Gupta, M.M. [1999b], "Dynamic Recurrent Neural Networks for Approximation of Nonlinear Systems," 14th IFAC World Congress, Beijing, Paper No. K-31 -05-2, pp. 45-50, July.
- [G.74] Jong, T.L. and Tai, H.M. [1988], "Associative Memory Based on the Modified Hopfield Neural Net Model," Proc. 30th Midwest Symp. on Circuits and Systems, St. Louis, Mo., pp. 748-751, Aug.
- [G.75] Kalinke, Y. and Lehmann, H., [1998], "Computation in Recurrent Neural Networks from Counters to Iterated Function Systems," *Proc. 11th Australian Joint Conf. Artificial Intel., Advanced Topics Artificial Intel.*, Vol. 1502, (Eds.) G. Antoniou and J. Slaney, Berlin, Germany.

- [G.76] Kamimura, R. [1992], "Activated Hidden Connections to Accelerate the Learning in Recurrent Neural Networks," *Proc. of Inter. Joint Conf. on Neural Networks (IJCNN)*, pp. I-693-700.
- [G.77] Kamp, Y. and Hasler, M. (1990), *Recursive Neural Networks for Associative Memory*, Chichester, UK, John Wiley and Sons.
- [G.78] Kaneko, K. [1997], "Coupled Maps with Growth and Death: An Approach to Cell Differentiation," *Phys. D*, Vol. 103, pp. 505-527.
- [G.79] Kasabov, N.K. and Woodford, B. [1996], "Adaptable Neuro Production Systems," *Neurocomputation*, Vol. 13, pp. 95-117.
- [G.80] Kaul, R., Bibyk, S., Ismail, M. and Andro, M., [1990], "Adaptive Filtering Using Neural Network Integrated Circuits", *Proc. 1990 IEEE Symp. on Circuits and Systems*, New Orleans, LA, pp. 2520-2523, May.
- [G.81] Knopf, G.K. and Gupta, M.M. [1993a], "A Multi-Purpose Neural Processor for Machine Vision Systems", *IEEE Trans. on Neural Networks*, Vol. 4, No. 4, pp. 762-777, Sept.
- [G.82] Knopf, G.K. and Gupta, M.M. [1993b], "Design of a Multi-Task Neuro-Vision Processor", J. of Mathematical and Imaging and Vision, Vol. 2, pp. 233-250.
- [G.83] Knopf, G.K. and Gupta, M.M. [1993c], "Dynamics of Antagonistic Neural Processing Elements", *Inter. J. of Neural Systems*, Vol. 4, No. 3, pp. 291-303, Sept.
- [G.84] Konig, P. and Schillen, T.B., [1994] "Binding by Temporal Structure in Multiple Feature Domains of an Oscillatory Neuronal Network," *Biological Cybernetics*, Vol. 70, pp. 397-405.
- [G.85] Kosmatopoulos, E.A., Polycarpou, M.M., Christodoulou, M.A. and Oannou, P.I. [1995], "High-Order Neural Network Structures for Identification of Dynamical Systems," *IEEE Trans. Neural Networks*, Vol. 6, pp. 422-431, Mar.

- [G.86] Krisnapuram, R. and Chen, L.-F. [1993], "Implementation of Parallel Thinning Algorithms Using Recurrent Neural Networks", *IEEE Trans. Neural Networks*, Vol. 4, No. 1, pp. 142-147, Jan.
- [G.87] Ku, C.C. and Lee, K.Y. [1995], "Diagonal Neural Networks for Dynamic Systems Control," *IEEE Trans. Neural Networks*, Vol. 6, pp. 144-156.
- [G.88] Kuchler, A. and Goller, C. [1996], "Inductive Learning in Symbolic Domains Using Structure-Driven Recurrent Neural Networks", *Advances in Artificial Intelligence*, (Eds.) G. Gorz and S. Hoodobler, Springer-Verlag, Berlin, Germany, pp. 183-197.
- [G.89] Leistritz, L., Galicki, M. and Witte, H. [1999], "Learning Continuous Trajectories in Recurrent Neural Networks with Time-Dependent Weights," *IEEE Trans. Neural Networks*, Vol. 10, pp. 741-756.
- [G.90] Leistritz, L., Galicki, M., Witte, H. and Kochs, E. [2001], "Initial State Training Procedure Improves Dynamic Recurrent Networks with Time-Dependent Weights," *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1513-1518, Nov.
- [G.91] Li, W.-J. and Lee, T. [2001], "Hopfield Neural Networks for Affine Invariant Matching", *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1400-1410, Nov.
- [G.92] Liang, X.B. [2001a], "A Recurrent Neural Networks for Nonlinear Continuously Differentiable Optimization Over a Compact Convex Set," *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1487-1490, Nov.
- [G.93] Liang, X.B. [2001b], "Qualitative Analysis of a Recurrent Neural Network for Nonlinear Continuously Differentiable Convex Minimization Over a Nonempty Closed Convex Subset Set," *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1521-1524, Nov.

- [G.94] Liang, X.B. and Wang, J. [2000], "A Recurrent Neural Network for Nonlinear Optimization with a Continuously Differentiable Objective Function and Bound Constraints," *IEEE Trans. Neural Networks*, Vol. 11, pp. 1251-1262, Nov.
- [G.95] Ma, S. and Ji, C. [1998a], "A Unified Approach on Fast Training of Feedforward and Recurrent Networks Using EM Algorithm," *Trans. Signal Processing*, Vol. 46, pp. 2270-2274, Aug.
- [G.96] Maass, W. and Orponen, P. [1998], "On the Effect of Analog Noise in Discrete-Time Analog Computations," *Neural Computations*, Vol. 10, No. 5, pp. 1071-1095.
- [G.97] Maass, W. and Sontag, E.D. [1999], "Analog Neural Nets with Gaussian or Other Common Noise Distribution Cannot Recognize Arbitrary Regular Languages," *Neural Computations*, Vol. 11, No. 3, pp. 771-782.
- [G.98] Meert, K. and Ludik, J. [1997], "A Multilayer Real-Time Recurrent Learning Algorithm for Improved Convergence," Proc. Artificial Neural Networks - ICANN'97, pp. 505-510.
- [G.99] Obradovic, D. [1996], "On-Line Training of Recurrent Neural Networks with Continuous Topology Adaptation," *Trans. Neural Networks*, Vol. 7, pp. 222-228, Jan.
- [G.100] Omlin, C.W. and Lee Giles, C. [1996b], "Rule Revision with Recurrent Neural Networks," *IEEE Trans. Knowl. Data Eng.*, Vol. 8, pp. 183-188.
- [G.101] Omlin, C.W., Thornber, K.K. and LeeGiles, C. [1998], "Fuzzy Finite-State Automata Can Be Deterministically Encoded Into Recurrent Neural Networks," *IEEE Trans. Fuzzy Systems*, Vol. 6, pp. 76-89.
- [G.102] Park, S. [1989], "Signal Space Interpretation of Hopfield Neural Network for Optimization," *Proc. 1989 IEEE Inter. Symp. Circuits* and Systems, Portland, OR, New York, IEEE, pp. 2181-2184, May.

- [G.103] Pearlmutter, B.A. [1989], "Learning State Space Trajectories in Recurrent Neural Networks," *Neural Computation*, Vol. 1, pp. 263-269.
- [G.104] Pearlmutter, B.A. [1995], "Gradient Calculation for Dynamic Recurrent Neural Networks - A Survey," *IEEE Trans. Neural Networks*, Vol. 6, pp. 1212-1228, Sept.
- [G.105] Pineda, F.J. [1988], "Dynamics and Architecture for Neural Computation," *J. Complexity*, Vol. 4, pp. 216-245.
- [G.106] Pineda, F.J. [1989], "Recurrent Back-Propagation and the Dynamic Approach to Adaptive Neural Computation," *Neural Computation*, Vol. 1, pp. 161-172.
- [G.107] Rao, D.H. and Gupta, M.M. [1993b], "A Multi-Functional Dynamic Neural Processor for Control Applications", 1993
 American Control Conf. (ACC), June 2-4, San Francisco, Also, ASME J. of Dynamic Systems, Measurement and Control, pp. 2902-2906.
- [G.108] Rao, D.H. and Gupta, M.M. [1993], "A Neural Processor for Coordinating Multiple Systems with Dynamic Uncertainties," *Proc. Inter. Symp. Uncertainty and Management (ISUMA)*, Maryland, pp. 633-640, April.
- [G.109] Rao, D.H. and Gupta, M.M. [1993], "Dynamic Neural Adaptive Control Schemes for Linear and Nonlinear Systems", 1993 American Control Conf. (ACC), San Francisco, pp. 1450-1454, June.
- [G.110] Rao, D.H. and Gupta, M.M. [1993e], "Dynamic Neural Controller with Somatic Adaptation", *IEEE Conf. on Neural Networks* (*ICNN*), San Francisco, pp. 558-563, March 28-April 1.
- [G.111] Rao, D.H. and Gupta, M.M. [1994], "Chaotic Behavior of a Dynamic Neural Network," *3rd Inter. Conf. on Fuzzy Logic, Neural*

Nets and Soft Computing, IIZUKA '94, Iizuka, Fukuoka, Japan, pp. 533-534, Aug.

- [G.112] Rao, D.H. and Gupta, M.M. [1994], "Coordination and Control of Nonlinear Multivariable Systems with Parametric and Structural Uncertainties using a Dynamic Neural Network," *Uncertainty Modeling and Analysis: Theory and Application*, (Eds.) B.M. Ayyub and M.M. Gupta, North-Holland Publishers, Amsterdam, Chapter 7, pp. 109-129.
- [G.113] Rao, D.H. and Gupta, M.M. [1994], "Dynamic Neural Units and Function Approximation," *Neuro-Control Systems, Theory and Applications*, IEEE Press Book, New York, pp. 289-294, (Reprinted from *IEEE Conf. on Neural Networks, San Francisco*, CA, March 28-April 1, 1993, pp. 743-748).
- [G.114] Rao, D.H. and Gupta, M.M. [1994], "Functional Approximation Using Dynamic Neural Processor," *Inter. J. of Neural and Mass-Parallel Computing and Information Systems*, Vol. 4, No. 5, pp. 573-592.
- [G.115] Rao, D.H. and Gupta, M.M. [1994], "Intelligent Computational Scheme Using Recurrent Neural Networks for Robotics Application," Intelligent Automation and Soft Computing: Trends in Research, Development and Applications, Proc. of the First World Automation Congress (WAC '94), Maui, Hawaii, Vol. 1, pp. 597-602, Aug.
- [G.116] Rao, D.H., Bitner, D. and Gupta, M.M. [1994], "Feedback-Error Learning Scheme Using Recurrent Neural Networks for Nonlinear Dynamic Systems," *IEEE Conf. on Neural Networks*, Orlando, June 29-July 2, Vol. I, pp. 175-180.
- [G.117] Rao, D.H., Gupta, M.M. and Nikiforuk, P.N. [1994], "Performance Comparison of Dynamic Neural Processor and Recurrent Neural

Networks," *J. of Neural, Parallel and Scientific Computations*, Vol. 2, No.1, pp. 55-80, Mar.

- [G.118] Rao, D.H., Nikiforuk, P.N. and Gupta, M.M. [1993], "A Central Pattern Generator Model Using Dynamic Neural Processor", 1993 World Congress on Neural Networks (WCNN), Portland, Oregon, Vol. IV, pp. 533-536, July.
- [G.119] Rao, D.H., Nikiforuk, P.N., Gupta, M.M. and Wood, H.C. [1993],
 "Neural Equalization of Communication Channels," *Proc. IEEE Conf. Comunicat., Computers, Power in Modern Environment,* Saskatoon, pp. 282-290, May.
- [G.120] Rao, D.H., Wood, H.C. and Gupta, M.M. [1994], "Control of Nonlinear Multivariable Systems using a Dynamic Neural Network," *IEEE Conf. on Neural Networks*, Orlando, Vol. IV, pp. 2518-2523, June 29-July 2.
- [G.121] Rossetto, O., Jutten, C., Herault, J. and Kreutzer, I. [1989],"Analog VLSI Synaptic Matrices as Building Blocks for Neural Networks", *IEEE Micro*, pp. 56-63, Dec.
- [G.122] Shrivastava, Y., Dasgupta, S. and Reddy, S. [1992], "Guaranteed Convergence in Class of Hopfield Networks," *IEEE Trans. Neural Networks*, Vol. 3, No. 6, pp. 951-961.
- [G.123] Song, H., Kang, S.M. and Lee, S.W. [1996], "A New Recurrent Neural Network Architecture for Pattern Recognition," *Proc. ICPR'96*, 1996 IEEE, pp. 718-722.
- [G.124] Sriram, M. and Kang, S.M. [1990], "A Modified Hopfield Network for Two-Dimensional Module Placement," Proc. 1990 IEEE Inter. Symp. on Circuits and Systems, New Orleans, LA, May 1-3, New York, IEEE, pp. 1663-1666.
- [G.125] Steijvers M. and Grunwald, P. [1996], "A Recurrent Network that Performs a Context Sensitive Prediction Task," Proc. 18th Annu. Conf. Cognitive Sci. Soc. Hillsdale, NJ.
- [G.126] Stubberud, S.C. and Owen, M. [1998], "Targeted On-Line Modeling for an Extended Kalman Filter Using Artificial Neural Networks," *Proc. 1998 Amer. Contr. Conf*, Vol. 3, pp. 1852-1856, June.
- [G.127] Stubberud, S.C., Lobbia, R.N. and Owen, M. [1995], "An Adaptive Extended Kalman Filter Using Artificial Neural Networks," *Proc.* 34th IEEE Conf Decision Contr., Vol. 2, pp. 1852-1856, Dec.
- [G.128] Sudharsanan, S.I. and Sunareshan, M.K. [1991a], "Equilibrium Characterization of Dynamical Neural Networks and a Systematic Synthesis Procedure for Associative Memories," *IEEE Trans. on Neural Networks*, Vol. 2, No. 5, pp. 509-521, Sept.
- [G.129] Sum, J., Chan, L., Leung, C.S. and Young, G. [1998], "Extended Kalman Filter-Based Pruning Method for Recurrent Neural Networks," *Neural Computations*, Vol. 10, No. 6, pp. 1481-1506.
- [G.130] Tibshirani, R. [1996], "A Comparison of Some Error Estimates for Neural-Network Models," *Neural Computations*, Vol. 8, No. 1, pp. 152-163.
- [G.131] Tsividis, Y.P. and Anastassiou, D. [1987a], "Switched-Capacitor Neural Networks", *Electron. Lett.*, Vol. 23, No. 18, pp. 958-959.
- [G.132] Tsoi, A. and Black, A. [1994], "Locally Recurrent Globally Feedforward Networks - A Critical Review of Architectures", *IEEE Trans. Neural Networks.*, Vol. 5, pp. 229-239, Mar.
- [G.133] Tsuda [1994], "Dynamic Link of Memory-Chaotic Memory Map in Nonequilibrium Neural Networks," *Neural Networks*, Vol. 5, pp. 313-326.
- [G.134] Tsutsumidani, G., Ohnishi, N. and N. Sugie, N. [1991], "Properties and Learning Algorithm of Discrete Neural Network with Time Delay," *Proc. Inter. Joint Conf Neural Networks (IJCNN)*, pp. 529-534, Nov.

- [G.135] von der Malsburg, Ch. and Buhmann, J. [1992], "Sensory Segmentation with Coupled Neural Oscillators," *Biological Cybernetics*, Vol. 67, pp. 233-242.
- [G.136] Waibel, A. [1989], "Consonant Recognition by Modular Construction of Large Phonemic Time-Delay Networks", *Advances in Neural Information Processing Systems*, Vol. 1, (Ed.)
 D.S. Touretzky, San Mateo, CA, Morgan Kaufmann Publishers, pp. 215-223.
- [G.137] Waibel, A., Hanazawa, T. G. Hinton, G. K. Shikano, S. and K. J. Lang, K.L. [1989], "Phoneme Recognition Using Time-Delay Neural Networks," *IEEE Trans. Acoust., Speech, Signal Process.*, Vol. 37, No. 3, pp. 328-339, Mar.
- [G.138] Wang, D.L. [1995], "Emergent Synchrony in Locally Coupled Neural Oscillators," *IEEE Trans. Neural Networks*, Vol. 6, July, pp. 941-948.
- [G.139] Wang, D.L. [1996], "Primitive Auditory Segregation Based on Oscillatory Correlation," *Cognitive Sci.*, Vol. 20, pp. 409-456.
- [G.140] Wang, D.L. and Brown, G.J. [1999], "Separation of Speech From Interfering Sounds Based on Oscillatory Correlation," *IEEE Trans. Neural Networks*, Vol. 10, pp. 684-697.
- [G.141] Wang, D.L. and Terman, D. [1996a], "Image Segmentation Based on Oscillatory Correlation," *Neural Computations*, Vol. 9, pp. 805-836.
- [G.142] Wang, D.L. and Terman, D. [1996b], "Image Segmentation by Neural Oscillator Networks," *IEEE Trans. Neural Networks*, pp. 1534-1539.
- [G.143] Wang, H., Hennecke, D.K., Konig, A., Windirsch, P. and Glesner,
 M. [1995], "Method for Estimating Various Operating States in a Single Stage Axial Compressor," *AIAA J. Propulsion Power*, Vol. 11, No. 2, pp. 385-387.

- [G.144] Wang, L.X. and Yeh, M.S. [1990], "Self-Adaptive Neural Architectures For Control Applications," *Proc. Inter. Joint Conf. Neural Networks*, (JJCNN), pp. 309-314, June.
- [G.145] Wu, C.-W. and Chua, L.O. [1995], "Synchronization in an Array of Linearly Coupled Dynamical Systems," *IEEE Trans. Circuits I*, Vol. 42, pp. 430-447.
- [G.146] Wu, L. and Moody, J. [1996], "A Smoothing Regularizer for Feedforward and Recurrent Neural Networks," *Neural Computations*, Vol. 8, pp. 461-489.
- [G.147] Zeng, Z. Goodman, R. and Smyth, P. [1994], "Discrete Recurrent Neural Networks for Grammatical Inference," *IEEE Trans. Neural Networks*, Vol. 5, Mar.
- [G.148] Zhang, J. and Morris, A.J. [1999], "Recurrent Neuro-Fuzzy Networks for Nonlinear Process Modeling," *IEEE Trans. Neural Networks*, Vol. 10, pp. 313-326.

[H] Stability Issues in Dynamic Neural Networks

- [H.1] Belair, J. [1993], "Stability in a Model of a Delayed Neural Networks," J. Dyn. Differential Equations, Vol. 5, pp. 607-623.
- [H.2] Belair, J., Campbell, S.A. and Driessche, V.D.P. [1996], "Stability and Delay - Induced Oscillations in a Neural Network Model," *SIAM J. Appl. Math.*, Vol. 56, pp. 245-255.
- [H.3] Bruck, J. [1990b], "On the Convergence Properties of the Hopfield Model," *Proc. IEEE*, Vol. 78, No. 10, pp. 1579-1585.
- [H.4] Bruck, J. and Goodman, J.W. [1988], "A Generalized Convergence Theorem for Neural Networks," *IEEE Trans. Inform. Theory*, Vol. 34, pp.1089-1092
- [H.5] Cao J.D. and Zhou, D. [1998], "Stability Analysis of Delayed Cellular Neural Networks," *Neural Networks*, Vol. 11, pp. 1601-1605.
- [H.6] Cao, Y.J. and Wu, Q.H. [1996], "A Note on Stability of Analog Neural Networks with Time Delays," *IEEE Trans. Neural Networks*, Vol. 7, pp. 1533-1535.
- [H.7] Chen, T.P. [1999], "Convergence of Delayed Dynamical Systems," *Neural Processing Lett.*, Vol. 10, No. 3. pp. 267-271.
- [H.8] Chen, T.P. and Amari, S. [2001a], "Exponential Convergence of Delayed Dynamical Systems?" *Neural Computations*, Vol. 13, No. 3, pp. 621-636.
- [H.9] Chen, T.P. and Amari, S. [2001b], "New Theorems on Global Convergence of Some Dynamical Systems," *Neural Networks*, Vol. 14, No. 3. pp. 251-255.
- [H.10] Chen, T.P. and Amari, S. [2001c], "Stability of Asymmetric Hopfield Networks," *IEEE Trans. Neural Network*, Vol. 12, pp. 159-163, Jan.
- [H.11] Cheng, Y. [1997], "Convergence and Ordering of Kohonen's Batch Map," *Neural Computations*, Vol. 9, No. 8, pp. 1667-1676.

- [H.12] Cohen, M.A. [1990], "The Stability of Sustained Oscillations in Symmetric Co-Operative-Competitive Networks," *Neural Networks*, Vol. 3, pp. 609-612.
- [H.13] Cohen, M.A. and Grossberg, S. [1983], "Absolute Stability of Global Pattern Information and Parallel Memory Storage by Competitive Neural Networks", *IEEE Trans. Systems, Man, and Cybernetics*, Vol. SMC 13, pp. 815-826.
- [H.14] Dasgupta, S., Ghosh, A., Cuykendall, R. [1989], "Convergence in Neural Memories (Corresp.)," *IEEE Trans. on Information Theory*, Vol. 35, pp. 1069-1072.
- [H.15] Fang, Y. and Kincaid, T. [1996], "Stability Analysis of Dynamical Neural Networks," *IEEE Trans. Neural Networks*, Vol. 7, pp. 996-1006.
- [H.16] Guez, A., Protopopsecu, V. and Bahren, J. [1988], "On the Stability, Storage Capacity, and Design of Continuous Nonlinear Neural Networks," *IEEE Trans. on Systems, Man, and Cybernetics*, Vol. 18, No. 1, pp. 80-87.
- [H.17] Heagy, J.F., Carroll, T.L. and Pecora, L.M. [1994], "Synchronous Chaos in Coupled Oscillator Systems," *Phys. Rev. E*, Vol. 50. No. 3, pp. 1874-1885.
- [H.18] Homma, N., Sakai, M., Gupta, M.M. and Kenichi, Abe, [2001],
 "Stochastic Analysis of Chaos Dynamics in Recurrent Neural Networks," *Joint 9th IFSA World Congress and 20th NAFIPS Inter. Conf.*, Vancouver, B.C., Canada, Paper No. 243, pp. 1372-1376, July.
- [H.19] Honma, N., Abe, K., Sato, M. and Takeda, H., [1998], "Adaptive Evolution of Holon Networks by an Autonomous Decentralized Method," *Applied Mathematics and Computation*, Elsevier Science Inc., Vol. 9, No. 1, pp. 43-61.

- [H.20] Jin, L. and Gupta, M.M. [1996], "Equilibrium Capacity of Analog Feedback Neural Networks," *IEEE Trans. on Neural Networks*, Vol. 7, No. 3, pp. 782-787.
- [H.21] Jin, L. and Gupta, M.M. [1997b], "Globally Asymptotical Stability of Discrete-Time Analog Neural Networks," *IEEE Trans. on Neural Networks*, Vol. 7, No. 4, pp. 1024-1031, July.
- [H.22] Jin L., Nikiforuk, P.N. and Gupta, MM. [1993f], "Stable Fixed Point Learning Using Parallel Synaptic and Somatic Adaptation", *Proc. of the 1993 World Congress on Neural Networks*, Vol. II, pp. 945-950.
- [H.23] Jin, L. Gupta, M.M. and Nikiforuk, P.N. [1995a], "Equilibrium Number of Analog Dynamic Neural Networks," 1995 World Congress on Neural Networks (WCNN'95), Washington DC, USA, Vol. 1, pp. 308-311, July.
- [H.24] Jin. L., Nikiforuk, P.N. and Gupta, MM. [1993b], "Stable Dynamic Back-propagation Learning in Recurrent Neural Networks," *IEEE Trans. on Signal Processing*.
- [H.25] Jin, L., Nikiforuk, P.N. and Gupta, M.M. [1993e], "Dynamics and Stability of Multilayered Recurrent Neural Networks," *IEEE Conf.* on Neural Networks (ICNN), San Francisco, pp. 1135-1140, March 28-April 1.
- [H.26] Jin, L., Nikiforuk, P.N. and Gupta, MM. [1994d], "Absolute Stability Conditions for Discrete-Time Recurrent Neural Networks," *IEEE Trans. on Neural Networks*, Vol. 5, No. 6, pp. 954-964, Nov.
- [H.27] Jin, L., Nikiforuk, P.N. and Gupta, M.M. [1995g], "Diagonal Lypunov Functions for Global Stability of Discrete-Time Neural Networks," *Inter. J. on Neural and Mass-Parallel Computing and Information Systems*, Vol. 5, No. 1, pp. 71-80.

- [H.28] Kaneko, K. [1990a], "Clustering, Coding, Switching, Hierarchical Ordering and Coding in a Network of Chaotic Elements," *Phys. D*, Vol. 41, pp. 137-172.
- [H.29] Kaneko, K. [1990b], "Globally Coupled Chaos Violates the Law of Large Numbers but not the Central-Limit Theorem," *Phys. Rev. E.*, *Lett.*, Vol. 65, No. 12. pp. 1391-1394.
- [H.30] Lin, C.-J. [2001], "On the Convergence of the Decomposition Method for Support Vector Machines", *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1278-1287, Nov.
- [H.31] Lu, H., [2000], "On Stability of Nonlinear Continuous-Time Neural Networks with Delays," *Neural Networks*, Vol. 13, No. 10, pp. 1135-1144.
- [H.32] Michel, A.N. [1983] "On the Status of Stability of Interconnected Systems," *IEEE Trans. Automatic Control*, Vol. AC-28, pp. 639-653.
- [H.33] Rao, D.H. and Gupta, M.M. [1994], "Chaotic Behavior of a Dynamic Neural Network," 3rd Inter. Conf. on Fuzzy Logic, Neural Nets and Soft Computing, IIZUKA '94, Iizuka, Fukuoka, Japan, pp. 533-534, Aug.
- [H.34] Rossetto, O., Jutten, C., Herault, J. and Kreutzer, I. [1989],"Analog VLSI Synaptic Matrices as Building Blocks for Neural Networks", *IEEE Micro*, pp. 56-63, Dec.
- [H.35] Suykens, J., De Moor, B. and Vanderwalle, J. [1997a], "NL_q Theory: A Neural Control Framework with Global Asymptotic Stability Criteria," *Neural Net.*, Vol. 40, No. 4, pp. 615-637.
- [H.36] Suykens, J. Vanderwalle, J. and DeMoor, B. [1997b], "NLq Theory: Checking and Imposing Stability of Recurrent Neural Networks for Nonlinear Modeling," *IEEE Trans. Signal Processing*, Vol. 45, pp. 2682-2691, Nov.

- [H.37] Suykens, J. Vanderwalle, J. and DeMoor, B. [1999], "Lur'e Systems with Multilayer Perceptron and Recurrent Neural Networks: Absolute Stability and Dissipativity," *IEEE Trans. Automat. Contr.*, Vol. 44, pp. 770-774.
- [H.38] Terman, D. and Wang, D.L. [1995], "Global Competition and Local Cooperation in a Network of Neural Oscillators," *Phys. D*, Vol. 81, pp. 148-176.
- [H.39] Thomas, M. Gibson, W.G. and Robinson, I. [1981], "Stability and Bifurcations in an Associative Memory Model," *Neural Networks*, Vol. 9, pp. 53-66.
- [H.40] Yasui, S. [1997], "Convergence Suppression and Divergence Facilitation: Minimum and Joint use of Hidden Units by Multiple Outputs," *Neural Networks*, Vol. 10, No. 2, pp. 353-367.
- [H.41] Zhang, J. and Jin, X. [2000], "Global Stability Analysis in Delayed Hopfield Neural Models," *Neural Networks*, Vol. 13, No. 7, pp. 745-753.

[I] Memory and Information Capacity in Neural Network

- [I.1] Abu-Mostafa, Y. and St. Jacques, J. [1985], "Information Capacity of the Hopfield Model," *IEEE Trans. on Information Theory*, Vol. 7, pp. 1-11.
- [I.2] Alkon, D.L. [1989], "Memory Storage and Neural Systems", *Scientific American*, pp. 42-50, July.
- [I.3] Chen, H., Nunamaker, J, Jr., Orwig, R. and Titkova, O.,"Information Visualization for Collaborative Computing," *IEEE Computer*, pp. 75-82, Aug.
- [I.4] Chen, H.H., Lee, Y.C., Sun, G.Z. and Lee, H.Y. [1986], "Higher Order Correlation Model for Associative Memory," *Neural Networks for Computing*, (Ed.) J.S. Denker, New York, American Institute of Physics, pp. 86-99.
- [I.5] Cohen, M.A. and Grossberg, S. [1983], "Absolute Stability of Global Pattern Information and Parallel Memory Storage by Competitive Neural Networks", *IEEE Trans. Systems, Man, and Cybernetics*, Vol. SMC 13, pp. 815-826.
- [I.6] Conant, R.C. [1976], "Law of Information Which Govern Systems," *IEEE Trans. System, Man, Cybernetics*, Vol. 6, pp. 334-338.
- [I.7] Desai, M.S. [1990], "Noisy Pattern Retrieval Using Associative Memories," *MSEE Thesis*, University of Louisville, Kentucky.
- [I.8] Floreen, P. [1991], "Worst-Case Convergence Times for Hopfield Memories," *IEEE Trans. Neural Networks*, Vol. 2, No. 5, pp. 533-535.
- [I.9] Graf, H.P. and Vegvaur, P.D., [1987], "CMOS Associative Memory Chip Based on Neural Networks", *Proc. 1987 IEEE Inter. Solid State Conf.*, pp. 304-305, 347, Feb.
- [I.10] Grossberg, S. [1990], "Content-Addressable Memory Storage by Neural Networks: A General Modal and Global Lyapunov

Method," *Computational Neuroscience*, (Ed.) E.L. Schwartz, Cambridge, MA, MIT-Press, pp. 56-68.

- [I.11] Guez, A., Protopopsecu, V. and Bahren, J. [1988], "On the Stability, Storage Capacity, and Design of Continuous Nonlinear Neural Networks," *IEEE Trans. on Systems, Man, and Cybernetics*, Vol. 18, No. 1, pp. 80-87.
- [I.12] Gupta, M.M. and Knopf, G.K. [1990d], "Dynamic Neural Network for Visual Memory: A Basis for Machine Vision," *1990 SPIE Conf. on Visual Communications and Image Processing*, Oct. 2-4, Lausanne, Switzerland. Paper No. 1360-107, pp. 1044-1055.
- [I.13] Gupta, M.M. and Knopf, G.K. [1991a], "A Neural Network with Multiple Hysteresis Capabilities for Short-Term Visual Memory (STVM)", *IJCNN-91*, Seattle, July 8-12, Vol. I, pp. 671-676.
- [I.14] Hagiwara, M. [1990], "Multidimensional Associative Memory," *Proc. 1990 IEEE Joint Conf. on Neural Networks*, Washington, D.C., New York, IEEE, Vol. I, pp. 3-6, Jan.
- [I.15] Hassoun, M.H. [1989], "Dynamic Heteroassociative Memories," *Neural Networks*, Vol. 2, pp. 275-287.
- [I.16] Hassoun, M.H. and Youssef, A.M. [1989], "High Performance Recording Algorithm for Hopfield Model Associative Memories," *Opt. Eng.*, Vol. 28, No. 1, pp. 46-54.
- [I.17] Hochreiter, S. and Schmidhuber, J. [1974], "Long Short-Term Memory", *Neural Computations*, Vol. 9, No. 8, pp. 1735-1780, Nov.
- [I.18] Hoffmann, G.W. [1988], "Neuron with Hysteresis?," *Computer Simulation in Brain Science*, (Ed.) R. Cotterill, Cambridge, Cambridge University Press, pp. 74-87.
- [I.19] Isbell, B.L. and Viola, P. [1999], "Restructuring Sparse High-Dimensional Data for Effective Retrieval," Advances Neural Inform. Processing Systems, Vol. II, pp. 480-486.

- [I.20] Jin, L. and Gupta, M.M. [1996], "Equilibrium Capacity of Analog Feedback Neural Networks," *IEEE Trans. on Neural Networks*, Vol. 7, No. 3, pp. 782-787.
- [I.21] Jong, T.L. and Tai, H.M. [1988], "Associative Memory Based on the Modified Hopfield Neural Net Model," Proc. 30th Midwest Symp. on Circuits and Systems, St. Louis, Mo., pp. 748-751, Aug.
- [I.22] Kamp, Y. and Hasler, M. (1990), *Recursive Neural Networks for Associative Memory*, Chichester, UK, John Wiley and Sons.
- [I.23] Kohonen, T., [1987a], "Adaptive, Associative, and Self-Organizing Functions in Neural Computing," *Appl. Opt.*, Vol. 26, No. 23, pp. 4910-4918.
- [I.24] Kohonen, T. et. al., [1981], "Distributed Associative Memory," *Parallel Model of Distributed Memory Systems*, (Eds.) G.E. Hinton and J.A. Anderson, Hillsdale, New Jersey, Lawrence Erlbaum Associative.
- [I.25] Kohonen, T., Kaski, S., Lagus, K., Salogarvi, J., Honkela, J, Paatero, V. and Sarrela, A. [2000], "Self-Organization of a Massive Document Collection," *IEEE Trans. Neural Networks*, Vol. 11, No. 3, pp. 574-585, May.
- [I.26] Komlos, J. and Paturi, R. [1988], "Convergence Results in an Associative Memory Model", *Neural Networks*, Vol. 1, pp. 239-250.
- [I.27] Kosko, B. [1987], "Adaptive Bidirectional Associative Memories", *Appl. Opt.*, Vol. 26, No. 23, pp. 4947-4959.
- [I.28] Kosko, B. [1988], "Bidirectional Associative Memories", *IEEE Trans. Systems, Man and Cybernetics*, Vol. 18, No. 1, pp. 49-60, Jan./Feb.
- [I.29] Lin, X. [1997], "Map Displays for Information Retrieval," J. Amer. Soc. Inform. Sci., Vol. 48, pp. 40-54.

- [I.30] McEliece, R., Posner, E., Rodemich, E., and Venkatesh, S. [1987],
 "The Capacity of the Hopfield Associative Memory," *IEEE Trans. on Information Theory*, Vol. 33, pp. 461-482.
- [I.31] Michel, A.N. and Farrell, J.A. [1990], "Associative Memories Via Artificial Neural Networks," *IEEE Control Systems Magazine*, pp. 6-17, April.
- [I.32] Rosenblatt, F. [1958], "The Perceptron: A Probabilistic Model for Information Storage and Organization in the Brain," *Psychological Review*, Vol. 65, pp. 386-408.
- [I.33] Sastry, P. Santharam, G. and Unnikrishnan, K. [1994], "Memory Neuron Networks for Identification and Control of Dynamical Systems," *IEEE Trans. Neural Networks*, Vol. 5, pp. 305-319, Mar.
- Shin, C.K. and Park, S.C. [1999], "Memory and Neural Network Based Prediction System," *Expert Systems Applicat.*, Vol. 16, pp. 145-155.
- [I.35] Shin, C.K., Yu, S.J., Yun, U.T. and Kim H.K. [2000], "A Hybrid Approach of Neural Network and Memory-Based Learning to Data Mining", *IEEE Trans. on Neural Networks*, Vol. 11, No. 3, pp. 637-646, May.
- [I.36] Sudharsanan, S.I. and Sunareshan, M.K. [1991a], "Equilibrium Characterization of Dynamical Neural Networks and a Systematic Synthesis Procedure for Associative Memories," *IEEE Trans. on Neural Networks*, Vol. 2, No. 5, pp. 509-521, Sept.
- [I.37] Tarassenko, L., Tombs, J.N. and Reynolds, J.H. [1991], "Neural Network Architectures for Content-Addressable Memory," *IEEE Proc-F*, Vol. 138, No. 1, pp. 33-39, Feb.
- [I.38] Wang, Y.F., Cruz, J.B. and Mulligan, J.H. [1990a], "Guaranteed Recall of All Training Pairs for Bidirectional Associative Memory," *IEEE Trans. Neural Networks*, Vol. 2, No. 6, pp. 559-567.

 [I.39] Wang, Y.F., Cruz, J.B. and Mulligan, J.H. [1990b], "On Multiple Training for Bidirectional Associative Memory, *IEEE Trans. Neural Networks*, Vol. 1, No. 5, pp. 275-276.

[J] Fuzzy Sets and Fuzzy Neural Systems

- [J.1] Wang, Y.F., Cruz, J.B. and Mulligan, J.H. [1990c], "Two Coding Strategies for Bidirectional Associative Memory," *IEEE Trans. Neural Network*
- [J.2] Banerjee, M., Mitra, S. and Pal, S.K. [1998], "Rough Fuzzy MLP: Knowledge Encoding and Classification," *IEEE Trans. Neural Networks*, Vol. 9, pp. 1203-1216.
- [J.3] Bastian, A. [1995], "Handling the Nonlinearity of a Fuzzy Logic Controller at the Transition Between Rules," *Fuzzy Sets and Systems*, Vol. 71, pp. 369-387.
- [J.4] Bellman, R.E. and Zadeh, L.H. [1970], "Decision Making in a Fuzzy Environment," *Management Science*, Vol. 17, pp. B.141-164.
- [J.5] Bellman, S. and Zadeh, L.H. [1977], "Local and Fuzzy Logics," Modern Uses of Multiple - Valued Logic, (Eds.) J.M. Dunn and G. Epstein, Reidel, Dordrecht, Netherlands, pp.103-165.
- [J.6] Berenji., H.R and Khedkar, P.S. [1992], "Learning and Tuning Fuzzy Logic Controllers Through Reinforcements," *IEEE Trans. Neural Networks*, Vol. 3, pp. 724-740.
- [J.7] Berenji., H.R and Khedkar, P.S. [1998], "Using Fuzzy Logic for Performance Evaluation in Reinforcement Learning," *Inter. J. Approx. Reas.*, Vol. 18, pp. 131-144.
- [J.8] Bezdek, J.C. and Pal, S.K. [1992], "Fuzzy Models for Pattern Recognition", *IEEE-Press*, New York.
- [J.9] Bezdek, J.C., Keller, J, Krishnapuram, R., Kuncheva, L and Pal, H.
 [1999], "Will the Real Iris Data Please Stand Up?" *IEEE Trans. Fuzzy Systems*, Vol. 7, pp. 368-369.
- [J.10] Black, M. [1937], "Vagueness: An Exercise in Logical Analysis", *Philosophy of Science*, Vol. 4, pp. 427-455.

- [J.11] Bobrow, [1985], *Qualitative Reasoning about Physical Systems*, Cambridge, MA, Bradford Books/MIT Press.
- [J.12] Bowen, J., Lai, R. and Bahler, D. [1992], 'Fuzzy Semantics and Fuzzy Constraint Networks'', Proc. of the 1st IEEE Conf. on Fuzzy Systems, San Francisco, pp. 1009-1016.
- [J.13] Buckley, J.J. [1992], "Universal Fuzzy Controllers," *Automatica*, Vol. 28, pp.1245-1248.
- [J.14] Buckley, J.J and Hayashi, Y. [1993a], "Hybrid Neural Nets Can Be Fuzzy Controllers and Fuzzy Expert Systems," *Fuzzy Sets and Systems*, Vol. 60, pp. 135-142.
- [J.15] Buckley, J.J and Hayashi, Y. [1993b], "Numerical Relationship Between Neural Networks, Continuous Functions and Fuzzy Systems," *Fuzzy Sets and Systems*, Vol. 60, No. 1, pp. 1-8.
- [J.16] Buckley, J.J, Hayashi, Y. and Czogala, E. [1993c], "On the Equivalence of Neural Nets and Fuzzy Expert Systems," *Fuzzy Sets and Systems*, Vol. 53, No. 2, pp. 129-134.
- [J.17] Buckley, J.J and Hayashi, Y. [1994], "Fuzzy Neural Networks: A Survey," *Fuzzy Sets and* Systems, Vol. 66, No. 1, pp.1-13.
- [J.18] Carpenter, G.A. and Grossberg, S. [1994], "Fuzzy ARTMAP: A Synthesis of Neural Networks and Fuzzy Logic for Supervised Categorization and Non-Stationary Prediction?" *Fuzzy Neural Networks and Soft Computing*, (Eds.) R.R. Hager and L.A. Zadeh, pp. 126-166.
- [J.19] Chak, C.K., Feng, G. and Ma, J. [1998], "An Adaptive Fuzzy Neural Network for MIMO System Model Approximation in High-Dimensional Spaces," *IEEE Trans. Systems, Man, Cybernetics*, Vol. 28, pp. 436-466.
- [J.20] Cho, K.B. and Wang, B.H. [1996], "Radial Basis Function Based Adaptive Fuzzy Systems and their Applications to System

Identification and Prediction," *Fuzzy Sets and Systems*, Vol. 83, pp. 325-339.

- [J.21] Chow, M., Altug, S. and Trussell, H.J. [1999], "Heuristic Constraints Enforcement for Training of and Knowledge Extraction From a Fuzzy/Neural Architecture - Part I: Foundation," *IEEE Trans. Fuzzy Systems*, Vol. 7, pp. 143-150.
- [J.22] Cohen, M.A., and Hudson, D.L. [1990], "An Expert System on Neural Network Techniques," *Proc. NAFIP*, (Ed.) I.B. Turksen, Toronto, pp. 117-112, June.
- [J.23] D'Ambrosio, B. [1989], "Extending the Mathematics in Qualitative Process Theory," Artificial Intelligence, Simulation, and Modeling, (Eds.) L.E. Widman, K.A. Loparo and N.R. Nielsen, Wiley-Inter-science, New York, pp. 133-158.
- [J.24] DeBates, B., Kerre, E. and Gupta, M.M. [1995a] "The Fundamentals of Fuzzy Mathematic Morphology, Part I: Basic Concepts," *Inter. J. for General Systems*, Vol. 23, pp. 155-171.
- [J.25] DeBates, B., Kerre, E. and Gupta, M.M. [1995b], "The Fundamentals of Fuzzy Mathematic Morphology, Part II: Convexity, Idempotence and Decomposition," *Inter. J. for General Systems*, Vol. 23, pp. 307-322.
- [J.26] Deerwester, S., Dumais, S.T., Furnas, G.W. and Landaucer, T.K.,
 [1990], "Indexing by Latent Semantic Analysis," J. Amer. Soc.
 Inform. Sci., Vol. 41, pp. 391-407.
- [J.27] DeKleer, J. [1977], "Multiple Representations of Knowledge in a Mechanics Problem-Solver," Proc. 5th Inter. Joint Conf. on Artificial Intelligence, San Mateo, CA, Morgan Kaufmann, pp. 299-304.
- [J.28] DeKleer, J. and Bobrow, D.G. [1984a], "Qualitative Reasoning With Higher-Order Derivatives," Proc. 4th National Conf. on Artificial Intelligence, San Mateo, CA, Morgan Kaufmann.

- [J.29] DeKleer, J. and Brown, J.S. [1984b], "A Qualitative Physics Based on Confluences," *Artificial Intelligence*, Vol. 24, pp. 7-83.
- [J.30] Dickerson, J.A. and Kosoko, B. [1993a], "Fuzzy Function Approximation with Supervised Ellipsoidal Learning," *Proc. of* 1993 World Congress on Neural Networks, Portland, Oregon, Vol. II, pp. 11-17.
- [J.31] Ding, H and Gupta, M.M. [1995], "Fuzzy Neural Network-Based Adaptive Reasoning with Experiential Knowledge," *Comparative Approaches in Medical Reasoning*, (Eds.) M.E. Cohen and D.L. Hudson, World Scientific Publishing Co., pp. 70-92.
- [J.32] Ding, H. and Gupta, M.M. [1997], "Learning Fuzzy Set Neural Networks by Genetic Algorithms," J. of Intelligent and Fuzzy Systems, Vol. 5, No. 2, pp. 113-127.
- [J.33] Ding, H. and Gupta, M.M. [2000], "Competitive and Cooperative Adaptive Reasoning with Fuzzy Causal Knowledge," J. of Intelligent and Fuzzy Systems, Vol. 3, No. 6, pp. 245-254.
- [J.34] Dubois, D. and Prade, H. [1985], "A Review of Fuzzy Set Aggregation Connectives," *Inf. Sciences*, Vol. 36, pp. 85-121.
- [J.35] Dubois, D., Fargier, H. and Prade, H. [1993], "The Calculus of Fuzzy Restrictions as a Basis for Flexible Constraint Satisfaction," *Proc. of the 2nd IEEE Inter. Conf. on Fuzzy Systems*, San Francisco, pp. 1131-1136.
- [J.36] Dubois, D. Fargier, H. and Prade, H. [1994], "Propagation and Satisfaction of Flexible Constraints", *Fuzzy Sets, Neural Networks,* and Soft Computing, (Eds.) R.R. Yager, and L.A. Zadeh, New York, Von Nostrand Reinhold, pp. 166-187.
- [J.37] Dubois, D. Fargier, H. and Prade, H. [1996], "Possibility Theory in Constraint Satisfaction Problems: Handling Priority, Preference and Uncertainty," *Applied Intelligence*, pp. 287-309.

- [J.38] Espada A. and Barreiro, A. [1999], "Robust Stability of Fuzzy Control Systems Based on Conicity Conditions," *Automatica*, Vol. 35, No. 4, pp. 643-654.
- [J.39] Farag, W.A., Quintana, V.H. and Labert-Torres, G. [1998], "A Genetic-Based Neuro-Fuzzy Approach for Modeling and Control of Dynamical Systems," *IEEE Trans. Neural Networks*, Vol. 9, pp. 756-767.
- [J.40] Frayman, Y. and Wang, L. [1998], "Data Mining Using Dynamically Constructed Recurrent Fuzzy Neural Networks", *Proc. PAKDD-98*, pp. 122-131.
- [J.41] Fu, L.M. [1993], "Knowledge-Based Connectionism for Revising Domain Theories," *IEEE Trans. Systems, Man, Cybernetics*, Vol. 23, pp. 173-182.
- [J.42] Gabrys, B. and Bargiela, A. [2000], "General Fuzzy Min-Max Neural Network for Clustering and Classification," *IEEE Trans. on Neural Networks*, Vol. 11, No. 3, pp. 769-783, May.
- [J.43] Gallant, S.I. [1988], "Connectionist Expert Systems," *Comm. ACM*, Vol. 31, No. 2, pp. 152-169.
- [J.44] Gallant, S.I. [1994], Neural Network Learning and Expert System, Cambridge, MA, MIT Press.
- [J.45] Geng, J.Z. [1995], "Fuzzy CMAC Neural Networks," J. of Intelligent and Fuzzy Systems, Vol. 3, pp. 87-102.
- [J.46] Ghosh, A., Pal, N.R. and Pal, S.K. [1993], "Self-Organization for Object Extraction Using Multilayer Neural Network and Fuzziness Measures," *IEEE Trans. Fuzzy Systems*, Vol. 1, pp. 54-68.
- [J.47] Goodman, I.R. and Nguyen, H.T. [1985], Uncertainty Models for Knowledge-Based Systems, North-Holland, New York.
- [J.48] Goodman, I.R., Gupta, M.M., Nguyen, H.T. and Rogers, G.S. (Editors), [1991], *Conditional Logic in Expert Systems*, North Holland, Elsevier, Amsterdam, 344 pages.

- [J.49] Gupta, M.M. [1975a], "Fuzzy Automata and Decision Processes," 6th Triennial World Inter. Federation of Auto. Contr. Congr., Boston, Massachusetts, pp. 1-15, Aug.
- [J.50] Gupta, M.M. [1977a], "Fuzzy Set Theory and Its Applications: Survey," Proc. of the Inter. Federation of Auto. Contr. Symp. on Multi-Variable Systems (MVTS), July 4-8, Fredericton, New Brunswick, pp. 247-259.
- [J.51] Gupta, M.M. [1977b], "The Notion of Fuzziness: A Perspective," Invited Presentation at the Institute of Elect. and Electronic Engineers Conf. on Decision and Control including a special symposium on Fuzzy Set Theory and Applications, Dec. 8, New Orleans, Louisiana, pp. 1301-1302.
- [J.52] Gupta, M.M., [1988b], "Cognition, Perception and Uncertainty", *Fuzzy Computing and Theory, Hardware and Application*, North Holland, pp. 7-10.
- [J.53] Gupta, M.M., [1988c], "On the Cognitive Computing Perspectives," *Fuzzy Computing: Theory, Hardware and Applications*, North Holland.
- [J.54] Gupta, M.M. [1991a], "Cognitive Uncertainty and Perception", *Fasciculi Mathematici*, No. 19, 1990, pp. 93-96.
- [J.55] Gupta, M.M. [1991b], "Fuzzy Logic and Uncertainty Modelling,"
 Guest Editor, Special Memorial Vol. *IFSA J. of Fuzzy Sets and Systems*, Vol.40, No. 3, April 15, pp. 409-531.
- [J.56] Gupta, M.M. [1991c], "Uncertainty and Information: The Emerging Paradigms", Inter. J. on Neuro and Mass-Parallel Computing and Information Systems, Vol. 2, pp. 65-70.
- [J.57] Gupta, M.M., [1991d], "Fusion of Fuzzy Logic and Neural Networks with Applications to Decision and Control Problems", *Automatic Control Conf.*, Boston, pp. 30-31, June.

- [J.58] Gupta, M.M. [1992a], "Fuzzy Logic and Fuzzy Systems," Encyclopedia of Physical Science and Technology, Academic Press, Vol. 7, pp. 5-17.
- [J.59] Gupta, M.M. [1992b], "Fuzzy Neural Computing Systems," Inter.
 J. on Neural and Mass-Parallel Computing and Information Systems, Vol. 2, No. 6, pp. 629-648, (Also Presented at the PASE-1992, Prague, December 7-10, 1992).
- [J.60] Gupta, M.M. [1992c], "Intelligence, Uncertainty and Information," Uncertainty Analysis and Management, North Holland, Chapter 1, pp. 3-12.
- [J.61] Gupta, M.M. [1992d], "Learning and Adaptation in Fuzzy Neural Systems," SPIE Conf. on Artificial Intelligence and Machine Vision (Dr. E. Dougherty), #1708-36, Orlando, April 20-24, pp. 420-425.
- [J.62] Gupta, M.M. [1992e], "Virtual Cognitive Systems," Inter. J. on Neural and Mass-Parallel Computing and Information Systems, Vol. 2, No. 6, pp. 621-628, (Also Presented at the PASE-1992, Prague, Dec. 7-10, 1992).
- [J.63] Gupta, M.M. [1993a], "Neural Computing Systems: Tutorial Preface," Inter. J. on Neural and Mass - Parallel Computing and Information Systems [Neural Network World], Vol. 3, No. 2, pp. 219-221.
- [J.64] Gupta, M.M. [1993b], "Fuzzy Sets and Systems," McGraw-Hill *Encyclopedia on Science and Technology*, New York, pp. 524-527.
- [J.65] Gupta, M.M. [1993c], "Neural Computing Systems: Human Cognition and Intelligent Systems," Inter. J. on Neural and Mass -Parallel Computing and Information Systems, [Neural Network World], Vol. 3, No. 3, pp. 223-227.

- [J.66] Gupta, M.M. [1993d], "Tutorial: Human Cognition and Intelligent Systems (Part 2a)," Inter. J. on Neural and Mass-Parallel Computing and Information Systems, Vol. 3, No. 3, pp. 353-356.
- [J.67] Gupta, M.M. [1993e], Tutorial: Human Cognition and Intelligent Systems (Part 2b)," *Inter. J. on Neural and Mass-Parallel Computing and Information Systems*, Vol. 3, No. 5, pp. 469-474.
- [J.68] Gupta, M.M. [1994], "Fuzzy Logic and Neural Networks," Neuro-Control Systems, Theory and Applications, IEEE Press Book, New York, pp. 403-416, (Reprinted from the Proc. of the 10th Inter. Conf. on Multiple Criteria Decision Making (TAIPEI '92), Vol. 3, pp. 281-294).
- [J.69] Gupta, M.M. [1995], "Fuzzy Logic and Neural Systems," Fuzzy Set Theory and Advance Mathematical Applications, (Ed.) Dan Ruan, Kluwer Academic Publishers, Boston/London Dordrect, Chapter 9, pp. 225-244.
- [J.70] Gupta, M.M., [1998a], [Plenary Session], "Fuzzy-Neural Approach in Development of Cognitive Robotic Systems," *IEEE Region 10*, *Inter. Conf. on Global Conn. in Energy, Comput., Comm. and Contr. (TENCON'98)*, New Delhi, India, Dec. 17-19, pp. 189-195.
- [J.71] Gupta, M.M., [1998b], "Integration of Fuzzy Logic and Neural Networks in the Development of Cognitive Robotic Systems," *The* 5th Inter. Conf. on Contr., Autom., Robot., and Vision [ICARCV-'98], Singapore, Vol. 1, Dec. pp. 330-355.
- [J.72] Gupta, M.M., [1988c], "On the Cognitive Computing: Perspectives," Fuzzy Computing: Theory, Hardware and Applications, New York, North-Holland.
- [J.73] Gupta, M.M., [1999], "Fuzzy Neural Computing," Computational Intelligence and Applications, Part I - Computational Intelligence and Applications, (Ed.) Piotr S. Szczepaniak, Physcia-Verlag, Springer-Verlag Company, Berlin, Chapter 3, pp. 34-41.

- [J.74] Gupta, M.M. [2001], "Fuzzy Sets, Fuzzy Logic and Fuzzy Systems," *Encyclopedia of Physical Science and Technology*, (Ed.) R.A. Meyer, Academic Press, San Diego, 15 pages.
- [J.75] Gupta, M.M. and Ding, H. [1994a], "Foundations of Fuzzy Neural Computations", Soft Computing: Fuzzy Logic, Neural Networks and Distributed Artificial Intelligence, (Eds.) F. Aminzadeh and M. Jamshidi), Prentice Hall, Chapter 8, pp. 165-200.
- [J.76] Gupta, M.M. and Kiszka, J.B. [1989c], "A Study of Multivariable Fuzzy Controller Under Godel's Implications," 1989 American Control Conf., Session on Fuzzy Logic and Process Control [FP-12], Pittsburgh, June 21-23, pp. 2759-2764.
- [J.77] Gupta, M.M. and Kiszka, J.B. [1989d], "Godel's Implications Operators for Fuzzy Logic Control," *IEEE-CDC*, Tampa, Dec. 13-15, WP 10, pp. 351-356.
- [J.78] Gupta, M.M. and Kiszka, J.B. [1992a], "Fuzzy Logic and Fuzzy Systems," *Encyclopedia of Physical Science and Technology*, Academic Press, Vol. 7, pp. 5-17.
- [J.79] Gupta, M.M. and Knopf, G.K. [1990e], "Fuzzy Neural Network Approach to Control Systems", *Proc. ECPD, Neuro-Computing*, Vol. 1, No. 1, pp. 200-205.
- [J.80] Gupta, M.M. and Knopf, G.K. [1990f], "Multi-Task Neural Network for Vision Machine Systems," 1990 SPIE Conf. on Advances in Intelligent Systems: Intelligent Robots and Computer Vision, Boston, Nov. 49, Hynes Convention Center, Paper No. 1382-08, pp. 60-73.
- [J.81] Gupta, M.M. and Knopf, G.K. [1991a], "A Neural Network with Multiple Hysteresis Capabilities for Short-Term Visual Memory (STVM)", *IJCNN-91*, Seattle, July 8-12, Vol. I, pp. 671-676.

- [J.82] Gupta, M.M. and Knopf, G.K. [1992c], "Fuzzy Neural Network Approach to Control Systems," Uncertainty Analysis and Management, North Holland, Chapter 15, pp. 183-197.
- [J.83] Gupta, M.M. and Knopf, G.K. [1994b], "Machine Perception of Edges and Cognitive Mapping," Special Issue on Artificial Intelligence and Expert System, J. of Computer and Elect. Engineering, Vol. 20, No. 2, pp. 99-120.
- [J.84] Gupta, M.M. and Musilek, P. [1999b], "Fuzzy Neural Networks and Cognitive Modeling, *Inter. J. of General Systems*, Vol. 29, No. 1, pp. 7-28.
- [J.85] Gupta, M.M. and Qi, J. [1991c] "Connectives (AND, OR, NOT) and T-Operators," *Fuzzy Reasoning, in Conditional Logic in Expert Systems*, (Eds.) Goodman, I.R., Gupta, M.M., et al., North Holland, Chapter 7, pp. 211-234.
- [J.86] Gupta, M.M. and Qi, J. [1991d], "Design of Fuzzy Logic Controller-Based on Generalized T-Operators", *IFSA J. of Fuzzy Sets and Systems*, Vol. 40, No. 3, April, pp. 473-489.
- [J.87] Gupta, M.M. and Qi, J. [1991e], "On Fuzzy Neuron Models," Proc. Inter. Joint Conf. Neural Networks (JJCNN), Seattle, July, pp. 431-456.
- [J.88] Gupta, M.M. and Qi, J. [1991f], "Theory of T-Norms and Fuzzy Inference Methods", *IFSA J. of Fuzzy Sets and Systems*, Vol. 40, No. 3, April, pp. 431-450.
- [J.89] Gupta, M.M. and Qi, J. [1992e], "A Fuzzy Neural-Model," Fuzzy Logic for the Management of Uncertainty, (Eds.) L.A. Zadeh and J. Kacprzyk, John Wiley & Sons, New York, Chapter 25, pp. 479-494.
- [J.90] Gupta, M.M. and Qi, J. [1992f], "On Fuzzy Neuron Models," *Fuzzy Logic for the Management of Uncertainty*, (Eds.) L. Zadeh and J. Kacprzyk, Wiley, New York, pp. 479-491.

- [J.91] Gupta, M.M. and Rao, D.H. [1994d] "On the Principles of Fuzzy Neural Networks, Fuzzy Sets and Systems," J. of Inter. Fuzzy Systems Association, Vol. 61, No. 1, January 10, pp. 1-18.
- [J.92] Gupta, M.M., Kiszka, J.B. and Nikiforuk, P.N. [1987], "Modelling of Multivariable Fuzzy Systems", 10th Inter. Federation of Automatic Control (IFAC) Congress, Munich, W. Germany, July 26-31, Paper No. 15.1-3/5, Vol. 6, pp. 344-349.
- [J.93] Hayashi, Y. [1994a], "Neural Expert System Using Fuzzy Teaching Input and its Applications to Medical Diagnosis," *Inform. Sci. Applicat.*, Vol. 1, pp. 47-58.
- [J.94] Hayashi, Y. and Buckley, J.J. [1993], "Approximations Between Fuzzy Expert Systems and Neural Networks," *Inter. J. Approx. Reas.*, Vol. 10, pp. 63-73.
- [J.95] Hayashi, Y., Buckley, J.J. and Czogala, E. [1993], "Fuzzy Neural Network with Fuzzy Signals and Weights," *Inter. J. Intel. Systems*, Vol. 8, No. 4, pp. 527-537.
- [J.96] Hayes, P.J., [1979], "The Naive Physics Manifesto," Expert Systems in the Micro Electronic Age, Edinburgh, Edinburgh Univ. Press.
- [J.97] Homaifar, A. and McCormick, E. [1995], "Simultaneous Design of Membership Functions and Rule Sets for Fuzzy Controllers Using Genetic Algorithms", *IEEE Trans. Fuzzy Systems*, Vol. 3, pp. 129-139.
- [J.98] Horikawa, S., Furuhashi, T. and Uchikawa, Y. [1993], "On Fuzzy Modeling Using Fuzzy Neural Networks with Back-Propagation Algorithm," *IEEE Trans. Neural Network*, Vol. 3, pp. 801-809, Sept.
- [J.99] Horikawa, S., Furuhashi, T. and Uchikawa, Y. [1995], "A New Type of Fuzzy Neural Network Based on a Truth Space Approach

for Automatic Acquisition of Fuzzy Rules with Linguistic Hedges," Inter. J. Approx. Reas., Vol. 13, pp. 249-268.

- [J.100] Hudson, D.L., Cohen, M.E. and Anderson, M.F. [1991], "Use of Neural Network Techniques in a Medical Expert System," *Inter. J. Intel. Systems*, Vol. 6, pp. 213-233.
- [J.101] Ishibuchi, H., Kwon, K. and Tanaka, H. [1994], "A Learning Algorithm of Fuzzy Neural Networks with Triangular Fuzzy Weights," *Fuzzy Sets and Systems*, Vol. 71, pp. 277-293.
- [J.102] Ishibuchi, H., Morioka, K. and Turken, I.B. [1995], "Learning by Fuzzified Neural Networks," *Inter. J. Approx. Reas.*, Vol. 13, pp. 327-358.
- [J.103] Ishibuchi, H., Nozaki, K. and Tanaka, H. [1992], "Distributed Representation of Fuzzy Rules and its Applications to Pattern Classification," *Fuzzy Sets and Systems*, Vol. 59, pp. 295-304.
- [J.104] Ishibuchi, H., Tanaka, H. and Okada, H. [1994], "Interpolation of Fuzzy If-Then Rules by Neural Networks," *Inter. J. Approx. Reas.*, Vol. 10, pp. 3-27.
- [J.105] Ishibuchi, H., Nozaki, K., Yamamoti, N. and Tanaka, H. [1995],
 "Selecting Fuzzy If-Then Rules for Classification Problems Using Genetic Algorithms," *IEEE Trans. Fuzzy Systems*, Vol. 3, pp. 260-270.
- [J.106] Ishikawa, M. [1996a], "Prediction of Time Series by a Structured Learning of Neural Network," *Fuzzy Sets and Systems*, Vol. 82, pp. 167-176.
- [J.107] Ishikawa, M. [1996b], "Structural Learning with Forgetting", *Neural Networks*, Vol. 9, No. 3, pp. 509-521.
- [J.108] Jang J.S.R [1992], "Self-Learning Fuzzy Controllers Based on Temporal Back-Propagation," *IEEE Trans. Neural Networks*, Vol. 3, pp. 714-723, Sept.

- [J.109] Jang, J.S.R. [1993], "ANFIS: Adaptive Network-Based Fuzzy Inference Systems," *IEEE Trans. Systems Man. Cybernet.*, Vol. 23, No. 3, pp. 665-685.
- [J.110] Jang J.S.R. and Sun, C.T. [1990], "Neuro-Fuzzy Modeling and Control," *Proc. IEEE*, Vol. 83, No. 3, pp. 378-406, Mar.
- [J.111] Jang, J.S.R. and Sun, C.T. [1993], "Functional Equivalence Between Radial Basis Function Networks and Fuzzy Inference Systems," *IEEE Trans. Neural Networks*, Vol. 4. No. 1, pp. 156-159, Jan.
- [J.112] Jang, J.S.R., Mizutani, E. and Sun, C.-T. [1997], *Neuro-Fuzzy and Soft-Computing: A Computational Approach to Learning and Machine Intelligence*, Prentice-Hall.
- [J.113] Jin, L. and Gupta, M.M. [1995b], "Functional Equivalence Between Neural Networks and Fuzzy Systems with Sinusoidal Membership Functions," *Proc. of the Joint Inter. Symposium on Uncertainty Modeling and Analysis*, University of Maryland, College Park, Maryland, USA, pp. 305-310.
- [J.114] Jin, L. and Gupta, M.M. [1997a], "Adaptive Fuzzy Systems with Sinusoidal Membership Functions," Uncertainty Analysis in Engineering and Sciences: Fuzzy Logic, Statistics and Neural Network Approach, Kluwer Academic Press, Chapter 18, pp. 273-289.
- [J.115] Jin, L. Gupta, M.M. and Nikiforuk, P.N. [1995c], "Neural Networks and Fuzzy Basic Functions for Functional Approximations," *Fuzzy Logic and Intelligent Systems*, Kluwer Academic Publishers, Boston, Chapter 2, pp. 17-68.
- [J.116] Jin, Y., von Seelen, W. and Sendhoff, B. [1998], "An Approach to Rule-Based Knowledge Extraction," *Proc. IEEE Inter. Conf. Fuzzy Systems FUZZ-IEEE'98*, Anchorage, AK, pp. 1188-1193, May.

- [J.117] Joshi, A., Ramakrishman, N., Houstis, E.N. and Rice, J.R. [1997], "On Neurobiological, Neurofuzzy, Machine Learning, and Statistical Pattern Recognition Techniques," *IEEE Trans. Neural Networks*, Vol. 8, Jan.
- [J.118] Jouffe, L., [1998], "Fuzzy Inference System Learning by Reinforcement Methods," *IEEE Trans. Systems Man, Cybern*, Vol. 28, pp. 338-355.
- [J.119] Juang, C. and Lin, C. [1998], "An On-Line Self-Constructing Neural Fuzzy Inference Network and its Applications," *IEEE Trans. Fuzzy Systems*, Vol. 6, pp. 12-32.
- [J.120] Kalagnanam, J. Simon, H.A. and Iwasaki, Y. [1991], "The Mathematical Bases for Qualitative Reasoning," *IEEE Expert*, pp. 11-19.
- [J.121] Kasabov, N.K. and Woodford, B. [1999], "Rule Insertion and Rule Extraction From Evolving Fuzzy Neural Networks: Algorithms and Applications for Building Adaptive, Intelligent Expert Systems," *Proc. IEEE Inter. Conf. Fuzzy Systems FUZZ-IEEE'99*, Seoul, Korea, pp. III-1406-III-1411, Aug.
- [J.122] Katai, O. Matsubara, H. Masuichi, M. Ida, et. al., [1992],
 "Synergetic Computation for Constraint Satisfaction Problems Involving Continuous and Fuzzy Variables by Using Occam," *Transputer/Occam, Proc. of the 4th Transputer/Occam Inter. Conf.*, (Eds.) S. Noguchi and H. Umeo, Amsterdam: IOS Press, pp. 146-160.
- [J.123] Keller, J.M. and Tahani, H. [1992], "Implementation of Conjunctive and Disjunctive Fuzzy Logic Rules with Neural Networks," *Inter. J. Approx. Reas.*, Vol. 6, pp. 221-240.
- [J.124] Keller, J.M., Yager, R.R. and Tahani, H. [1992], "Neural Network Implementation of Fuzzy Logic," *Fuzzy Sets and Systems*, Vol. 45, pp. 1-12.

- [J.125] Kiszka, J.B., and Gupta, M.M. [1990], "Fuzzy Logic Neural Network," *BUSEFAL*, No. 4, pp. 104-109.
- [J.126] Kiszka, J.B., Gupta, M.M. and Nikiforuk, P.N. [1985],
 "Energetistic Stability of Fuzzy Dynamic Systems," *IEEE Trans. System Man, Cybernetics*, Vol.15, No. 5, pp. 783-792.
- [J.127] Klir, G.J., [1977], "Where Do We Stand on Measures of Uncertainty, Ambiguity, Fuzziness and the Like?", *Fuzzy Sets and Systems, Special Issue on Measure of Uncertainty*, Vol. 24, No. 2, pp. 141-160.
- [J.128] Knopf, G.K. and Gupta, M.M. [1994], "Fuzzy Uncertainty Measures in Image Processing", SPIE J. of Electronic Imaging, Vol. 3, No. 2, pp. 142-153, April.
- [J.129] Krisnapuram, R. [1994], "Generation of Membership Functions Via Possibilistic Clustering", Proc. 1994 IEEE 3^d Inter. Fuzzy Systems Conf., Vol. 2, pp. 902-908, June.
- [J.130] Kuipers, [1984], "Commonsense Reasoning About Causality: Deriving Behavior from Structure," *Artificial Intelligence*, Vol. 24, pp. 169-204.
- [J.131] Kuncicky, D.C. and Kandel, A. [1989], "A Fuzzy Interpretation of Neural Networks," Proc. 3rd IFSA Congress, (Ed.) J.C. Bezdek, Seattle, WA, pp. 113-116.
- [J.132] Kuo, R.J. and Cohen, P.H. [1998], "Manufacturing Process Control Through Integration of Neural Networks and Fuzzy Model," *Fuzzy Sets and Systems*, Vol. 98, pp. 15-31.
- [J.133] Kwan, H.K.K. and Cai, Y. [1994], "A Fuzzy Neural Network and Its Application to Pattern Recognition," *IEEE Trans. Fuzzy Systems*, Vol. 2, No. 3, pp. 185-193.
- [J.134] Langari, R. and H.R. Berenji, [1992], "Fuzzy Logic in Control Engineering," *Handbook of Intelligent Control*, Van Nostrand, New York. pp. 93-140.

- [J.135] Lano, K. [1991], "A Constraint-Based Fuzzy Inference System," *EPIA* 91, 5th Portuguese Conf. on Artificial Intelligence, (Eds.) P. Barahona, L.M. Pereira, and A. Porto, Berlin, Springer-Verlag, pp. 45-59.
- [J.136] Lee, C.C. [1990a], "Fuzzy Logic in Control Systems: Fuzzy Logic Controller, Part I," *IEEE Trans. Systems Man. Cybernetics*, Vol. 20, No. 2, pp. 404-418.
- [J.137] Lee, C.C. [1990b], "Fuzzy Logic in Control Systems: Fuzzy Logic Controller, Part II," *IEEE Trans. Systems Man. Cybernetics*, Vol. 20, No. 2, pp. 419-435.
- [J.138] Lee, S.C. and Lee, E.T. [1974], "Fuzzy Sets and Neural Networks," J. Cybernetics, Vol. 4, pp. 83-101.
- [J.139] Li, J.H., Michel, A.N. and Porod, W. [1988], "Qualitative Analysis and Synthesis of a Class of Neural Networks," *IEEE Trans. Circuit Systems*, Vol. 35, pp. 976-986.
- [J.140] Lin C.T. and Lee, C.S.G., [1991], "Neural-Network-Based Fuzzy Logic Control and Decision System," *IEEE Trans. Computer*, Vol. 40, No.12, pp.1320-1336.
- [J.141] Lin, C.T. and Lu, Y. [1995], "A Neural Fuzzy System with Linguistic Teaching Signals," *IEEE Trans. Fuzzy Systems*, Vol. 3, pp. 169-189.
- [J.142] Luhandjula, M.K. and Gupta, M.M. [1996], "On Fuzzy Stochastic Optimization", *Inter. J. of Fuzzy Sets and Systems* [Special Issue], Vol. 81, No. 1, pp. 47-56, July.
- [J.143] Mares, M. [1994], *Computation Over Fuzzy Quantities*, Boca Raton, CRC Press.
- [J.144] Mavrovouniotis, M.L. and Stephanopoulos, G. [1987], "Reasoning with Orders of Magnitude and Approximate Relations," Proc. 6th National Conf. on Artificial Intelligence, San Mateo, CA, Morgan Kaufmann, pp. 626-630.

- [J.145] Mendel, J.M. [1995], "Fuzzy Logic Systems for Engineering: A Tutorial," *Proc. IEEE*, Vol. 83, No. 3, pp. 345-377.
- [J.146] Meneganti, M., Saviello, F.S. and Tagliaferri, R. [1998], "Fuzzy Neural Networks for Classification and Detection of Anomalies," *IEEE Trans. Neural Networks*, Vol. 9, Sept.
- [J.147] Michel, A.N. and Farrell, J.A. [1989], "Qualitative Analysis of Neural Networks," *IEEE Trans. Circuits and Systems*, Vol. 36, pp. 229-243.
- [J.148] Mitra, S. [1994], "Fuzzy MLP Based Expert System for Medical Diagnosis," *Fuzzy Sets and Systems*, Vol. 65, pp. 285-296.
- [J.149] Mitra, S. and Hayashi, Y. [2000], "Neuro-Fuzzy Rule Generation: Survey in Soft Computing Framework," *IEEE Trans. on Neural Networks*, Vol. 11, No. 3, pp. 748-768, May.
- [J.150] Mitra, S. and Pal, S.K. [1994a], "Logical Operation Based On Fuzzy MLP for Classification and Rule Generation," *Neural Networks*, Vol. 7, No. 2, pp. 353-374.
- [J.151] Mitra, S. and Pal, S.K. [1994b], "Self-Organizing Neural Network as a Fuzzy Classifier," *IEEE Trans. Systems, Man, Cybernetics*, Vol. 24, Mar.
- [J.152] Mitra, S. and Pal, S.K. [1995], "Fuzzy Multilayer Perceptron, Inferencing and Rule Generation," *IEEE Trans. Neural Networks*, Vol. 6, pp. 51-63, Jan.
- [J.153] Mitra, S. and Pal, S.K. [1996], "Fuzzy Self Organization, Inferencing and Rule Generation," *IEEE Trans. Neural Network*, Vol. 8, pp. 1338-1350.
- [J.154] Mitra, S., De, R.K. and Pal, S.K. [1997], "Knowledge-Based Fuzzy MLP for Classification and Rule Generation," *IEEE Trans. Neural Networks*, Vol. 8, pp. 1338-1350.

- [J.155] Mitra, S, Banerjee, M. and Pal, S.K. [1998], "Rough Knowledge-Based Network, Fuzziness and Classification," *Neural Computations Applicat.*, Vol. 7, pp. 17-25.
- [J.156] Moore, R. [1966], *Interval Analysis*, Englewood Cliffs, NJ, Prentice-Hall.
- [J.157] Murthy, S.K. [1998], "Automatic Construction of Decision Trees from Data: A Multidisciplinary Survey," *Data Mining and Knowledge Discovery*, Vol. 4, pp. 345-389.
- [J.158] Musilek, P. and Gupta, M.M. [1998b], "Dissimilarity Based Fuzzy Logic Neuron," Proc. of the 5th Inter. Conf. On Soft Computing and Information/Intelligent Systems Methodologies for the Conception, Design and Applications of Soft Computing, Iizuka, Japan, Vol. 2, pp. 763-786, Oct.
- [J.159] Musilek, P. and Gupta, M.M. [1999a], "Fuzzy Neural Networks," Soft Computing and Intelligent Control Systems: Theory and Applications, (Eds.) N.K. Sinha and M.M. Gupta, Academic Press, Chapter 8, pp. 161-184.
- [J.160] Musilek, P. and Gupta, M.M. [1999b], "Neural Networks and Fuzzy Systems," Soft Computing and Intelligent Control Systems: Theory and Applications, (Eds.) N.K. Sinha and M.M. Gupta, Academic Press, Chapter 7, pp. 137-160.
- [J.161] Nasaroui, O. and Krishnapuram, R. [1996], "An Improved Possibilistic C-Means Algorithm with Finite Rejection and Robust Scale Estimation," *Proc. North American Fuzzy Information Processing*, pp. 395-399, June.
- [J.162] Nauck, D. and Kruse, R. [1999], "Neuro-Fuzzy Systems for Function Approximation," Vol. 101, pp. 261-271.
- [J.163] Newton, S.C. Pemmaraju, S. and Mitra, S. [1992], "Adaptive Fuzzy Leader Clustering of Complex Data Sets in Pattern

Recognition," IEEE Trans. Neural Networks, Vol. 3, pp. 794-800, Sept.

- [J.164] Nie, J. [1995], "Constructing Fuzzy Model by Self-Organizing Counterpropagation Network," *IEEE Systems Man, Cybernetics*, Vol. 25, pp. 963-970.
- [J.165] Novak, V. [1991], "Fuzzy Logic, Fuzzy Sets, and Natural Languages," Inter. J. of General Systems, Vol. 20, No. 1, pp. 83-97.
- [J.166] Omlin, C.W., Thornber, K.K. and LeeGiles, C. [1998], "Fuzzy Finite-State Automata Can Be Deterministically Encoded Into Recurrent Neural Networks," *IEEE Trans. Fuzzy Systems*, Vol. 6, pp. 76-89.
- [J.167] Optiz, D.W. and Shavlik, J.W. [1997b], "Dynamically Adding Symbolically Meaningful Nodes to Knowledge-Based Neural Networks," *Knowl.-Based Systems*, Vol. 8, pp. 310-311.
- [J.168] Pak, S.K. and Ghosh, A. [1996], "Neuro-Fuzzy Computing for Image Processing and Pattern Recognition," *Inter. J. Systems Sci.*, Vol. 27, pp. 1179-1193.
- [J.169] Pal, K. and Pal, N.R. [1999], "A Neuro-Fuzzy System for Inferencing," *Inter. J. Intel. Systems*, Vol. 14, pp. 1155-1182.
- [J.170] Pal, K., Pal, N.R. and Keller, J. [1988], "Some Neural Net Realization of Fuzzy Reasoning," *Inter. J. Intel. Systems*, Vol. 13, pp. 859-886.
- [J.171] Pal, S.K. and Mitra, S. [1992], "Multilayer Perceptron, Fuzzy Sets and Classification," *IEEE Trans. Neural Networks*, Vol. 3, No. 5, pp. 683-697, Sept.
- [J.172] Park, D., Kandel, A. and Langholz, G., [1994], "Genetic-Based New Fuzzy Reasoning Models with Application to Fuzzy Control," *IEEE Trans. Systems, Man, Cybernetics*, Vol. 24, pp. 39-57, Jan.

- [J.173] Paul, S.K. and Mitra, S. [1992], "Multilayer Perceptron, Fuzzy Sets, and Classification," *IEEE Trans. Neural Networks*, Vol. 3, No. 5, pp. 683-697, Sept.
- [J.174] Pearl, J. and Verma, T.S., [1991], "A Theory of Inferred Causation", Principles of Knowledge Representation and Reasoning, Proc. 2nd Inter. Conf., (Eds.) J.A. Allen, R. Fikes, and E. Sandewall, San Mateo, CA, Morgan Kaufmann, pp. 441-452.
- [J.175] Pedrycz, W. [1990], "Fuzzy Sets in Pattern Recognition: Methodology and Methods," *Pattern Recognition*, Vol. 23, No. ¹/₂, pp. 121-146.
- [J.176] Pedrycz, W. [1991a], "A Referential Scheme of Fuzzy Decision Making and Its Neural Network Structure," *IEEE Trans. System*, *Man., Cybernetics*, Vol. 21, pp. 1593-1604.
- [J.177] Pedrycz, W. [1991b], "Neurocomputations in Relational Systems," IEEE Trans. Pattern Analysis and Machine Intelligence, Vol. 13, pp. 289-297.
- [J.178] Pedrycz, W. [1992], "Fuzzy Neural Networks with Reference Neurons as Pattern Classifiers," *IEEE Trans. Neural Networks*, Vol. 3, Sept.
- [J.179] Pedrycz, W. [1993], "Fuzzy Neural Networks and Neuro-Computations," *Fuzzy Sets and Systems*, Vol. 56, No. 1, pp. 1-28.
- [J.180] Pedrycz, W. [1995], "Genetic Algorithms for Learning in Fuzzy Relational Structures", *Fuzzy Sets and Systems*, Vol. 69, No. 1, pp. 37-52.
- [J.181] Rao, D.H. and Gupta, M.M. [1994], "Neuro-Fuzzy Controller for Control and Robotic Applications," *Inter. J. for Engineering Applications of Artificial Intelligence*, Vol. 7, No. 5, pp. 479-491.
- [J.182] Rauch, H.E. and Winarske, T. [1988], "Some Qualitative Aspects of Neural Computing Circuits," *Proc. 1988 IEEE Inter. Symp. on Circuits and Systems*, Helsinki, New York, IEEE, pp. 751-754.

- [J.183] Reategui, E, Campbell, J.A. and Borghetti, S. [1995], "Using a Neural Network to Learn General Knowledge in a Case-Based System,"
 Proc. ICCBR-95, (Eds.) A. Aamodt and M. Veloso, pp. 528-577.
- [J.184] Rhee, F.C.H. and Krishnapuram, R. [1993], "Fuzzy Rule Generation Methods for High-Level Computer Vision," *Fuzzy Sets* and Systems, Vol. 60, pp. 245-258.
- [J.185] Romaniuk, S.G. and Hall, L.O. [1992], "Decision Making on Creditworthiness Using a Fuzzy Connectionist Model," *Fuzzy Sets* and Systems, Vol. 48, pp. 15-22.
- [J.186] Rovatti, R. and Guerrieri, R. [1996], "Fuzzy Sets of Rules for System Identification", *IEEE Trans. Fuzzy Systems*, Vol. 4, pp. 89-102.
- [J.187] Sakawa, M. Sawada, K. and Inuiguchi, M. [1995], "A Fuzzy Satisfying Method for Large-Scale Linear Programming Problems with Block Angular Structure," *European J. of Operational Research*, 81(2), pp. 399-409.
- [J.188] Sawa, R., Makita, Y. and Hagiwara, M. [1999], "Knowledge Extraction and Integration by Artificial Life Approach," J. Adv. Computations Intell., Vol. 3, No. 3.
- [J.189] Shann, J.J. and Fu, H.C. [1995], "A Fuzzy Neural Network for Rule Acquiring on Fuzzy Control Systems," *Fuzzy Sets and Systems*, Vol. 71, pp. 345-357.
- [J.190] Shen, Q. and Leitch, R. [1992], "Combining Qualitative Simulation and Fuzzy Sets," *Recent Advances in Qualitative Physics*, (Eds.) B. Faltings, and P. Struss, Cambridge, MA, MIT Press.
- [J.191] Shoham, Y. and McDermott, D. [1988], "Problems in Found Temporal Reasoning," *Artificial Intelligence*, Vol. 36, pp. 49-61.

- [J.192] Simpson, P.K. [1992], "Fuzzy Mim-Max Neural Networks-Part I: Classification," *IEEE Trans. Neural Networks*, Vol. 3. pp. 776-736, Sept.
- [J.193] Sinha, N.K. and Gupta, M.M., [1999], "Introduction to Soft Computing and Intelligent Control Systems," Soft Computing and Intelligent Control Systems: Theory and Applications, Academic Press, Chapter 2, pp. 23-38.
- [J.194] Special Issue of Fuzzy Diagnosis, [1999] Artif. Intel. Med., Vol. 16, No. 2.
- [J.195] Special Issue on Fuzzy Logic and Neural Networks, *IEEE Trans. Neural Networks*, Vol. 3, No. 5, Sept.
- [J.196] Struss, P. [1990], "Problems of Interval-Based Qualitative Reasoning," *Qualitative Reasoning about Physical Systems*, (Eds.)
 D. Weld and J. De Kleer, Morgan Kaufmann, pp. 288-305.
- [J.197] Sugeno, M. and Kang, G.T. [1988], "Structure Identification of Fuzzy Model," *Fuzzy Sets and Systems*, Vol. 28, pp. 15-33.
- [J.198] Sugeno, M. and Yasukawa, T. [1993], "A Fuzzy-Logic-Based Approach to Qualitative Modeling," *IEEE Trans. Fuzzy Systems*, Vol. 1, No. 1, pp. 7-31.
- [J.199] Takagi, H. [1995], "Applications of Neural Networks and Fuzzy Logic to Consumer Products," *Industrial Applications of Fuzzy Logic and Intelligent Systems*, (Eds.) J. Yen, R. Langari and L.A. Zadeh, Piscataway, NJ, IEEE Press, pp. 93-104.
- [J.200] Takagi, H., and Hayashi, I. [1991], "NN-Driven Fuzzy Reasoning," Inter. J. Approximate Reasoning, Vol. 5, No. 3, pp. 191-212.
- [J.201] Takagi, H. and Sugeno, M. [1985], "Fuzzy Identification of Systems and Its Applications to Modeling and Control," *IEEE Trans. System, Man, and Cybern*, Vol. 15, pp. 16-132.

- [J.202] Takagi, H., Suzuki, N., Koda, T. and Kojima, Y. [1992], "Neural Networks Designed on Approximate Reasoning Architecture and their Applications," *IEEE Trans. Neural Networks*, Vol. 3, pp. 752-760.
- [J.203] Tickle, A.B., Andrews, R., Golea, M. and Diederic, H., [1998],
 "The Truth will Come to Light: Directions and Challenges in Extracting the Knowledge Embedded Within Trained Artificial Neural Networks," *IEEE Trans. Neural Networks*, Vol. 9, pp. 1057-1068.
- [J.204] Tong, R.M. [1977], "A Control Engineering Review of Fuzzy Systems", *Automatica*, Vol. 13, pp. 559-569.
- [J.205] Tong, R.M. [1980], "Some Properties of Fuzzy Feedback Systems", IEEE Trans. System, Man, and Cybern, Vol. 19, No. 6, pp. 327-330.
- [J.206] Towell, G.G. and Shavlik, J.W. [1993a], "Extracting Refined Rules From Knowledge-Based Neural Networks", *Mach. Learn.*, Vol. 13, pp. 71-101.
- [J.207] Towell, G.G. and Shavlik, J.W. [1993b], "Knowledge-Based Artificial Neural Networks", *Artif. Intell.*, Vol. 70, pp. 119-165.
- [J.208] Tsao, E., Bezdek, J.C. and Pal, N.R. [1992], "Fuzzy Kohonen Clustering Networks", *Pattern Recognition*, Vol. 27, pp. 1179-1193.Wang,
- [J.209] Wang, L.X. [1993], "Stable Adaptive Fuzzy Control of Non-Linear Systems," *IEEE Trans. Fuzzy System*, Vol. 1, pp. 146-155, Jan.
- [J.210] Wang, L.X. [1995], "Design and Analysis of Fuzzy Identifiers of Non-Linear Systems," *IEEE Trans. Auto. Control*, Vol. 40, No. 1, pp. 11-23.
- [J.211] Wang, L.X. and Mendel, J.M. [1992], "Fuzzy Basis Functions, Universal Approximation, and Orthogonal Least Square Learning," *IEEE Trans. Neural Networks*, Vol. 3, No. 5, pp. 807-814.
- [J.212] Wang, L.X., and Mendel, J.M. [1992], "Generating Fuzzy Rules From Numerical Data, with Applications," *IEEE Trans. System, Man* and Cybernetics, Vol. 32, pp. 1414-1472.
- [J.213] Wang, L.X. and Mendel, J.M. [1993], "Fuzzy Adaptive Filters, with Application to Non-Linear Channel Equalization," *IEEE Trans. Fuzzy System*, Vol. 1, pp. 161-170, Mar.
- [J.214] Wang, L.X. and Yen, J. [1999], "Extracting Fuzzy Rules for System Modeling Using a Hybrid of Genetic Algorithms and Kalman Filter", *Fuzzy Sets and Systems*, Vol. 101, pp. 353-362.
- [J.215] Wang, S. and Archer, P. [1998], "A Neural Network Based Fuzzy Model for Organizational Decision Making", *IEEE Trans. Systems, Man, Cybernetics*, Vol. 28, pp. 194-203.
- [J.216] Wang, Y.F, Luo, L., Freedman, M.T. and Kung, S.-Y. [2000], "Probabilistic Principal Component Subspaces: A Hierarchical Finite Mixture Model for Data Visualizations", *IEEE Trans. on Neural Networks*, Vol. 11, No. 3, pp. 625-636, May.
- [J.217] Yager, R.R. [1989], "Some Extensions of Constraint Propagation of Label Sets," *Inter. J. of Approximate Reasoning*, 3, pp. 417-435.
- [J.218] Yager, R.R. [1992], "Implementing Fuzzy Logic Controllers Using a Neural Network Framework," *Fuzzy Sets and Systems*, Vol. 48, pp. 53-64.
- [J.219] Yager, R.R. [1994], "Modeling and Formulating Fuzzy Knowledge Bases Using Neural Networks," *Neural Networks*, Vol. 7, No. 8, pp. 1273-1284.
- [J.220] Yang, T.-N. and Wang, S.-D. [2000], "Fuzzy Auto-Associative Neural Networks for Principal Component Extraction of Noisy Data," *IEEE Trans. on Neural Networks*, Vol. 11, No. 3, pp. 799-801, May
- [J.221] Yao, Y.Y. [1999], "Granular Computing Using Neighborhood Systems," Advances in Soft Computing: Engineering Design and

Manufacturing, (Eds.) R. Roy, T. Furuhashi, and P.K. Chawdhry, London, U.K., Springer-Verlag, pp. 539-553.

- [J.222] Yao, Y.Y. and Zhong, N. [1999], "Potential Applications of Granular Computing in Knowledge Discovery and Data Mining," *Proc. World Multiconf. Systemics, Cybernetics and Informatics*, Vol. 5, pp. 573-580.
- [J.223] Yasdi, R. [1995], "Combining Rough Sets Learning and Neural Learning Method to Deal with Uncertain and Imprecise Information," *Neurocomputation*, Vol. 7, pp. 61-84.
- [J.224] Zadeh, L.A. [1968], "Probability Measures of Fuzzy Events," J. Math. Analysis and Appl. 23, pp. 421-427.
- [J.225] Zadeh, L.A. [1972a], "A Fuzzy-Set-Theoretic Interpretation of Linguistic Hedges," *J. of Cybernetics 2*, pp. 4-34.
- [J.226] Zadeh, L.A. [1972b], "A Rational for Fuzzy Control," J. Dyn. Systems, Measurement, Control, Vol. 34, pp. 3-4.
- [J.227] Zadeh, L.A. [1973], "Outline of a New Approach to the Analysis of Complex Systems and Decision Processes," *IEEE Trans. System Man, and Cybernetics*, Vol. SMC-3, pp. 28-44.
- [J.228] Zadeh, L.A. [1984], "Making Computers Think Like People", *IEEE Spectrum*, Vol. 21, No. 8, pp. 26-32, Aug.
- [J.229] Zadeh, L.A. [1986], "Outline of a Computational Approach to Meaning and Knowledge Representation Based on a Concept of a Generalized Assignment Statement," *Proc. of the Inter. Seminar on Artificial Intelligence and Man-Machine Systems*, (Eds.) M. Thoma and A. Wyner, Heidelberg: Springer-Verlag, pp. 198-211.
- [J.230] Zadeh, L.A. [1994], "Fuzzy Logic, Neural Networks, and Soft Computing," *Commun. ACM*, Vol. 37, pp. 77-84.
- [J.231] Zadeh, L.A. [1996], "Fuzzy Logic = Computing with Words," *IEEE Trans. on Fuzzy Systems*, Vol. 4, pp. 103-111.

- [J.232] Zadeh, L.A. [1997], "Toward a Theory of Fuzzy Information Granulation and its Centrality in Human Reasoning and Fuzzy Logic," *Fuzzy Sets and Systems*, Vol. 90, pp. 111-127.
- [J.233] Zadeh, L.A. [1999], "From Computing with Numbers to Computing with Words – From Manipulation of Measurements to Manipulation of Perceptions," *IEEE Trans. on Circuits and Systems*, Vol. 45, pp. 105-119.
- [J.234] Zadeh, L.A., [1965], "Fuzzy Sets," *Information and Control*, Vol. 8, pp. 338-353.
- [J.235] Zhang, J. and Morris, A.J. [1999], "Recurrent Neuro-Fuzzy Networks for Nonlinear Process Modeling," *IEEE Trans. Neural Networks*, Vol. 10, pp. 313-326.
- [J.236] Zhang, Y.Q. and Kandel, A. [1998], "Compensatory Neuro-Fuzzy Systems with Fast Learning Algorithms," *IEEE Trans. Neural Networks*, Vol. 9, pp. 83-105, Jan.
- [J.237] Zhang, Y.Q., Fraser, M.D., Gagliano, R.A. and Kandel, A. [2000], "Granular Neural Networks for Numerical-Linguistic Data Fusion and Knowledge Discovery", *IEEE Trans. on Neural Networks*, Vol. 11, No. 3, pp. 658-667, May.
- [J.238] Zhong, N., Dong, J.Z., Fujitsu, S. and Ohsuga, S. [1998], "Soft Techniques to Rule Discovery in Data," *Trans. Inform. Process. Soc. Jpn.*, Vol. 39, No. 9, pp. 2581-2592.
- [J.239] Zhou, R.W. and Quek, C. [1996], "POPFNNL A Pseudo Outer-Product Based Fuzzy Neural Network," *Neural Networks*, Vol. 9, pp. 1569-1581.
- [J.240] Zhong, N., Dong, J.Z., Fujitsu, S. and Ohsuga, S. [1998], "Soft Techniques to Rule Discovery in Data," *Trans. Inform. Process. Soc. Jpn.*, Vol. 39, No. 9, pp. 2581-2592.

[J.241] Zhou, R.W. and Quek, C. [1996], "POPFNNL A Pseudo Outer-Product Based Fuzzy Neural Network," *Neural Networks*, Vol. 9, pp. 1569-1581.

[K] Neural Networks in Signal and Image Processing

- [K.1] Chen, S., Mclaughlin, S., Mulgrew, B. and Grant, P.M. [1995],
 "Adaptive Bayesian Decision Feedback Equalizer for Dispersive Mobile Radio Channels," *IEEE Trans. Commun.*, Vol. 12, pp. 1460-1470, Dec.
- [K.2] Chen, S., Mulgrew, B. and Grant, P.M. [1993], "A Clustering Technique for Digital Communications Channel Equalization Using Radial Basis Function Networks," *IEEE Trans. Neural Networks*, Vol. 4, pp. 570-579, July.
- [K.3] Chen, S., Samingan, A.K. and Hanzo, L. [2001b], "Support Vector Machine Multiuser Receiver for DS-CDMA Signals in Multipath Channels," *IEEE Trans. Neural Networks*, Vol. 12, pp. 604-611, May.
- [K.4] Cichocki, A. and Unbehauen, R. [1993], Neural Networks for Optimization and Signal Processing, John Wiley and Sons.
- [K.5] Dayhoff, R.E. and Dayhoff, J.E. [1988], "Neural Networks for Medical Image Processing," Proc. IEEE Symp. on Computer Applications in Medical Care, Washington, D.C., pp. 271-275.
- [K.6] Frasconi, P. Gori, M. and Sperduti, [1998], "A General Framework for Adaptive Processing of Data Structures," *IEEE Trans. Neural Networks*, Vol. 9, pp. 768-786, Sept.
- [K.7] Grant, P.M. and Sage, J.P. [1986], "A Comparison of Neural Network and Matched Filter Processing for Detecting Lines in Images," *Neural Networks for Computing*, (Ed.) J.S. Denker, New York, American Institute of Physics, pp. 194-199.
- [K.8] Gupta, M.M. and DeBaets, B. [1989a], "Morphological Convolution Operations for Image Processing," 1989 SPIE Conf. in Visual Communications and Image Processing, Nov. 5-10, Philadelphia, Paper #1199-87, pp. 1177-1183.

- [K.9] Hasan, M. and Azimi-Sadjadi, M.R. and Dobeck, G. [1998], "Multiple
 Time Delay Estimation Using New Spectral Estimation Schemes,"
 IEEE Trans. Signal Processing, Vol. 46, pp. 1580-1590, June.
- [K.10] Kung, S.Y. and Taur, J.S. [1995], "Decision-Based Neural Networks with Signal/Image Classification Applications," *IEEE Trans. Neural Networks*, Vol. 6, pp. 170-181.
- [K.11] Ljung, L. and Sjoberg, T. [1992], "A System Identification Perspective on Neural Nets," Proc. IEEE Workshop Neural Networks for Signal Processing, May.
- [K.12] Lo, J.T.-H. [1994], "Synthetic Approach to Optimal Filtering," IEEE Trans. Neural Networks, Vol. 5, pp. 803-811, Sept.
- [K.13] Mel, B.W. [1994], "Information Processing in Dendritic Tree," *Neural Computat.*, Vol. 6, pp. 1031-1085.
- [K.14] Molgedey, L. and Schuster, H.G. [1994], "Separation of a Mixture of Independent Signals Using Time Delayed Correlations," *Phys. Rev. Lett.*, Vol. 72, pp. 3634-3636.
- [K.15] Nikias, C. and Mendel, J. [1993], "Signal Processing with Higher-Order Spectra," *IEEE Signal Processing Mag.*, pp. 10-37, July.
- [K.16] Pak, S.K. and Ghosh, A. [1996], "Neuro-Fuzzy Computing for Image Processing and Pattern Recognition," *Inter. J. Systems Sci.*, Vol. 27, pp. 1179-1193.
- [K.17] Pal, N.R. and Pal, S.K. [1993], "A Review on Image Segmentation Techniques," *Pattern Recognition*, Vol. 26, No. 9, pp. 1277-1294.
- [K.18] Parlos, A.G., Menton, S.K. and Atiya, A.F. [2001], "An Algorithmic Approach to Adaptive State Filtering Using Recurrent Neural Networks", *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1411-1432, Nov.
- [K.19] Tarr, G. [1991] "Multilayered Feedforward Networks for Image Segmentation," *Ph.D. Dissertation*, Air Force Inst. Technol., Wright-Patterson AFB, OH.

 [K.20] Wang, Y.F., Lin, S.H., Li, H. and Kung, S.Y. [1998], "Data Mapping by Probabilistic Modular Networks and Information Theoretic Criteria", *IEEE Trans. Signal Processing*, Vol. 46, pp. 3378-3397.

[L] Neuro-Control Systems

- [L.1] Abdallah, C. Dawson, D. and Jamshidi, M., [1991], "Survey of Robust Control for Rigid Machines," *IEEE Control System Magazine*, Feb., pp. 24-30.
- [L.2] Albus, J.S. [1975], "A New Approach to Manipulator Control: The Cerebellar Model Articulation Controller (CMAC)," J. Dynamic Systems, Measurement and Control, pp. 220-227, Sept.
- [L.3] Albus, J.S. and Meystel, A. [1996], "A Reference Model Architecture for Design and Implementation of Intelligent Control in Large and Complex Systems," *Inter. J. of Intel. Contr. and Systems.*, Vol. 1, pp. 15-30.
- [L.4] Anderson, C.W. [1989], "Learning to Control an Inverted Pendulum Using Neural Networks", *IEEE Control Systems Magazine*, pp. 31-37, April.
- [L.5] Atiya, A. and Parlos, A. [1995], "Identification of Nonlinear Dynamics Using a General Spatio-Temporal Networks", *Math. Computations Modeling J.*, Vol. 21, No. 1, pp. 53-71.
- [L.6] Baluja, S. and Pomerleau, D.A. [1997], "Expectation-Based Selective Attention for the Visual Monitoring and Control of a Robot Vehicle," *Robot. Autonomous Systems J.*, Vol. 22, pp. 329-344.
- [L.7] Barto, AG. [1988], "An Approach to Learning Control Surface by Connectionist Systems," M. Arbib and Hanson (Eds.), Vision, Brain and Cooperative Computation, Cambridge, MA, MIT Press, pp. 665-701.
- [L.8] Barto, AG. [1990b], 'Neural Networks for Control," *Chapter 1*, Cambridge, MA, MIT Press, pp. 5-58.
- [L.9] Barto, A.G., Sutton, R.S. and Anderson, Ch. W. [1983],"Neuronlike Adaptive Elements That Can Solve Difficult Learning

Control Problems," *IEEE Trans. on Systems, Man, and Cybernetics*, Vol. 13, No. 5, pp. 834-846.

- [L.10] Berenji., H.R and Khedkar, P.S. [1992], "Learning and Tuning Fuzzy Logic Controllers Through Reinforcements," *IEEE Trans. Neural Networks*, Vol. 3, pp. 724-740.
- [L.11] Billings, S.A., Jamaluddin, H.B. and Chen, S. [1992], "Properties of Neural Networks with Applications to Modelling Non-Linear Dynamical Systems," *Inter. J. Control*, Vol. 55, No. 1, pp. 193-224.
- [L.12] Buckley, J.J. [1992], "Universal Fuzzy Controllers," Automatica, Vol. 28, pp.1245-1248.
- [L.13] Chen, S., Billings, S.A, and Luo, W. [1989], "Orthogonal Least Square Methods and Their Application to Non-Linear System Identification," *Inter. J. of Control*, Vol. 50, No. 5, pp. 1873-1896.
- [L.14] Chen, S., Billings, S.A., Cowan, C.F.N. and Grant, P.M., [1990a],
 "Nonlinear System Identification Using Neural Networks," *Inter. J. Control*, Vol. 51, No. 6, pp. 1191-1214.
- [L.15] Chen, S., Gunn, S. and Harris, C.J. [2000], "Decision Feedback Equalizer Design Using Support Vector Machines," *Proc. Inst. Elect. Eng. Vision, Image, Signal Processing*, Vol. 147, No. 3, pp. 213-219.
- [L.16] Chen, S., Gunn, S.R., and Harris, C.J. [2001a], "The Relevance Vector Machine Technique for Channel Equalization Application," *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1529-1531, Nov.
- [L.17] Chi, S.R., Shoureshi, R. and Tenorio, M. [1990], "Neural Networks for System Identification," *IEEE Contr. System Ma*gazine, Vol. 10, pp. 31-34.
- [L.18] Cho, K.B. and Wang, B.H. [1996], "Radial Basis Function Based Adaptive Fuzzy Systems and their Applications to System

Identification and Prediction," *Fuzzy Sets and Systems*, Vol. 83, pp. 325-339.

- [L.19] Connors, J., Martin, D. and Atlas, L. [1994], "Recurrent Neural Networks and Robust Time Series Prediction," *IEEE Trans. Neural Networks*, Vol. 5, pp. 244-254, Mar.
- [L.20] Daunicht, W.I., [1989], "Control of Manipulators by Neural Networks," *IEE Proc.*, Vol. 136, No. 5, Pt. E, pp. 395-399, Sept.
- [L.21] Deiss, S.R., Douglas, R.J. and Whatley, A.M. [1998], "A Pulse-Coded Communications Infrastructure for Neuromorphic Systems," *Pulsed Neural Networks*, (Eds.) W. Maass and C.M. Bishop, Cambridge, MA, MIT Press, Chapter 6, pp. 157-178.
- [L.22] Deshpande, N.A. and Gupta, M.M. [1998], "Inverse Kinematic Neuro-Control of Robotic Systems," Inter. IFAC J. of Eng. Applications of Artificial Intelligence, Vol. 11, pp. 55-66.
- [L.23] Espada A. and Barreiro, A. [1999], "Robust Stability of Fuzzy Control Systems Based on Conicity Conditions," *Automatica*, Vol. 35, No. 4, pp. 643-654.
- [L.24] Farag, W.A., Quintana, V.H. and Labert-Torres, G. [1998], "A Genetic-Based Neuro-Fuzzy Approach for Modeling and Control of Dynamical Systems," *IEEE Trans. Neural Networks*, Vol. 9, pp. 756-767.
- [L.25] Farrell, F., Berger, I. and Appleby, B. [1993], "Using Learning Techniques to Accommodate Unanticipated Faults," *IEEE Control System Magazine*, pp. 40-49, June.
- [L.26] Fernandez de Canete, J. Barreiro, A. Garcia-Cerezo, A. and Garcia-Moral, [2001], "An Input-Output Based Robust Stabilization Criterion for Neural-Network Control of Nonlinear Systems," *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1491-1497, Nov.

- [L.27] Fujimori, A., Nikiforuk, P.N. and Gupta, M.M. [1997], "Adaptive Navigation of Mobile Robots with Obstacle Avoidance," *IEEE Trans. on Robotics and Automation*, Vol. 13, No. 4, pp. 596-602, Aug.
- [L.28] Fujimori, A. Nikiforuk, P.N. and Gupta, M.M. [1999] "Navigation of Multiple Robots with Cooperative Collision Avoidance," 14th IFAC World Congress, Beijing, July 5-9, Paper No. B-1d -04-1, pp. 107-112.
- [L.29] Fujimori, A., Nikiforuk, P.N. and Gupta, M.M. [2001], "A Flight Control Design of a Re-Entry Vehicle Using a Double-Loop Control System with Fuzzy Gain Scheduling," *Proc. of the Inst. of Mech. Engineers*, Vol. 215, Part G, pp. 1-12.
- [L.30] Fujimori, A., Teramoto, M., Nikiforuk, P.N. and Gupta, M.M.
 [2001], "Cooperative Collision Avoidance Between Multiple Mobile Robots," *J. of Robotic Systems*, Vol. 17, No. 7, pp. 347-363.
- [L.31] Funahashi, K. [1989a], "Approximation of Dynamical Systems by Continuous Time Recurrent Neural Networks," *Neural Networks*, Vol. 6, pp. 801-806.
- [L.32] Garliaskas, A. and Gupta, M.M. [1996], "Control of Distributed Parameter Systems with Orthogonal Neural Networks Learning," *Informatica*, Vol. 7, No. 4, pp. 431-454.
- [L.33] Gawthrop, P.J. and Sbarbo, D.G. [1990], "Stochastic Approximation and Multi-Layer Perceptrons: The Gain Back-Propagation Algorithm, *Complex System*, Vol. 4, pp. 51-74.
- [L.34] Georgiou, T. and Smith, M. [1997], "Robustness Analysis of Nonlinear Feedback Systems Using Input-Output Approach," *IEEE Trans. Automat. Contr.*, Vol. 42, pp. 1200-1221.
- [L.35] Guez, A. and Selinsky, J. [1988b], "A Trainable Neuromorphic Controller," J. Robotic Systems, Vol. 5, No. 4, pp. 363-388.

- [L.36] Guez, A., Eilbert, J.L. and Kam, M., [1988], "Neural Network Architecture for Control," *IEEE Control System Magazine*, pp. 22-25, April.
- [L.37] Gupta, M.M. and Knopf, G.K. [1990e], "Fuzzy Neural Network Approach to Control Systems", Proc. ECPD, Neuro-Computing, Vol. 1, No. 1, pp. 200-205.
- [L.38] Gupta, M.M. and Qi, J. [1991d], "Design of Fuzzy Logic Controller-Based on Generalized T-Operators", *IFSA J. of Fuzzy Sets and Systems*, Vol. 40, No. 3, April, pp. 473-489.
- [L.39] Gupta, M.M. and Rao, D.H. [1990g], "Inverse Dynamics Adaptive Control: A Neural Network Approach," *The Inter. Summer School* and Workshop on Neuro-Computing (Theory and Applications), Proc. ECPD, Neuro-Computing, Vol. 1, No. 1, pp. 185-191.
- [L.40] Gupta M.M. and Rao, D.H. [1992h], "Dynamic Neural Units in the Control of Linear and Nonlinear Systems," *Inter. Joint Conf. on Neural Networks*, Baltimore, June 7-11, Vol. II, Paper No. 691, pp. 100-105.
- [L.41] Gupta M.M. and Rao, D.H. [1992i], "Adaptive Control of Unknown Nonlinear Systems Using Multi-Stage Dynamic Neural Networks," SPIE Conf. on Intelligent Robots and Computer Vision, Boston, Nov. 15-20, Paper #1826-15, pp. 130-142.
- [L.42] Gupta, M.M. and Rao, D.H. [1994e], "Dynamic Neural Units with Applications to the Control of Unknown Nonlinear Systems," *Neuro-Control Systems, Theory and Applications,* IEEE Press Book, New York, pp. 352-371, (Reprinted from the *J. of Intell. and Fuzzy Systems*, Vol. 1, No. 1, pp. 73-92).
- [L.43] Gupta, M.M. and Rao, D.H. [1994h], "Neuro-Control Systems: A Tutorial", *Neuro-Control Systems, Theory and Applications*, IEEE-Press Book, pp. 1-44.

- [L.44] Gupta, M.M. and Rao, D.H. [1995], "Dynamic Neural Processor and Its Applications to Robotics and Control," *Intelligent Control Systems: Theory and Applications*, (Eds.), M.M. Gupta and N.K.
 Sinha, IEEE Press, Chapter 19, pp. 515-545.
- [L.45] Gupta, M.M. and Rao, D.H., [1992j], "Synaptic and Somatic Applications in Dynamic Neural Networks", 2nd Inter. Conf. on Fuzzy Logic and Neural Networks, Iizuka, Japan, July 17-22, Vol. I, pp. 173-177.
- [L.46] Gupta, M.M., Rao, D.H. and Nikiforuk, P.N. [1993b], "Neuro-Controller with Dynamic Learning and Adaptation," *Inter. J. of Intel. and Robotic Syst*, Vol. 7, No. 2, April, pp. 151-173.
- [L.47] Gupta, M.M., Rao, D.H. and Wood, H.C. [1990], "Inverse Dynamics Adaptive Control: A Neural Network Approach," Inter. *Symposium on Uncertainty Modelling and Analysis*, University of Maryland, College Park, Dec. 3-5, pp. 189-195.
- [L.48] Gupta, M.M., Rao, D.H. and Wood, H.C. [1992c], "Inverse Dynamics Adaptive Control [IDAC]: A Neuronal Structure to Control Systems with Parameter Uncertainties," Uncertainty Analysis and Management, North Holland, Chapter 18, pp. 217-232.
- [L.49] Hansen, L.K. and Rasmussen, C.E. [1994], "Pruning from Adaptive Regularization," *Neural Computations*, Vol. 6, pp. 1223-1232.
- [L.50] Hashimoto, H., Kubota, T., Kudon, M. and Harashima, F., [1990],
 "Visual Control of a Robotic Manipulator Using Neural Networks," *Proc. 29th Conf. on Decision and Control*, Honolulu, Hawaii, pp. 3295-3302.
- [L.51] Honma, N., Sakai, M., Abe, K. and Takada, H. [1999], "Control Methods of the Lyapunov Exponents for Recurrent Neural

Networks," *Proc. of the 14th World Congress of IFAC*, Vol. K, pp. 51-56.

- [L.52] Hunt, K.J., Sbarbaro, D., Zbikowski, R. and Gawthrop, P.J. [1992],
 "Neural Networks for Control Systems-A Survey," *Automatica*, Vol. 28, No. 6, pp. 1083-1117.
- [L.53] Ichikawa and Sawa, T. [1992], "Neural Network Applications for Direct Feed-Back Controllers," *IEEE Trans. Neural Networks*, Vol. 3, No. 2, pp. 224-231, Mar.
- [L.54] Ienne, P. and Viredaz, M. [1996], "GENES IV: A BIT-Serial Processing Element for a Multi-Model Neural-Network Accelerator," *Neural Networks Theory*, *Technology and Applications*, (Ed.) P. Simpson, IEEE Press, New York, pp. 797-808.
- [L.55] Ito, M. [1970], "Neurophysiological Aspects of the Cerebellar Motor Control System", *Inter. J. Neurology*, Vol. 7, No. 2.3-4, pp. 162-170.
- [L.56] Jamaluddin, and Chen, S. [1992], "Properties of Neural Networks with Applications to Modeling Nonlinear Dynamical Systems," *Inter. J. Contr.*, Vol. 55, No. 1, pp. 193-224.
- [L.57] Jang J.S.R. and Sun, C.T. [1990], "Neuro-Fuzzy Modeling and Control," *Proc. IEEE*, Vol. 83, No. 3, pp. 378-406, Mar.
- [L.58] Jin, L. and Gupta, M.M. [1995a], "Dynamic Feedback Control of Unknown Nonlinear Systems Using Dynamic Neural Networks, 1995 IEEE Systems, Man, and Cybernetics Conf., Vancouver, Vol. 2, pp. 1261-1266, Oct.
- [L.59] Jin, L. Gupta, M.M. and Nikiforuk, P.N. [1994b], "Computational Neural Architecture for Control Applications," *Soft Computing: Fuzzy Logic, Neural Networks and Distributed Artificial Intelligence*, Prentice Hall, (Eds.) F. Aminzadeh and M. Jamshidi, Chapter 6, pp. 121-152.

- [L.60] Jin, L. Gupta, M.M. and Nikiforuk, P.N. [1995a], "Equilibrium Number of Analog Dynamic Neural Networks," 1995 World Congress on Neural Networks (WCNN'95), Washington DC, USA, Vol. 1, pp. 308-311, July.
- [L.61] Jin, L., Gupta, M.M. and Nikiforuk, P.N. [1993a], "Computational Neural Architectures for Control Applications", *Soft Computing: Fuzzy Logic, Neural Networks, and Distributed Artificial Intelligence,* (Eds.) F. Aminzadeh and M. Jamshidi, Prentice Hall, Englewood Cliffs, New Jersey, Chapter 6, pp. 121-152.
- [L.62] Jin, L., Gupta, M.M. and Nikiforuk, P.N. [1993b], "Control Relevant Dynamics of Recurrent Neural Networks," *IJCNN-93*, Nagoya, Paper No. K-006, pp. 2823-2826, Oct.
- [L.63] Jin, L., Gupta, M.M. and Nikiforuk, P.N. [1993c], "Intelligent Control for Nonlinear Systems Using Dynamic Neural Networks with Robotics Application", *Inter. J. of Intelligent Automation and Soft Computing*, Vol. 1, No. 2, pp. 123-144.
- [L.64] Jin, L., Nikiforuk, P.N. and Gupta, M.M. [1992a], "Adaptive Tracking of SISO Nonlinear Systems Using Multilayered Neural Networks," *American Control Conf.*, Chicago, Paper No. 927, pp. 56-60, June.
- [L.65] Jin, L., Nikiforuk, P.N. and Gupta, MM. [1994], "Adaptive Control of Discrete-Time Nonlinear Systems Using Recurrent Neural Networks," *IEE Proc. - D: Control Theory and Applications*, Vol. 141, No. 3, pp. 169-176, May.
- [L.66] Jin, L., Nikiforuk, P.N. and Gupta, MM. [1994e], "Direct Adaptive Output Tracking Control Using Multilayered Neural Networks," *Neuro-Control Systems, Theory and Applications*, IEEE Press Book, New York, pp. 314-320, (Reprinted from the *IEEE Proc - D*, Vol. 140, No. 6, pp. 393-398).

- [L.67] Jin, L., Nikiforuk, P.N. and Gupta, MM. [1994f], "Dynamic Recurrent Neural Networks for Control of Unknown Nonlinear Systems," *ASME J. of Dynamic Systems, Measurement and Control,* Vol. 116, No. 4, pp. 567-576, Dec.
- [L.68] Jin, L., Nikiforuk, P.N. and Gupta, MM. [1994g], "Neural Modeling and Control of Flexible Spacecraft Using Neural Networks," *Advances in Astronautical Science*, Vol. 85, pp. 2179-2198.
- [L.69] Jin, L., Nikiforuk, P.N. and Gupta, M.M. [1995h], "Weight-Decoupled Kalman Filter Learning Algorithm of Multilayered Neural Networks," *Inter. J. on Neural and Mass-Parallel Computing and Information Systems*, Vol. 8, No. 1, pp. 51-70.
- [L.70] Jin, L., Nikiforuk, P.N. and Gupta, M.M. [1995i], "Adaptive Model Reference Control for Discrete-Time Nonlinear System Using Neural Networks," *Inter. J. of Contr. Theory and Advanced Technology*, Vol. 10, No. 4, Part 3, pp. 1379-1399, Sept.
- [L.71] Jin, L., Nikiforuk, P.N. and Gupta, M.M. [1999a], "Modelling Flexible Robot Dynamics Using Discrete-Time Dynamic Recurrent Neural Networks," 14th IFAC World Congress, Beijing, Paper No. B-1d -10-1, pp. 325-330, July.
- [L.72] Josin, G., Charney, D. and White, D., [1988], "Robot Control Using Neural Networks," Proc. IEEE Inter. Conf. on Neural Networks, San Diego, CA, pp. II-615-631.
- [L.73] Kosmatopoulos, E.A., Polycarpou, M.M., Christodoulou, M.A. and Oannou, P.I. [1995], "High-Order Neural Network Structures for Identification of Dynamical Systems," *IEEE Trans. Neural Networks*, Vol. 6, pp. 422-431, Mar.
- [L.74] Kraft, L.G. and Campagna, D.S., [1990a], "A Comparison Between CMAC Neural Network Control and Two Traditional

Adaptive Control Systems", *IEEE Control Systems Magazine*, pp. 36-43, April.

- [L.75] Kraft, L.G. and Campagna, D.S., [1990b], "A Summary Comparison of CMAC Neural Network and Traditional Adaptive Control Systems", *Neural Networks for Control*, (Eds.) T.W. Miller III, R.S. Sutton and P.J. Werbos, Cambridge, Mass, MIT Press.
- [L.76] Ku, C.C. and Lee, K.Y. [1995], "Diagonal Neural Networks for Dynamic Systems Control," *IEEE Trans. Neural Networks*, Vol. 6, pp. 144-156.
- [L.77] Lee, C.C. [1990a], "Fuzzy Logic in Control Systems: Fuzzy Logic Controller, Part I," *IEEE Trans. Systems Man. Cybernetics*, Vol. 20, No. 2, pp. 404-418.
- [L.78] Lee, C.C. [1990b], "Fuzzy Logic in Control Systems: Fuzzy Logic Controller, Part II," *IEEE Trans. Systems Man. Cybernetics*, Vol. 20, No. 2, pp. 419-435.
- [L.79] Lin, C.T. and Lee, C.S.G., [1991], "Neural-Network-Based Fuzzy Logic Control and Decision System," *IEEE Trans. Computer*, Vol. 40, No.12, pp.1320-1336.
- [L.80] Miyamota, M., Kawato, K, Setoyama, T. and R. Suzuki, R. [1988],
 "Feedback-Error-Learning Neural Network for Trajectory Control of a Robotic Manipulator," *Neural Networks*, Vol. 1, pp. 251-265.
- [L.81] Moody, J.E. [1991], "Note on Generalization, Regularization, and Architecture Selection in Nonlinear Systems," *Proc. IEEE Workshop Neural Networks Signal Processing*, pp. 1-10.
- [L.82] Mori, T., Nikiforuk, P.N., Gupta, M.M. and Hori, H. [1991], "A Class of Discrete Time Model for Continuous Time Systems", *IEEE Proc., Control Theory and Applications, Part D*, Vol. 136, No. 2, pp. 79-83.

- [L.83] Mozer, M.C., Wolniewicz, R., Grimes, D.B., Johnson, E. and Kaushanksy, H. [2000], "Predicting Subscriber Dissatisfaction and Improving Retention in the Wireless Telecommunications Industry", *IEEE Trans. on Neural Networks*, Vol. 11, No. 3, pp. 690-696, May.
- [L.84] Mukhopadbyay M., and Narendra, K.S. [1993], "Disturbance Rejection in Non-Linear Systems Using Neural Networks", *IEEE Trans. Neural Networks*, Vol. 4, No. 1, pp. 63-72, Jan.
- [L.85] Narendra, K.S. and Parthasarathy, K. [1990], "Identification and Control of Dynamical Systems Using Neural Networks," *IEEE Trans. Neural Networks*, Vol. NN-1, No. 1, pp. 4-27.
- [L.86] Narendra, K.S. and Parthasarathy, K., [1991], "Gradient Methods for the Optimization of Dynamical Systems Containing Neural Networks," *IEEE Trans. Neural Networks*, Vol. 2, No. 2, pp. 252-262.
- [L.87] Nguyen, D.H., and Widrow, B., [1990], "Neural Networks for Self-Learning Control Systems," *IEEE Control Systems Magazine*, pp. 18-23, April.
- [L.88] Nishiyama, K. and Suzuki, K. [2001], "H? Learning of Layered Neural Networks," *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1265-1277, Nov.
- [L.89] Nordstrom, E., Gallmo, O., Asplund, L. Gustafsson, M. and Eriksson, B. [1994], "Neural Networks for Admission Control in an ATM Network," *Connectionism in a Broad Perspective: Selected Papers from the Swedish Conf. on Connectionsim – 1992*, (Eds.) L.F. Niklasson and M.B. Boden, Ellis Horwood, pp. 239-250.
- [L.90] Ortega, R. and Tang, Y. [1989], "Robustness of Adaptive Controllers-A Survey," *Automatica*, Vol. 25, No. 5, pp. 651-677.

- [L.91] Parlos, A., Atiya, A. and Chong, K. [1991], "Recurrent Multilayer Perceptron for Nonlinear System Identification," *Proc. Inter. Joint Conf. Neural Networks (IJCNN)*, pp. 537-540, Nov.
- [L.92] Parlos, A., Chong, K. and Atiya, A. and [1994], "Application of the Recurrent Multi-layer Perceptron in Modeling Complex Process Dynamics," *IEEE Trans. Neural Networks*, Vol. 5, pp. 225-266, Mar.
- [L.93] Passino, K.M. [1993], "Bridging the Gap Between Conventional and Intelligent Control," *IEEE Control System Magazine*, pp. 12-18.
- [L.94] Passino, K.M., Sartori, M.A. and Antsaklis, P.J. [1989], "Neural Computing for Numeric-to-Symbolic Conversion in Control Systems," *IEEE Control Systems Magazine*, pp. 44-51, April.
- [L.95] Pearlmutter, B.A. [1989], "Learning State Space Trajectories in Recurrent Neural Networks," *Neural Computation*, Vol. 1, pp. 263-269.
- [L.96] Pomerleau, D.A., [1989], "ALVINN: An Autonomous Land Vehicle in a Neural Networks," Advances in Neural Information Processing, (Ed.) D. Touretzky, Vol. 1, San Mateo, CA, Morgan-Kaufmann Publishers.
- [L.97] Psaltis, D., Sideris, A., and Yamamura, A. [1987], "Neural Controllers," *Proc. IEEE Inter. Neural Networks Conf.*, pp. 17-21. April.
- [L.98] Psaltis, D., Sideris, A. and Yamamura, A.A. [1988], "A Multilayered Neural Network Controller," *IEEE Control Systems Magazine*, Vol. 8, pp. 17-21, April.
- [L.99] Puccia, C.J. and Levins, R. [1985], Qualitative Modeling of Complex Systems, Cambridge, MA, Harvard University Press.

- [L.100] Puskorius, G.V. and Feldkamp, L.A. [1991], "Decoupled Extended Kalman Filter Training of Feed-Forward Layered Networks," *Proc.* of 1991 IJCNN, Seattle, Vol. I, pp. 771-777.
- [L.101] Puskorius, G.V. and Feldman, L. [1994], "Neurocontrol of Dynamic Systems with Kalman Filter Trained Recurrent Networks," *IEEE Trans. Neural Networks*, Vol. 5, pp. 279-297, Mar.
- [L.102] Rabelo X. and Avula, J.R. [1992], "Hierarchical Neurocontroller Architecture for Robotic Manipulation," *IEEE Control System Magazine*, pp. 37-41, April.
- [L.103] Rao, D.H. and Gupta, M.M. [1993b], "A Multi-Functional Dynamic Neural Processor for Control Applications", 1993 American Control Conf. (ACC), June 2-4, San Francisco, Also, ASME J. of Dynamic Systems, Measurement and Control, pp. 2902-2906.
- [L.104] Rao, D.H. and Gupta, M.M. [1993], "Dynamic Neural Adaptive Control Schemes for Linear and Nonlinear Systems", 1993 American Control Conf. (ACC), San Francisco, pp. 1450-1454, June.
- [L.105] Rao, D.H. and Gupta, M.M. [1993e], "Dynamic Neural Controller with Somatic Adaptation", *IEEE Conf. on Neural Networks* (*ICNN*), San Francisco, pp. 558-563, March 28-April 1.
- [L.106] Rao, D.H. and Gupta, M.M. [1994], "Coordination and Control of Nonlinear Multivariable Systems with Parametric and Structural Uncertainties using a Dynamic Neural Network," *Uncertainty Modeling and Analysis: Theory and Application*, (Eds.) B.M. Ayyub and M.M. Gupta, North-Holland Publishers, Amsterdam, Chapter 7, pp. 109-129.
- [L.107] Rao, D.H. Gupta, M.M. and Wood, H.C. [1993], "Neural Networks in Control Systems," *Proc. IEEE Conf. Communicat.*

Computers, Power in Modern Environment, Saskatoon, pp. 313-319, May.

- [L.108] Rao, D.H., and Gupta, M.M. [1999], "Truck Backer-Upper Control Using Dynamic Neural Networks," Soft Computing and Intelligent Control Systems: Theory and Applications, Academic Press, Chapter 24, pp. 589-603.
- [L.109] Rao, D.H., Bitner, D. and Gupta, M.M. [1994], "Feedback-Error Learning Scheme Using Recurrent Neural Networks for Nonlinear Dynamic Systems," *IEEE Conf. on Neural Networks*, Orlando, June 29-July 2, Vol. I, pp. 175-180.
- [L.110] Rao, D.H., Gupta, M.M. and Nikiforuk, P.N. [1993], "On-Line Learning of Robot Inverse Kinematic Transformation", *IJCNN-93*, Nagoya, Paper No. K-007, pp. 2827-2830, Oct.
- [L.111] Rao, D.H., Gupta, M.M. and Nikiforuk, P.N. [1994], "Performance Comparison of Dynamic Neural Processor and Recurrent Neural Networks," *J. of Neural, Parallel and Scientific Computations*, Vol. 2, No.1, pp. 55-80, Mar.
- [L.112] Rao, D.H., Gupta, M.M. and Sinha, N.K., [2000], "Dynamic Neural Networks: An Overview", Inter. Conf on Industrial Technology, Gao, India, pp. 491-496, Jan.
- [L.113] Rao, D.H., Nikiforuk, P.N., Gupta, M.M. and Wood, H.C. [1993],
 "Neural Equalization of Communication Channels," *Proc. IEEE Conf. Comunicat., Computers, Power in Modern Environment,* Saskatoon, pp. 282-290, May.
- [L.114] Rao, D.H., Wood, H.C. and Gupta, M.M. [1994], "Control of Nonlinear Multivariable Systems using a Dynamic Neural Network," *IEEE Conf. on Neural Networks*, Orlando, Vol. IV, pp. 2518-2523, June 29-July 2.

- [L.115] Rovatti, R. and Guerrieri, R. [1996], "Fuzzy Sets of Rules for System Identification", *IEEE Trans. Fuzzy Systems*, Vol. 4, pp. 89-102.
- [L.116] Saerens, M. and Soquet, A. [1991], "Neural Controller Based on Back-Propagation Algorithm," *IEE Proc.*, *Part F*, Vol. 138, No. 1, pp. 55-62.
- [L.117] Sanner J.J. and J Slotine, E. [1992], "Gaussian Networks for Direct Adaptive Control," *IEEE Trans. Neural Networks*, Vol. 3, No. 6, pp. 837- 863, Nov.
- [L.118] Sastry, P. Santharam, G. and Unnikrishnan, K. [1994], "Memory Neuron Networks for Identification and Control of Dynamical Systems," *IEEE Trans. Neural Networks*, Vol. 5, pp. 305-319, Mar.
- [L.119] Sbarbaro-Hofer, S. Neumerkel, D. and K. Hunt, [1993], "Neural Control of a Steel Rolling Mill," *IEEE Control System Magazine*, pp. 69-75, June.
- [L.120] Sebald, D.J. and Bucklew, J.A. [2000], "Support Vector Machine Techniques for Nonlinear Equalization," *IEEE Trans. Signal Processing*, Vol. 48, pp. 3217-3226, Nov.
- [L.121] Shann, J.J. and Fu, H.C. [1995], "A Fuzzy Neural Network for Rule Acquiring on Fuzzy Control Systems," *Fuzzy Sets and Systems*, Vol. 71, pp. 345-357.
- [L.122] Suykens, J., De Moor, B. and Vandewalle, J. [1995], "Nonlinear System Identification Using Neural State-Space Models, Applicable to Robust Control Design," *Inter. J. Contr.*, Vol. 62, No. 1, pp. 129-152.
- [L.123] Takagi, H. and Sugeno, M. [1985], "Fuzzy Identification of Systems and Its Applications to Modeling and Control," *IEEE Trans. System, Man, and Cybern*, Vol. 15, pp. 16-132.
- [L.124] Teel, A. [1996], "On Graphs, Conic Relations and Input-Output Stability of Non-Linear Feedback Systems," *IEEE Trans. Automat. Contr.*, Vol. 41, pp. 702-709.

- [L.125] Tolat, V.V. and Widrow, B., [1988], "An Adaptive 'Broom Blancer' with Visual Inputs," *Proc. IEEE Inter. Neural Networks Conf.*, San Diego, CA, pp. II-641-647.
- [L.126] Tong, L., Liu, R.-W., Soon, V.C. and Huang, Y.-F. [1991],
 "Indeterminacy and Identifiability of Blind Identification," *IEEE Trans. Circuits Systems*, Vol. 38, pp. 499-509.
- [L.127] Wang, L.X. [1993], "Stable Adaptive Fuzzy Control of Non-Linear Systems," *IEEE Trans. Fuzzy System*, Vol. 1, pp. 146-155, Jan.
- [L.128] Wang, L.X. [1995], "Design and Analysis of Fuzzy Identifiers of Non-Linear Systems," *IEEE Trans. Auto. Control*, Vol. 40, No. 1, pp. 11-23.
- [L.129] Wang, L.X. and Yeh, M.S. [1990], "Self-Adaptive Neural Architectures For Control Applications," Proc. Inter. Joint Conf. Neural Networks, (JJCNN), pp. 309-314, June.
- [L.130] Wang, L.X. and Yen, J. [1999], "Extracting Fuzzy Rules for System Modeling Using a Hybrid of Genetic Algorithms and Kalman Filter", *Fuzzy Sets and Systems*, Vol. 101, pp. 353-362.
- [L.131] Wdlis, M.J., Montagne, G.A., Massimo, C.D. Iam, M.T. and Morris, A.J. [1992], "Artificial Neural Networks in Process Estimation and Control," *Automatica*, Vol. 28, No. 6, pp. 1181-1187.
- [L.132] Yabuta T. and Yamada, T. [1991], "Neural Network Controller Characteristics with Regard to Adaptive Control," *IEEE Trans. System, Man, Cybernetics*, Vol. 22, No. 1, pp. 170-176, Jan./Feb.
- [L.133] Yager, R.R. [1992], "Implementing Fuzzy Logic Controllers Using a Neural Network Framework," *Fuzzy Sets and Systems*, Vol. 48, pp. 53-64.
- [L.134] Ydstie, B.E. [1990], "Forecasting and Control Using Adaptive Connective Networks," *Computers Chem. Eng.*, Vol. 14, pp. 583-599.

- [L.135] Zadeh, L.A. [1972b], "A Rational for Fuzzy Control," J. Dyn. Systems, Measurement, Control, Vol. 34, pp. 3-4.
- [L.136] Zhou, H., Card, H.C. and Bridges, G.E. [1995], "Parallel Pseudorandom Number Generation in GaAs Cellular Automata for High-Speed Circuit Testing," *J. Elect. Test. Theory Applicat.*, Vol. 6, pp. 325-330.
- [L.137] Zhu, R., Chai, T. and Shao, C. [1997], "Robust Nonlinear Adaptive Observer Design Using Dynamic Recurrent Neural Networks," *Proc. 1997 Amer. Contr. Conf.*, Vol. 2, pp. 1096-1100, June.

[M] Neuro-Vision Systems

- [M.1] Baluja, S. and Pomerleau, D.A. [1997], "Expectation-Based Selective Attention for the Visual Monitoring and Control of a Robot Vehicle," *Robot. Autonomous Systems J.*, Vol. 22, pp. 329-344.
- [M.2] Boahen, L.A. [1996], "A Retinomorphic Vision System," *IEEE Micro.*, Vol. 16, No. 5, pp. 30-39, Oct.
- [M.3] Brajovic, V. and Kanade, T. [1998], "Computational Sensor for Visual Tracking with Attention," *IEEE J. Solid-State Circuits*, Vol. 33, pp. 1199-1207, Aug.
- [M.4] Carandini, M. and Heeger, D. [1994], "Summation and Division By Neurons in Primate Visual Cortex," *Science*, Vol. 264, pp. 1333-1336.
- [M.5] Chen, S., Gunn, S. and Harris, C.J. [2000], "Decision Feedback Equalizer Design Using Support Vector Machines," *Proc. Inst. Elect. Eng. Vision, Image, Signal Processing*, Vol. 147, No. 3, pp. 213-219.
- [M.6] Dayhoff, R.E. and Dayhoff, J.E. [1988], "Neural Networks for Medical Image Processing," Proc. IEEE Symp. on Computer Applications in Medical Care, Washington, D.C., pp. 271-275.
- [M.7] Desimone, R. and Duncan, J. [1995], "Neural Mechanisms of Selective Visual Attention," Annu. Rev. Neurosci., Vol. 18, pp. 193-222.
- [M.8] Engel, K., Konig, P., Kreiter, A.K. and Singer, W. [1991], "Interhemispheric Synchronization of Oscillatory Neuronal Responses in Cat Visual Cortex," *Science*, Vol. 252, pp. 1177-1178.
- [M.9] Fabri, S. and Kadirkamanathan, V. [1996], "Dynamic Structure Neural Networks for Stable Adaptive Control of Nonlinear Systems," *IEEE Trans. Neural Networks*, Vol. 7, pp. 1151-1166.

- [M.10] Fender, F. and B. Julesz, [1967], "Extension of Panum's Fusional Area in Binocularly Stabilized Vision," *J. Opt. Soc. Amer.*, Vol. 57, No. 6, pp. 819- 830.
- [M.11] Fujita, T. and Ando, H. [1997], "Image Segmentation for 3D Object Recognition Using Bidirectional Networks," *Proc. Inter. Conf. Artificial Neural Networks (ICANN'97)*, pp. 943-948.
- [M.12] Grossberg, S. and Somer, D. [1991], "Synchronized Oscillations During Cooperative Feature Linking in a Cortical Model of Visual Perception," *Neural Networks*, Vol. 4, pp. 453-466.
- [M.13] Gupta, M.M. [1990], "Neuronal-Morphology of Biological Vision: A Basis for Machine Vision," *1990 SPIE Conf. on Visual Communications and Image Processing*, Oct. 2-4, Lausanne, Switzerland, Paper No. 1360-103, pp. 998-1004.
- [M.14] Gupta, M.M., [1988a], "Biological Basis for Computer Vision: Some Perspective", SPW Conf. on Intelligent Robots and Computer Vision, Nov. 5-10, Philadelphia, Paper #1192-49, pp. 811-823.
- [M.15] Gupta, M.M. and DeBaets, B. [1989a], "Morphological Convolution Operations for Image Processing," 1989 SPIE Conf. in Visual Communications and Image Processing, Nov. 5-10, Philadelphia, Paper #1199-87, pp. 1177-1183.
- [M.16] Gupta, M.M. and Digney, B.L. [1990a], "Visual Motion Detection: Emulation of Retinal Peripheral Visual Field," 1990 SPIE Conf. on Advances in Intelligent Systems: Intelligent Robots and Computer Vision, Boston, Nov. 49, Hynes Convention Center, Paper No. 1381-40, pp. 346-356.
- [M.17] Gupta, M.M. and Hungenahally, S.K. [1989b], "Discriminant Operators for the Emulation of the Visual Receptive Fields," *1989 SPIE Conf. in Visual Communications and Image Processing*, Nov. 5-10, Philadelphia, Paper #1199-164, pp. 606-618.

- [M.18] Gupta, M.M. and Hungenahally, S.K. [1990b], "Receptive Fields and Theory of Discriminant Operators," 1990 SPIE Conf. on Advances in Intelligent Systems: Intelligent Robots and Computer Vision, Boston, Nov. 4-9, Hynes Convention Center, Paper No. 1382-10, pp. 87-98.
- [M.19] Gupta, M.M. and Hungenhally, S.K. [1990c], "Discriminant Operators: Emulation of Visual Receptive Fields for the Extraction of Transitions from Signals and Images," *Inter. Joint Conf. on Neural Networks*, San Diego, California, June 17-21, Vol. 2, pp. 903-910.
- [M.20] Gupta, M.M. and Knopf, G.K. [1988a], "Cognitive Vision Fields and Percepts for Image Processing, Proceedings," SPIE on Intelligent Robots and Computer Vision, Vol. 1002, Nov., pp. 414-425.
- [M.21] Gupta, M.M. and Knopf, G.K. [1989e], "Machine Vision Within the Framework of Collective Neural Assemblies," SPIE Conf. on Intelligent Robots and Computer Vision, Nov. 5-10, Philadelphia, Paper #1192-55, pp. 614-625.
- [M.22] Gupta, M.M. and Knopf, G.K. [1989f], "The Percept: A Neural Model for Computer Vision," Proc. of the Inter. Conf. on New Generations of Computers, April 17-19, Beijing, pp. 147-154.
- [M.23] Gupta, M.M. and Knopf, G.K. [1990d], "Dynamic Neural Network for Visual Memory: A Basis for Machine Vision," *1990 SPIE Conf. on Visual Communications and Image Processing*, Oct. 2-4, Lausanne, Switzerland. Paper No. 1360-107, pp. 1044-1055.
- [M.24] Gupta, M.M. and Knopf, G.K. [1990f], "Multi-Task Neural Network for Vision Machine Systems," 1990 SPIE Conf. on Advances in Intelligent Systems: Intelligent Robots and Computer Vision, Boston, Nov. 49, Hynes Convention Center, Paper No. 1382-08, pp. 60-73.

- [M.25] Gupta, M.M. and Knopf, G.K. [1991b], "Multi-Task Neuro-Vision Processor with Extensive Feedback and Feedforward Connections", SPIE Conf. on Visual Communication and Image Processing, Nov. 11-13, 1991, Boston, Paper #1606-069, pp. 482-495.
- [M.26] Gupta, M.M. and Knopf, G.K. [1992b], "A Multitask Visual Information Processor with a Biologically Motivated Design", J. Visual Communications and Image Representation, Vol. 3. No. 3, pp. 230-246, Sept.
- [M.27] Gupta, M.M. and Knopf, G.K. [1993b], "Pyramidal Neuro-Vision Architecture for Vision Machines," SPIE Conf. on Intelligent Robotics and Computer Vision XII, Algorithms and Techniques, Boston, Sept. 7-9, Paper No. 2045-49, pp. 557-569.
- [M.28] Gupta, M.M. and Knopf, G.K. [1994b], "Machine Perception of Edges and Cognitive Mapping," Special Issue on Artificial Intelligence and Expert System, J. of Computer and Elect. Engineering, Vol. 20, No. 2, pp. 99-120.
- [M.29] Gupta, M.M. and Knopf, G.K., (Editors), [1994c], Neuro-Vision Systems: Principles and Applications, A Vol. of Selected Reprints, IEEE-Neural Networks Council, IEEE-Press, New York, 555 pages.
- [M.30] Gupta, M.M., Yu, C. and Knopf, G.K. [1994], "Dynamic Neuro-Vision Processor for Short Term Visual Memory, Neural Network World", Inter. J. on Neural and Mass-Parallel Computing and Information Systems, Vol. 4, No. 4, Oct, pp. 417-434.
- [M.31] Hashimoto, H., Kubota, T., Kudon, M. and Harashima, F., [1990],
 "Visual Control of a Robotic Manipulator Using Neural Networks," *Proc. 29th Conf. on Decision and Control*, Honolulu, Hawaii, pp. 3295-3302.
- [M.32] Hellendoorn and Thomas, C. [1993], "Defuzzification in Fuzzy Controllers," *J. Intel. System*, Vol. 1, pp. 109-123 1993.

- [M.33] Indiveri, G. [1999], "Neuromorphic Analog VLSI Sensor for Visual Tracking: Circuits and Application Examples," *IEEE Trans. Circuits Systems II*, Vol. 46, pp. 1337-1347, Nov.
- [M.34] Indiveri, G., Murer, R. and Kramer, J. [2001], "Active Vision Using an Analog VLSI Model of Selective Attention," *IEEE Trans. Circuits Systems II*, Vol. 48, pp. 492-500, May.
- [M.35] Itti, L. and Koch, C. [2001], "Computational Modeling of Visual Attention," *Nature Neurosci. Rev.*, Vol. 2, pp. 194-204.
- [M.36] Itti, L., Koch, C. and Niebur, E. [1998], "A Model of Saliency-Based Visual Attention for Rapid Scene Analysis," *IEEE Trans. Pattern Anal. Machine Intell.*, Vol. 20, pp. 1254-1259, Nov.
- [M.37] Jondies, J., Irwin, D.E. and Yantis, S. [1982], "Integrating Visual Information From Successive Fixations," *Science*, Vol. 25, pp. 192-194.
- [M.38] Knopf, G.K. and Gupta, M.M. [1993a], "A Multi-Purpose Neural Processor for Machine Vision Systems", *IEEE Trans. on Neural Networks*, Vol. 4, No. 4, pp. 762-777, Sept.
- [M.39] Knopf, G.K. and Gupta, M.M. [1993b], "Design of a Multi-Task Neuro-Vision Processor", J. of Mathematical and Imaging and Vision, Vol. 2, pp. 233-250.
- [M.40] Knopf, G.K. and Gupta, M.M. [1993c], "Dynamics of Antagonistic Neural Processing Elements", *Inter. J. of Neural Systems*, Vol. 4, No. 3, pp. 291-303, Sept.
- [M.41] Knopf, G.K. and Gupta, M.M. [1994], "Fuzzy Uncertainty Measures in Image Processing", SPIE J. of Electronic Imaging, Vol. 3, No. 2, pp. 142-153, April.
- [M.42] Kobayashi, J. White, L, and Abidi, A.A. [1991], "An Active Resistor Network for Gaussian Filter of Images," *IEEE J. Solid-State Circuits*, Vol. 26, pp. 738-748.

- [M.43] Lahtinen, J. Martinsen, T. and Lampinen, J. [2000], "Improved Rotational Invariance for Statistical Inverse in Electrical Impendance Tomography," *Proc. IJCNN*'2000, Vol. II, Como, Italy, pp. 154-158.
- [M.44] Lenz, R. [1987], "Optimal Filters for the Detection of Linear Patterns in 2-D and Higher Dimensional Images," *Pattern Recognition*, Vol. 20, No. 2, pp. 163-172.
- [M.45] Liu, X. and Wang, D.L. [1999], "Range Image Segmentation Using a Legion Network," *IEEE Trans. Neural Networks*, Vol. 10, pp. 564-573, May.
- [M.46] Mantere, K., Parkkinen, J., Jaasketainen, T. and Gupta, M.M. [1993], "Wilson-Cowan Neural Network Model in Image Processing", J. of Mathematical Imaging and Vision, Vol. 2, pp. 251-259.
- [M.47] Miller, III, W.T., [1990], "Real-Time Application of Neural Networks for Sensor-Based Control of Robots with Vision," *IEEE Trans. Systems, Man, and Cybernetics*, Vol. 19, No. 4, pp. 825-831.
- [M.48] Nielson, G.M. [1996], "Challenges in Visualization Research,"IEEE Trans. Vis. Comput. Graph., Vol. 2, pp. 97-99, June.
- [M.49] Pal, N.R. and Pal, S.K. [1993], "A Review on Image Segmentation Techniques," *Pattern Recognition*, Vol. 26, No. 9, pp. 1277-1294.
- [M.50] Parkkinen, J., Gupta, M.M., Knopf, G.K., Hallikainen, J. and T. Jaaskelainen, T. [1992], "A Neural Model for Spatial and Chromatic Vision," *Intelligent Robots and Computer Vision X, Neural, Biological and 3-D Models, SPIE, Boston*, Vol. 1608, pp. 236-245.
- [M.51] Rhee, F.C.H. and Krishnapuram, R. [1993], "Fuzzy Rule Generation Methods for High-Level Computer Vision," *Fuzzy Sets* and Systems, Vol. 60, pp. 245-258.

- [M.52] Rhinehart, R.R. and Riggs, [1991], "Two Simple Methods for On-Line Incremental Model Parameterization," *Computations Chem. Eng.*, Vol. 15, No. 3, pp. 181-189.
- [M.53] Tarr, G. [1991] "Multilayered Feedforward Networks for Image Segmentation," *Ph.D. Dissertation*, Air Force Inst. Technol., Wright-Patterson AFB, OH.
- [M.54] Trahanias, P.E., Velissaris, S. and Garavelos, T. [1997], "Visual Landmark Extraction and Recognition for Autonomous Robot Navigation," *Proc. IEEE Inter. Conf, Intell. Robots Systems IROS* '97, Vol. 2, pp. 1036-1043.
- [M.55] von der Malsburg, Ch. and Buhmann, J. [1992], "Sensory Segmentation with Coupled Neural Oscillators," *Biological Cybernetics*, Vol. 67, pp. 233-242.

[N] Intelligent Robotics Systems

- [N.1] Albus, J.S. [1991], "Outlines for a Theory of Intelligence," *IEEE Trans. System, Man, Cybernetics*, Vol. 21, No. 3, May/June, pp. 473-509.
- [N.2] Alexander, I, (Editor), [1989], *Neural Computing Architectures -The Design of Brain-Like Machines*, MIT Press, Cambridge, Mass.
- [N.3] Baker, E. [1991], "Nonmonotonic Reasoning in the Framework of Situation Calculus," *Artificial Intelligence*, Vol. 49, pp. 5-23.
- [N.4] Bassi, D.F. and Beckey, G.A. [1989], "Decomposition of Neural Network Model of Robot Dynamics: a Feasibility Study," *Simulation and Al*, Vol. 220, pp. 8-13.
- [N.5] Bastian, A. [1995], "Handling the Nonlinearity of a Fuzzy Logic Controller at the Transition Between Rules," *Fuzzy Sets and Systems*, Vol. 71, pp. 369-387.
- [N.6] Bennett, K.P., [1992], "Decision Tree Construction Via Linear Programming", Proc. 4th Midwest Artificial Intelligence and Cognitive Science Society, pp. 97-101.
- [N.7] Bezdek, J.C. [1994], "What is Computational Intelligence?," *Computational Intelligence Imitating Life*, (Eds.) J.M. Zurada, R.J. Marks II, and C.J. Robinson, New York, IEEE Press, pp. 1-12.
- [N.8] Daelemans, W., Gillis, S. and Durieux, G. [1994], "The Acquisition of Stress: A Data Oriented Approach," *Computations Linguistics*, Vol. 20.
- [N.9] Dietz, W.E., Kiech, E.L. and Ali, M. [1989], "Jet and Rocket Engine Fault Diagnosis in Real-Time," J. Neural Network Computing, (Summer), pp. 5-18.
- [N.10] Digney, B.L. and Gupta, M.M. [1994], "A Distributed Adaptive Control System for a Quadruped Mobile Robot," *Neuro-Control Systems, Theory and Applications*, IEEE Press Book, New York,

pp. 460-465, (Reprinted from the *IEEE Conf. on Neural Networks*, San Francisco, pp. 144-149, Mar., 1993).

- [N.11] Fotouhi-C., R., Szyszkowski, W., Nikiforuk, P.N. and Gupta,
 M.M., [1999], "Parameter Identification and Trajectory Following of a Two-Link Rigid Manipulator," J. of Systems and Control Eng., Proc. of the Inst. of Mech. Engineers, Part I, Vol. 213, No. 16, pp. 455-466.
- [N.12] Galicki, M. [1998], "The Planning of Robotic Optimal Motions in the Presence of Obstacles," *Inter. J. Robot. Res.*, Vol. 17, No. 3, pp. 248-259.
- [N.13] Guez A. and Ahmad, Z. [1988a], "Solution to the Inverse Kinematics Problem in Robotics by Neural Networks," *Proc. IEEE Inter. Conf. Neural Networks*, San Diego, CA, pp. 617-624, Mar.
- [N.14] Gupta, M.M. and Rao, D.H. [1993b] 'General Learning Schemes for Robotic Coordinate Transformation Using Dynamic Neural Network," SPIE Conf. on Intelligent Robotics and Computer Vision XII, Algorithms and Techniques, Boston, Sept. 7-9, Paper No. 2055-45, pp. 524-535.
- [N.15] Gupta, M.M. and Rao, D.H. [1994f], "General Learning Scheme for Robot Coordinate Transformation using Dynamic Neural Network," *Neuro-Control Systems, Theory and Applications*, IEEE Press Book, New York, pp. 439-450, (Reprinted from the SPIE Conf. on Intelligent Robots and Computer Vision, XI: Algorithms and Techniques, Vol. Proc. SPIE 2055, pp. 524-535).
- [N.16] Gupta, M.M. and Rao, D.H. [1994g], "Neural Learning of Robot Inverse Kinematics Transformations", *Neural and Fuzzy Systems: The Emerging Science of Intelligent Computing*, (Eds.) S. Mitra, M.M. Gupta and W. Kraske), The Inter. Society for Optical Engineering (SPIE) Press Series, Bellingham, Washington, April, pp. 85-112.

- [N.17] Jin, L. Gupta, M.M. and Nikiforuk, P.N. [1995b], "Intelligent Control Using Dynamic Neural Networks for Robotics Applications," *Fuzzy Logic and Intelligent Systems*, Kluwer Academic Publishers, Boston, Chapter 13, pp. 367-408.
- [N.18] Jin, L., Gupta, M.M. and Nikiforuk, P.N. [1993c], "Intelligent Control for Nonlinear Systems Using Dynamic Neural Networks with Robotics Application", *Inter. J. of Intelligent Automation and Soft Computing*, Vol. 1, No. 2, pp. 123-144.
- [N.19] Josin, G., Charney, D. and White, D., [1988], "Robot Control Using Neural Networks," Proc. IEEE Inter. Conf. on Neural Networks, San Diego, CA, pp. II-615-631.
- [N.20] Kawato, Y., Uno, M., Isobe, and Suzuki, [1988], "Hierarchical Neural Network Model for Voluntary Movement with Application to Robotics," *IEEE Control System Magazine*, pp. 8-16, April.
- [N.21] Liu, H. Iberall, T. and Bekey, G.A., [1989], "Neural Network Architectures for Robot Hand Control," *IEEE Control Systems Magazine*, April, pp. 38-43.
- [N.22] Meystel, A. [1986], "Planning in a Hierarchical Nested Controller for Autonomous Robots," Proc. IEEE 25th Conf. on Decision and Control, Athens, Greece.
- [N.23] Miller, III, W.T., [1990], "Real-Time Application of Neural Networks for Sensor-Based Control of Robots with Vision," *IEEE Trans. Systems, Man, and Cybernetics*, Vol. 19, No. 4, pp. 825-831.
- [N.24] Musilek, P. and Gupta, M.M. [1998a], "Adaptive Fuzzy Approach to Modeling of Operational Space for Autonomous Mobile Robots," *Intelligent Robots and Computer Vision XVII: Algorithms, Techniques, and Active Vision*, (Ed.) D.P. Casasent, SPIE Proc. 3522, Boston, Massachusetts, pp. 265-274.
- [N.25] Nguyen, L., Patel, R.V. and Khorasani, K. [1990], "Neural Networks Architectures for the Forward Kinematics Problem in

Robotics," *Proc. Joint IEEE Inter. Neural Networks Conf.*, San Diego, CA, III-393-399.

- [N.26] Rabelo X. and Avula, J.R. [1992], "Hierarchical Neurocontroller Architecture for Robotic Manipulation," *IEEE Control System Magazine*, pp. 37-41, April.
- [N.27] Rainman, O. [1991], "Order of Magnitude Reasoning", Artificial Intelligence, Vol. 51, pp. 11-38.
- [N.28] Rao, D.H. and Gupta, M.M. [1994], "Intelligent Computational Scheme Using Recurrent Neural Networks for Robotics Application," Intelligent Automation and Soft Computing: Trends in Research, Development and Applications, Proc. of the First World Automation Congress (WAC '94), Maui, Hawaii, Vol. 1, pp. 597-602, Aug.
- [N.29] Rao, D.H. and Gupta, M.M. [1994], "Neuro-Fuzzy Controller for Control and Robotic Applications," *Inter. J. for Engineering Applications of Artificial Intelligence*, Vol. 7, No. 5, pp. 479-491.
- [N.30] Rao, D.H., Gupta, M.M. and Nikiforuk, P.N. [1993], "On-Line Learning of Robot Inverse Kinematic Transformation", *IJCNN-93*, Nagoya, Paper No. K-007, pp. 2827-2830, Oct.
- [N.31] Rasiowa, H. and Marek, M., [1989], "On Reaching Consensus by Groups of Intelligent Agents," *Methodologies for Intelligent Systems*, (Ed.). Z. W. Ras, Amsterdam, North-Holland, pp. 234-243.
- [N.32] Simula, O., Vesanto, J., Vasara, P. and Helminen, R.-R. [1999], *Industrial Applications of Neural Networks*, (Eds.) L.C. Jain and V.R. Vemuri, Boca Raton, FL, CRC, Chapter 4, pp. 87-112.
- [N.33] Sinha, N.K. and Gupta, M.M. [1995], "Towards Intelligent Machines: Future Perspectives," *Intelligent Control Systems: Theory and Applications*, pp. 804-807.

- [N.34] Trahanias, P.E., Velissaris, S. and Garavelos, T. [1997], "Visual Landmark Extraction and Recognition for Autonomous Robot Navigation," *Proc. IEEE Inter. Conf, Intell. Robots Systems IROS* '97, Vol. 2, pp. 1036-1043.
- [N.35] Wang, L.X. Lee, T.T. and Gruver, W.A. [1991], "A Neuromorphic Controller for a Three-Link Biped Robot," *IEEE Trans. Systems, Man, Cybernetics,* Vol. 22, No. 1, pp. 164-169.
- [N.36] Wilhelmsen, K. and Cotter, N. [1990], "Neural Network Based Controllers for a Single-Degree-of-Freedom Robotic Arm," *Proc.* 1990 Inter. Joint Conf. on Neural Networks, San Diego, CA, pp. III-407-413.
[P] Neural Networks: Software and Hardware

- [P.1] Bessiere, P.A., Chams, A. Guerin, A., Herault, J., Jutten C. and Lawson, J.C. [1991], "From Hardware to Software and Designing a Neurostation," *VLSI Design of Neural Networks*, (Eds.) U. Ramacher, and U. Rueckert, Boston, Kluwer Academic Press.
- [P.2] Bibyk, S. and Ismail, M. [1989a], "Issues in Analog VLSI and MOS Techniques for Neural Computing", *Analog Implementation* of Neural Systems, (Eds.) C. Mead and M. Ismail, Boston, Kluwer Academic Press.
- [P.3] Bibyk, S. and Ismail, M. [1989b], "Neural Network Building Blocks for Analog MOS VLSI", Analog IC Design: The Current Mode Approach, (Eds.) C. Toumazou, F.J. Lidgey and D.G. Haigh, London, Peter Peregrinus, Ltd.
- [P.4] Blake, C. and Merz, C.J. [1998], "UCI Repository of Machine Learning Databases", [Online], Available: http/www.ics.uci.edu/~mlearn/ML-Repository,htl.
- [P.5] Boahen, K.A. [1998], "Communicating Neuronal Ensembles Between Neuromorphic Chips," *Neuromorphic Systems Engineering*, (Ed.) T.S. Lande, Kluwer, Norwell, MA, pp. 229-259.
- [P.6] Boahen, K.A. [1999], "Multiple Pathways: Retinomorphic Chips that See Quadruple Images," *Proc. 7th Inter., Conf, Microelectron. Neural Fuzzy Bio-Inspired Systems; Microneuro'99*, Los Alamitos, CA, pp. 12-20, April.
- [P.7] Borgsatrom, T.H., Ismail, M. and Bibyk, S.B. [1990],
 "Programmable Current Mode Neural Network for Implementation in Analogue MOS VLSI," *IEE Proc. Part G*, Vol. 137, No. 2, pp. 175-184.
- [P.8] Card, H.C., Schneider, C.R. and Moore, W.R. [1991], "Hebbian Plasticity in MOS Synapses," *IEE Proc. Part F*, Vol. 138, No. 1, pp. 13-16.

- [P.9] Chung, H.W. [1991], "CMOS VLSI Implementation of Neural Networks," Proc. 1991 Neural Networks and Fuzzy Systems Application Workshop, Seoul, South Korea, June 7-8, pp. 209-225.
- [P.10] Collins, D.R. and Penz, P.A. [1989], "Considerations for Neural Network Hardware Implementations," *Proc. 1989 IEEE Inter. Symp. on Circuits and Systems*, Portland, OR, May 9-12, pp. 834-837.
- [P.11] Collins, D.R., Penz, P.A. and Barton, J.B. [1990], "Neural Network Architectures and Implementations," *Proc. 1990 IEEE Inter. Symp. on Circuits and Systems*, New Orleans, LA, May 1-3, pp. 2437-2440.
- [P.12] Eberhart, RC. and Dobbins, R.W. [1990b], Neural Network PC Tools, A Practical Guide, San Diego, CA, Academic Press.
- [P.13] Fisher, W.A., Fujimoto, R.J. and Smithson, R.C. [1991], "A Programmable Analog Neural Network Processor", *IEEE Trans. Neural Networks*, Vol. 2, No. 2, pp. 222-229.
- [P.14] Foo, S.Y., Anderson, L.R. and Takefuji, Y. [1990], "Analog Components for the VLSI of Neural Networks," *IEEE Circuits and Devices Magazine*, pp. 18-26, July.
- [P.15] Foo, Y.P.S. and Takefuji, Y., [1988], "Integer Linear Programming Neural Networks for Job-Shop Scheduling," *Proc. 1988 Intern. IEEE Conf. Neural Networks*, San Diego, Calf.
- [P.16] Fragniere, E., van Scaik, A. and Vittoz, E. [1997], "Design of an Analogue VLSI Model of an Active Cochlea," J. Analog Integrated Circuits Signal Processing, Vol. 13, No. ¹/₂, May, pp. 19-35.
- [P.17] Goser, K., Hilleringmann, U., Rueckert, U. and Schumacher, K.
 [1989], "VSLSI Technologies for Artificial Neural Networks", *IEEE Micro*, pp. 28-43, Dec.

- [P.18] Graf, H.P. and Vegvaur, P.D., [1987], "CMOS Associative Memory Chip Based on Neural Networks", Proc. 1987 IEEE Inter. Solid State Conf., pp. 304-305, 347, Feb.
- [P.19] Graf, H.P. Jackel, L.D. and Hubbard, W.E. [1988], "VLSI Implementation of a Neural Network Model," *IEEE Computer*, Vol. 21, No. 3, pp. 41- 49.
- [P.20] Gupta, M.M. and Hockley, D. [1993a], "VLSI Design of a Dynamic Neural Processor for Vision Applications," SPIE Conf. on Intelligent Robotics and Computer Vision XII, Algorithms and Techniques, Boston, Sept. 7-9, Paper No. 2055-51, pp. 584-596.
- [P.21] Hara, S. and Prasad, R. [1996], "DS-CDMA, MC-CDMA and MT-CDMA for Mobile Multimedia Communications," *Proc. IEEE VTC'96*, pp. 1016-1110.
- [P.22] Hellendoorn and Thomas, C. [1993], "Defuzzification in Fuzzy Controllers," J. Intel. System, Vol. 1, pp. 109-123 1993.
- [P.23] Hopfield, J. [1990b], "The Effectiveness of Analogue 'Neural Network' Hardware", *Network*, Vol. 1, pp. 27-40.
- [P.24] Horiuchi, T.K. and Koch, C. [1999], "Analog VLSI-Based Modeling of the Primate Oculomotor System," *Neural Computations*, Vol. 11, pp. 243-269.
- [P.25] Howard, R.E., Jackel, L.D. and Graf, H.P. [1988], "Electronic Neural Networks", AT & T J., pp. 58-64, May.
- [P.26] Indiveri, G. [1999], "Neuromorphic Analog VLSI Sensor for Visual Tracking: Circuits and Application Examples," *IEEE Trans. Circuits Systems II*, Vol. 46, pp. 1337-1347, Nov.
- [P.27] Indiveri, G. [2000], "Modeling Selective Attention Using a Neuromorphic Analog VLSI Sevice," *Neural Computations*, Vol. 12, No. 12, pp. 2857-2880, Dec.

- [P.28] Indiveri, G. [2001a], "A Current-Mode Analog Hysteretic Winner-Take-All Network, with Excitatory and Inhibitory Coupling," J. Analog Integrated Circuits Signal Processing.
- [P.29] Indiveri, G. [2001b], "A Neuromorphic VLSI Device for Implementing 2-D Selective Attention Systems," *IEEE Trans. on Neural Networks*, Vol. 12, No. 6, pp. 1455-1463, Nov.
- [P.30] Indiveri, G., Murer, R. and Kramer, J. [2001], "Active Vision Using an Analog VLSI Model of Selective Attention," *IEEE Trans. Circuits Systems II*, Vol. 48, pp. 492-500, May.
- [P.31] Intel Corporation, [1991], Electrically Trainable Analog Neural Network, ETANN Intel 80170NX.
- [P.32] Jackel, L.D., Graf, H.P., Hubbard, W., Denker, J.S. and Henderson,
 D. [1988], "An Application of Neural Net Chips: Handwritten
 Digit Recognition," *Proc. IEEE Inter. Conf. on Neural Networks*,
 San Diego, CA, pp. II-107-115.
- [P.33] Kaul, R., Bibyk, S., Ismail, M. and Andro, M., [1990], "Adaptive Filtering Using Neural Network Integrated Circuits", *Proc. 1990 IEEE Symp. on Circuits and Systems*, New Orleans, LA, pp. 2520-2523, May.
- [P.34] Khachab, N.I. and Ismail, M. [1989a], "A New Continuous-Time MOS Implementation of Feedback Neural Networks", Proc. 32nd Midwest Symp. on Circuits and Systems, Urbana, Illinois, pp. 221-224.
- [P.35] Khachab, N.I. and Ismail, M. [1989b], "MOS Multiple/Divider Cell for Analogue VLSI", *Electron. Lett.*, Vol. 25, No. 3, pp. 1550-1552.
- [P.36] Kim, T., Kim, Y., Park, J., Ko, K., Choi, S., Kang, C. and Hong, D.
 [2000], "Performance of an MC-CDMA System with Frequency Offsets in Correlated Fading", *Proc. IEEE ICC 2000*, Vol. 2, pp. 1095-1099.

- [P.37] Kraft, L.G. and Campagna, D.S., [1990a], "A Comparison Between CMAC Neural Network Control and Two Traditional Adaptive Control Systems", *IEEE Control Systems Magazine*, pp. 36-43, April.
- [P.38] Kraft, L.G. and Campagna, D.S., [1990b], "A Summary Comparison of CMAC Neural Network and Traditional Adaptive Control Systems", *Neural Networks for Control*, (Eds.) T.W. Miller III, R.S. Sutton and P.J. Werbos, Cambridge, Mass, MIT Press.
- [P.39] Kub, F.J., Moon, K.K., Mack, I.A. and Long, F.M., [1990], "Programmable Analog Vector-Matrix Multiplier", *IEEE J. of Solid-State Circuits*, Vol. 25, No. 1, pp. 207-214.
- [P.40] Lambe, J., Moopenn, A. and Thakoor, A.P. [1988], "Electronic Neural Networks", *IEEE Eng. Medicine and Biology Magazine*, pp. 56-57, Dec.
- [P.41] Lee, B.W. and Shu, B.J. [1991], Hardware Annealing in Analog VLSI Neurocomputing, Boston, Kluwer Academic Publishers.
- [P.42] Lee, R.S.T., Liu, J.N.K. [2000], "Tropical Cyclone Identification and Tracking System Using Integrated Neural Oscillatory Elastic Graph Matching and Hybrid RBF Network Track Mining Techniques", *IEEE Trans. on Neural Networks*, Vol. 11, No. 3, pp. 680-689, May.
- [P.43] Li, J.H. and Chen, C.H. [1991a], "Simulating a Function of Visual Peripheral Processes with an Analog VLSI Network," *IEEE Micro*, Vol. 11, pp. 8-15.
- [P.44] Li, J.H. and Xu, B. [1991b], "A Learning Algorithm for MLN with Dynamic Neurons," Proc. Inter. Joint Conf. Neural Networks (IJCNN), pp. 523- 528, Nov.

- [P.45] Lu, T. Wu, S., Xu, X. and Yu, F.T.S. [1989], "Two-Dimensional Programmable Optical Neural Network", *Appl. Opt.*, Vol. 28, No. 22, pp. 4908-4913.
- [P.46] Mackie, S., Graf, H.P., Schwartz, D.B. and Denker, J.S. [1988],
 "Microelectronic Implementations of Connectionist Neural Networks", *Neural Information Processing Systems*, (Ed.) D.Z.
 Anderson, New York, American Institute of Physics.
- [P.47] Mahr, M.A.C., Deweerth, S.P., Mahowald, M.A. and Mead, C.A.
 [1989], "Implementing Neural Architectures Using Analog VLSI Circuits", *IEEE Trans. Circuits and Systems*, Vol. 36, No. 5, pp. 643-652.
- [P.48] Mangiameli, P., Chen, S.K. and West, D. [1996], "A Comparison of SOM Neural Network and Hierarchical Clustering Methods", *Eur. J. Oper. Res.*, Vol. 93, No. 2, Sept.
- [P.49] Mitra, U. and Poor, H.V. [1995], "Adaptive Receiver Algorithms for Near-Far Resistant CDMA," *IEEE Trans. Comm.*, Vol. 43, pp. 1713-1724, Feb./Mar./April.
- [P.50] Moopenn, A., Langenbacher, H., Thakoor, A.P. and Khanna, S.K.
 [1988], "Programmable Synaptic Chip for Electronic Neural Networks", *Advances in Neural Information Processing Systems*, (Ed.) D. Touretzky, Vol. 2, San Mateo, CA, Morgan Kaufmann Publishers.
- [P.51] Morris, T.G., Horiuchi, T.K. and DeWeerth, S.P. [1998], "Object-Based Selection Within an Analog VLSI Visual Attention System," *IEEE Trans. Circuits Systems II*, Vol. 45, pp. 1564-1572, Dec.
- [P.52] Morton, S.G. [1991], "Electronic Hardware Implementation", Handbook of Neural Computing and Applications, New York, Academic Press.

- [P.53] Mueller, P., Spiegel, V.D., Blackman, D., Chiu, T., Clare, T. Donham, T., Hsieh, P., Loinaz, M., [1989a], "Design and Fabrication of VLSI Components for a General Purpose Analog Neural Computer", *Analog Implementation of Neural Systems*, (Eds.) C. Mead and M. Ismail, Boston, Kluwer Academic Publishers.
- [P.54] Mueller, P., Spiegel, V.D., Blackman, D., Chiu, T., Clare, T. Donham, T., Hsieh, P., Loinaz, M., [1989b], "A Programmable Analog Neural Computer and Simulator", *Advances in Neural Information Processing Systems*, (Ed.) D. Touretzky, Vol. 1, San Mateo, CA, Morgan Kaufmann Publishers.
- [P.55] Murray, A.F. [1991], "Silicon Implementations of Neural Networks," *IEE Proc. F*, Vol. 138, No. 1, pp. 3-12, Feb.
- [P.56] Ouali, J. Saucier, G. and Thrile, J. [1991], "Fast Design of Dedicated Neuro-Chips," *VLSI Design of Neural Networks*, (Ed.)
 U. Ramacher and U. Rueckert, Boston, Kluwer Academic Press.
- [P.57] Ramacher, U. [1991], "Guidelines to VLSI Design of Neural Nets", *VLSI Design of Neural Networks*, (Eds.) U. Ramacher and U. Rueckert, Boston, Kluwer Academic Publishers.
- [P.58] Rossetto, O., Jutten, C., Herault, J. and Kreutzer, I. [1989],"Analog VLSI Synaptic Matrices as Building Blocks for Neural Networks", *IEEE Micro*, pp. 56-63, Dec.
- [P.59] Salam, F.M.A. and Choi, M.R. [1990], "An All-MOS Analog Feedforward Neural Circuit with Learning", Proc. IEEE Inter. Symp. on Circuits and Systems, New Orleans, LA, pp. 2508-2511, May.
- [P.60] Satyanarayana, S., Tsividis, Y. and Graf, H.P. [1990], "A Reconfigurable Analog VLSI Neural Network Chip", *Advances in Neural Information Processing Systems*, (Ed.) D. Touretzky, Vol. 2, San Mateo, CA, Morgan Kaufmann Publishers.

- [P.61] Schwartz, D.B. and Samalam, V.K. [1990], "Learning, Function Approximation and Analog VLSI", Proc. 1990 IEEE Inter. Symp. on Circuits and Systems, New Orleans, LA, pp. 2441-2444, May.
- [P.62] Shen, C.K., Hong, H.K. and Park, S.C. [1999], "A Hybrid Machine Learning Strategy in Credit Evaluation," *Proc. 2nd Asia-Pacific Industrial Engineering and Management Systems (APIEMS 1999)*, Kanazawa, Japan, pp. 331-334.
- [P.63] Sklansky, J. and Wassel, G.N. [year], Pattern Classifiers and Trainable Machines, Berlin, Springer-Verlag.
- [P.64] Sridhar, R. and Shin, Y. [1996], "VLSI Neural Architectures," *Neural Networks Theory, Technology and Applications*, (Ed.) P. Simpson, IEEE Press, New York, pp. 864-873.
- [P.65] Tank, D.W. and Hopfield, J. [1986b], "Simple "Neural" Optimization Network: An A/D Converter, Signal Decision Circuit and a Linear Programming Circuit," *IEEE Trans. Circuits and Systems*, Vol. 33, No. 5, pp. 533-541.
- [P.66] Treleaven, P., Pacheco, M. and Vellasco, M. [1989], "VLSI Architectures for Neural Networks", *IEEE Micro*, pp. 8-27, Dec.
- [P.67] Tsay Y. and Newcomb, R.W. [1991], "VLSI Implementation of Artificial-Memories," *IEEE Trans. Neural Networks*, Vol. 2, No. 2, pp. 214-221.
- [P.68] Tsividis, Y.P. and Satyanarayana, S. [1987b], "Analogue Circuits for Variable-Synapse Electronic Neural Networks", *Electron. Lett.*, Vol. 23, No. 24, pp. 1313-1314.
- [P.69] Verleysen, M. and Jespers, P.G.A., [1989], "An Analog Implementation of Hopfield's Neural Network", *IEEE Micro*, pp. 46-55, Dec.
- [P.70] Verleysen, M.B, Sirletti, A., Vademeulerbroeke, A. and Jespers,P.G. [1989], "Precision of Computations in Analog Neural

Networks", *VLSI Design of Neural Networks*, (Eds.) U. Ramacher and U. Rueckert, Boston, Kluwer Academic Publishers.

- [P.71] Verleysent, M. and Jespers, P. [1991], "Precision of Computations in Analog Neural Networks", VLSI Design of Neural Networks, (Eds.) U. Ramacher and U. Rueckert, Boston, Kluwer Academic Press.
- [P.72] Vidal, J.J. [1988], "Implementing Neural Nets with Programmable Logic", *IEEE Trans. Acoustics, Speech and Signal Proc.*, Vol. 36, No. 7, pp. 1180-1190.
- [P.73] Vittoz, E., Ougney, H., Maher, M.A, Nys, O., Dijkstra, E. and Chevroulet, M. [1991], "Analog Storage of Adjustable Synaptic Weights", VLSI Design of Neural Networks, (Eds.) U. Ramacher and U. Rueckert, Boston, Kluwer, Academic Publishers.
- [P.74] Wang, Y.F., and Salam, F.M.A. [1990], "Design of Neural Network Systems from Custom Analog VLSI Chips", Proc. 1990 IEEE Inter. Symp. on Circuits and Systems, New Orleans, LA, pp. 1098-1101, May.
- [P.75] Wasaki, H., Hario, Y. and Nakamura, S. [1990], "A Localized Learning Rule for Analog VLSI Implementation of Neural Networks", Proc. 33rd Midwest Symp. Circuits and Systems, Calgary, Alberta, Canada, Aug. 12-14.
- [P.76] White H. and Elmasry, M.I. [1992], "The Digital Neocognitron: A Digital Neocognitron Neural Network Model for VLSI, *IEEE Trans. Neural Networks*, Vol. 3, No. 1, pp. 73-81.
- [P.77] Yanai, H. and Sawada, Y. [1990], "Integrator Neurons for Analog Neural Networks," *IEEE Trans. Circuits and Systems*, Vol. CAS-36, pp. 854-856.
- [P.78] Zurada, J.M. [1981a], "Application of Multiplying Digital-to-Analogue Convertor to Digital Control of Active Filter Characteristics", *IEE Proc. Part G*, Vol. 128, No. 2, pp. 91-92.

- 189 Zurada, J.M. [1981b], "Programmable State Variable Active Biquads", [P.79] J. Audio Eng. Soc., Vol. 29, No. 11, pp. 786-793.
- [P.80] Zurada, J.M., Yoo, Y.S. and Bell, S.V. [1989], "Dynamic Noise Margins of MOS Logic Gates", Proc. 1989 IEEE Inter. Symp. on Circuits and Systems, Portland, Oregon, May 9-11.

[Q] Books on Neural Networks and Fuzzy Logic

- [Q.1] Allen, P.E. and Holberg, D.R. [1987], *CMOS Analog Circuit Design*, New York, Holt, Rinehart and Winston.
- [Q.2] Amari, S. and Arbib, M.A., Eds., [1982], "Competition and Cooperation in Neural Nets", *Lecture Notes in Biomathematics*, Springer-Verlag, New York, Vol. 45.
- [Q.3] Amit, D.J. [1989], Modeling Brain Function: The World of Attractor Neural Networks, Cambridge, Cambridge University Press.
- [Q.4] Anderson, D. (*Editor*) [1988], *Neural Information Processing Systems*, American Institute of Physics, New York.
- [Q.5] Anderson, J.A and Rosenfeld, B. [1989], *Neurocomputing: Foundations of Research*, Cambridge, MA, MIT Press.
- [Q.6] Andrews, H.C. [1972], *Introduction to Mathematical Techniques in Pattern Recognition*, New York, Wiley Interscience.
- [Q.7] Arbib, M.A. [1972], *The Metaphorical Brain*, New York, John Wiley and Sons.
- [Q.8] Arbib, M.A. [1987], *Brains, Machines and Mathematics*, 2nd Edition, New York, Springer-Verlag.
- [Q.9] Astrom, K.J. and Wittemnark, B. [1989], *Adaptive Feedback Control*, New York, Addison-Wesley.
- [Q.10] Ayyub, B.M. and Gupta, M.M., (Editors), [1994], Uncertainty Modeling and Analysis: Theory and Applications, Amsterdam, New York, North-Holland - Elsevier Science, 537 pages.
- [Q.11] Ayyub, B.M. and Gupta, M.M., (Editors), [1997], Uncertainty Analysis in Engineering and Sciences: Fuzzy Logic, Statistics and Neural Networks Approach, A Volume of 24 Invited Chapters, Boston, London, Kluwer Academic Publishers, 372 pages.
- [Q.12] Ayyub, B.M. Gupta, M.M. and Kanal, L.N., (Editors), [1992], Uncertainty Analysis and Management: Theory and Applications,

Machine Intelligence and Pattern Recognition, North-Holland, Elsevier, 428 pages.

- [Q.13] Brillouin, L., [1956], Science and Information Theory, Academic Press, New York.
- [Q.14] Brooks, V. [1986], *The Neural Basis for Motor Control*, Oxford University Press, New York.
- [Q.15] Bryson, A.E. and Ho, Y.C., [1969], "Applied Optimal Control", Waltham, Mass., Blaisdell, New York, pp. 43-45.
- [Q.16] Burl, J. [1999], *Linear Optimal Control*, Addison-Wesley, Menlo Park, CA,
- [Q.17] Chui, C.K. [1992], An Introduction to Wavelets, New York, Academic Press.
- [Q.18] Churchland, P.S., [1988], Neurophilosophy, Cambridge, MA, MIT Press.
- [Q.19] Churchland, P.S. and Sejnowski, T.J. [1992], *The Computational Brain*, Cambridge, MA, MIT Press.
- [Q.20] Craig, J.J. [1986], *Introduction to Robotics Mechanics and Control*, Reading Mass, Addison Publishing Co.
- [Q.21] Cristianini, N. and Shawe-Taylor, J. [2000], An Introduction to Support Vector Machines and Other Kernel-Based Learning Methods, Cambridge, U.K, Cambridge Univ, Press.
- [Q.22] DARPA, [1988], *Neural Network Study*, Fairfax, Virginia, AFCEA Inter. Press.
- [Q.23] Davis, E. [1990], *Representations of Commonsense Knowledge*, Morgan Kaufmann.
- [Q.24] Dayhoff, J., [1990], *Neural Network Architectures An Introduction*, New York, Van Nostrand Reinhold.
- [Q.25] Deutsch, S. and Deutsch, A., [1993], *Understanding the Nervous Systems*, IEEE Press, Piscataway, NJ.

- [Q.26] Dorato P. and Yedavalli, R.K. Eds. [1990], *Recent Advances in Robust Control*, New York, IEEE Press.
- [Q.27] Dubois, D. and Prade, H., [1980], *Fuzzy Sets and Systems: Theory and Applications*, Academic Press, Orlando, FL.
- [Q.28] Duda, R.O. and Hart, P.E. [1973], *Pattern Classification and Scene Analysis*, New York, Wiley.
- [Q.29] Feldman, R.S., [1987], Understanding Psychology, New York, McGraw-Hill Book Co.
- [Q.30] Fischler, M.A. and Firschein, O. [1987], *Intelligence: The Eye, The Brain and The Computer*, Reading Mass, Addison-Wesley.
- [Q.31] Freeman, W.J. [1975], *Mass Action in the Nervous System*, New York, Academic Press.
- [Q.32] Geiger, R.L., Allen, P.E. and Strader, N.R. [1990], VSLI Design Techniques for Analog and Digital Circuits, New York, McGraw Hill Book Company.
- [Q.33] Grossberg, S., [1982], Studies of Mind and Brain: Neural Principles of Learning Perception, Development, Cognition, and Motor Control, Boston, Reidel Press.
- [Q.34] Grossberg, S., [1988b], *Neural Networks and Natural Intelligence*, Cambridge, MIT Press.
- [Q.35] Gupta, M.M., (Editor), [1986], Adaptive Methods for Control Systems Design, IEEE Press Book, sponsored by the IEEE - SMC Society, New York, 44 articles, 461 pages.
- [Q.36] Gupta, M.M., (Subject Editor), [1987], Systems and Control Encyclopedia (Theory, Technology and Applications), Pergamon Press, Oxford, Nine Volumes, Subject Editor of Over 95 articles in the Area of Fuzzy Logic, Pattern-Recognition and Reliability.
- [Q.37] Gupta, M.M. and Knopf, G.K., (Editors), [1994c], *Neuro-Vision Systems: Principles and Applications*, A Vol. of Selected Reprints,

IEEE-Neural Networks Council, IEEE-Press, New York, 555 pages.

- [Q.38] Gupta, M.M. and Rao, D.H., (Editors), [1994i], Neuro-Control Systems: Theory and Applications, A Vol. of Selected Reprints, IEEE Neural Networks Council, IEEE-Press, New York, 607 pages.
- [Q.39] Gupta, M.M. and Sanchez, E., (Editors), [1982], Approximate Reasoning in Decision Analysis, North-Holland, New York, Amsterdam, Oxford, 480 pages.
- [Q.40] Gupta, M.M. and Sanchez, E., (Editors), [1983], Fuzzy Information and Decision Processes, North-Holland, New York, Amsterdam, Oxford, January, 451 pages.
- [Q.41] Gupta, M.M. and Sinha, N.K., (Editors), [1995b], Intelligent Control Systems: Theory and Applications, A Vol. of 29 Invited Chapters, Sponsor: IEEE Neural Networks Council and Cosponsor: IEEE Control Systems Society, IEEE-Press, New York, 820 pages, (Revised Second Edition, 1997.
- [Q.42] Gupta, M.M. and Sinha, N.K., [1999c] "Towards Intelligent Machines: Future Perspectives," Soft Computing and Intelligent Control Systems: Theory and Applications, Academic Press, Chapter 25, pp. 605-614.
- [Q.43] Gupta, M.M. and Yamakawa, T. (Editors), [1988b], Fuzzy Computing: Theory Hardware and Applications, North Holland, 499 pages.
- [Q.44] Gupta, M.M. and Yamakawa, T., (Editors), [1988c], Fuzzy Logic in Knowledge-Based Systems, Decision and Control, North Holland, 410 pages.
- [Q.45] Gupta, M.M., Kandel, A., Bandler, W. and Kiszka, J.B., (Editors),
 [1985], *Approximate Reasoning in Expert Systems* North Holland,
 835 pages.

- [Q.46] Gupta, M.M. Ragade, R.K. and Yager, R.R., (Editors), [1979], Advances in Fuzzy Set Theory and Applications, North-Holland Publishing Co., October, 753 pages.
- [Q.47] Guyton, A.C. [1987], *Text Book of Medical Physiology*.Philadelphia, W.B. Saunders Company.
- [Q.48] Hassoun, M.H. [1995], Fundamentals of Artificial Neural Networks, MIT Press, Cambridge, MA.
- [Q.49] Haykin, S. [1994], Neural Networks A Comprehensive Foundation, New York, Macmillan.
- [Q.50] Haykin, S. [1996], *Adaptive Filter Theory*, 3rd Edition, Prentice-Hall NJ.
- [Q.51] Haykin, S. [1999], *Neural Networks: A Comprehensive Foundation*, 2nd Edition, Prentice-Hall, NJ.
- [Q.52] Hebb, D.O., [1949], *The Organization of Behavior: A Neuropsychological Theory*, John Wiley and Sons, New York.
- [Q.53] Hecht-Nielsen, R. [1990], *Neurocomputing*, Addison-Wesley Publishing Company.
- [Q.54] Hertz, J.A., Krogh, A. and Palmer, R.G., [1991], Introduction to the Theory of Neural Computation, Redwood City, CA, Addison-Wesley Publishing Co.
- [Q.55] Iooss, G. and Joseph, D.D. [1989], Elementary Stability and Bifurcation Theory, Springer-Verlag, Undergraduate Textbook in Mathematics, Second Edition.
- [Q.56] Jones, D. [1991], "Neural Networks for Medical Diagnosis," Handbook of Neural Computing Applications, New York, Academic Press.
- [Q.57] Judd, J.S. [1990], Neural Network Design and the Complexity of Learning, Cambridge, MA, MIT Press.
- [Q.58] Kandel, E.R. and Schwartz, J.H. [1985], *Principles of Neural Science*, New York, North-Holland.

- [Q.59] Kantorovich, L.V. and Akilov, G.R. [1982], *Functional Analysis*, Translated by H. L. Silcock, Elmsford, NY.
- [Q.60] Kasabov, N.K. [1996], Foundation of Neural Networks, Fuzzy Systems and Knowledge Engineering, Cambridge, MA, MIT Press.
- [Q.61] Kaufmann, A., [1975], *Introduction to The Theory of Fuzzy* Subsets, Academic Press, New York.
- [Q.62] Kaufmann, A. and Gupta, M.M. [1985], Introduction to Fuzzy Arithmetic, Theory and Applications, 2nd Edition, New York, Van Nostrand Reinhold, 1991, Japanese Translation by M. Atsuka Tokyo, Ohmsha Ltd.
- [Q.63] Kaufmann, A. and Gupta, M.M. [1988], Fuzzy Mathematical Models in Engineering and Management Science, North Holland, Amsterdam, 337 pages, (Revised), Japanese Translation by Dr. H. Matsuoka, and Dr. H. Tanaka, Ohmsha Publisher Ltd., Tokyo, Jan. 1992, 339 pages.
- [Q.64] Khalil, H. [1992], *Nonlinear Systems*, Macmillan Publishing Company, New York.
- [Q.65] Klir, G.J., and Yuan, B. [1995], *Fuzzy Sets and Fuzzy Logic Theory and Applications*, New Jersey, Prentice Hall.
- [Q.66] Kohonen, T., [1977], Associative Memory: A System-Theoretical Approach, Berlin, Springer-Verlag.
- [Q.67] Kolmogorov, A.N. and Fornin, [1970], *Introductory Real Analysis*, Translated by R. A. Silverman, Englewood Cliffs, NJ, Prentice-Hall.
- [Q.68] Kosko, B. [1991], *Neural Networks and Fuzzy Systems*, Prentice Hall, Englewood Cliffs, NJ.
- [Q.69] Kosko, B. [1992], Neural Networks for Signal Processing, Prentice Hall, Englewood Cliffs, NJ.
- [Q.70] Kuipers, [1994]," *Qualitative Reasoning*, Cambridge, MA, MIT Press.

- [Q.71] Kung, S.Y. [1991], *Digital Neural Computing: From Theory to Application*, Prentice Hall, Englewood Cliffs, NJ.
- [Q.72] Lenat, D. and Guha, R. [1990], *Building Large Knowledge-Based Systems*, Reading, MA, Addison-Wesley.
- [Q.73] Li, H. and Gupta, M.M., (Editors), [1995], Fuzzy Logic and Intelligent Systems, Kluwer Academic Publisher, Boston, USA, 440 pages.
- [Q.74] Lin, C.T. [1994], Neural Fuzzy Control Systems with Structure and Parameter Learning, World Scientific.
- [Q.75] Lin, C.T. and Lee, C.S.G. [1996], Neural Fuzzy Systems A Neuro-Fuzzy Synergism to Intelligent Systems, Englewood Cliffs, NJ, Prentice-Hall.
- [Q.76] Ljung, L. [1999], System Identification Theory for the Users, 2nd
 Edition, Prentice-Hall, NJ.
- [Q.77] Lorentz, G.G. [1986], *Approximation of Functions*, Chelsea Publishing Co., New York.
- [Q.78] Luo, D. [1998], *Pattern Recognition and Image Processing*, Horwood, Chichester, U.K.
- [Q.79] Maass, W. and Bishop, C.M. (Eds.) [1999], *Pulsed Neural Networks*, MIT Press, Cambridge, MA.
- [Q.80] Macgregor, R.J. [1977], *Neural Modeling*, Plenum Press, New York.
- [Q.81] Mammone, R.J. and Zeevi, Y.Y. [1991], *Neural Networks: Theory and Applications*, San Diego, CA.
- [Q.82] McClelland, J.L. and Rumelhart, D.E., (Eds.), [1986], Parallel Distributed Processing: Explorations in the Microstructure of Cognition, MIT Press and the PDP Research Group, Cambridge, MA.
- [Q.83] McClelland, J.L. and Rumelhart, D.E. [1988], *Exportations in Parallel Distributed Processing*, Cambridge, MA, MIT Press.

- [Q.84] McCulloch, W.S., [1965], "Embodiments of Minds", p. 20 of Introduction by S. Papert, Cambridge, MA, MIT Press.
- [Q.85] McFarlance, D.C. and Glover, K. [1989], "Robust Controller Design Using Normalized Coprime Factor Plant Descriptions," *Lecture Notes in Control and Information Sciences*, (Eds.) M. Thoma and A. Wyner, Berlin, Springer-Verlag, No. 138.
- [Q.86] McLachlan, G. and Peel, D. [2000], *Finite Mixture Models*, ser.Wiley Series, *Probability and Statistics*, Wiley, New York.
- [Q.87] Mead, C. [1989], Analog VLSI and Neural Systems, Addison Publishing Co., Reading MA.
- [Q.88] Mead C. and Ismail, M. Eds., [1992], Analog VLSI Implementation of Neural Systems, Kulwer Publisher, Boston.
- [Q.89] Mehrotra, K., Mohan, C.L. and Ranka, S. [1997], *Elements of Artificial Neural Networks*, MIT Press, Cambridge MA.
- [Q.90] Miller, III, W.T., Sutton, R.S. and Werbos, P.J. (Editor) [1990], Neural Networks for Control, Cambridge MA, MIT Press, London, England.
- [Q.91] Millman, J. and Grabel, A. [1987], *Microelectronics*, 2nd Edition, New York, McGraw Hill Book Company.
- [Q.92] Minsky, M.L. [1954], "Neural Nets and the Brain," *Doctoral Dissertation*, Princeton University, NJ.
- [Q.93] Minsky, M.L. [1967], Computation, Finite and Infinite Machines, Prentice-Hall, Englewood Cliffs.
- [Q.94] Minsky, M.L. and Papert, S. [1988], Perceptrons-An Introduction to Computational Geometry, MIT Press, Cambridge, MA, expanded Edition.
- [Q.95] Minsky, M.L., [1986], *The Society of Mind*, New York, Simon and Schuster.
- [Q.96] Mitchell, T. [1997], *Machine Learning*, New York, McGraw-Hill.

- [Q.97] Mitchison, G., [1989], "Learning Algorithms and Networks of Neurons," *The Computing Neuron*, (Ed.) R. Durbin, C Miall and G. Mitchison, Reading, Mass, Addison-Wesley, Publishing Co.
- [Q.98] Mitra, S., Gupta, M.M. and Kraske, W., (Editors), [1994], Neural and Fuzzy Systems: The Emerging Science of Intelligent Computing, The Inter. Society for Optical Computing (SPIE) Press Series Book, 333 pages.
- [Q.99] Montgomery, D.C. [1997], Design and Analysis of Experiments, 4th Edition, New York, Wiley.
- [Q.100] Mozer, M.C. [1994], Neural Net Architectures for Temporal Sequence Processing Time Series Prediction: Forefinding the Future and Understanding the Past, Reading, M.A., Addison-Wesley.
- [Q.101] Mozer, M.C. and Sitton, M. [1998], "Computational Modeling of Spatial Attention," *Attention*, (Ed.) H. Pashler, Psychology Press, East Sussex, U.K., pp. 341-395.
- [Q.102] Muller, B. and Reinhardt, J. [1991], *Neural Networks: An Introduction*, Springer-Verlag, Berlin.
- [Q.103] Muroga, S. [1971], *Threshold Logic and its Applications*, John Wiley, New York.
- [Q.104] Narendra, K.S. and Annaswamy, A.M. [1989], *Stable Adaptive Systems*, Englewood Cliffs, NJ, Prentice Hall.
- [Q.105] Nauck, D., Klawonn, F. and Kruse, R. [1997], Foundations of Neuro-Fuzzy Systems, Chichester, U.K, Wiley.
- [Q.106] Nilsson, N.J. [1965], Learning Machines: Foundations of Trainable Pattern Classifiers, New York, McGraw Hill, Also republished as The Mathematical Foundations of Learning Machines, Morgan-Kaufmann Publishers, San Mateo, CA, 1990.

- [Q.107] Novak, V., Ramik, M., Cerny, M. and Nekola, J. Eds., [1992], Fuzzy Approach to Reasoning and Decision-Making, Boston, Kluwer Academic Press.
- [Q.108] Oja, E. and Kaski, S. (Eds.) [1999], *Kohonen Maps*, Elsevier, Amsterdam, The Netherlands.
- [Q.109] Omidvar, O.M., (Editor), (1992), Progress in Neural Networks, Norwood, NJ, Ablex Publishing Co.
- [Q.110] Pansky, B., Allen, D.J. and Budd, G.C., [1992], Review of Neuroscience, 2nd Edition, New York, Macmillan.
- [Q.111] Pao, Y.H. [1989], Adaptive Pattern Recognition and Neural Networks, Addison-Wesley, Reading, MA.
- [Q.112] Pedrycz, W. [1998], *Computational Intelligence: An Introduction*, Boca Ration, FL, CRC.
- [Q.113] Pedrycz, W. and Gomide, F. [1998], *Introduction to Fuzzy Sets*, Cambridge MA, MIT Press.
- [Q.114] Psaltis, D., Brady, D., Gu, S.G. and Hsu, K. [1989], "Optical Implementation of Neural Computers", *Optical Processing and Computing*, New York, Academic Press.
- [Q.115] Pyle, D. [1999], *Data Preparation for Data Mining*, San Francisco, CA, Morgan Kaufmann.
- [Q.116] Recce, M. and Treleaven, P.C, [1988], "Parallel Architectures for Neural Computers", *Neural Computers*, (Eds.) R. Eckmiller and Ch., v.d. Malsburg, Berlin, Springer Verlag.
- [Q.117] Reilly, D.L., and Cooper, L.N. [1990], "An Overview of Neural Networks: Early Models to Real World Systems," *Introduction of Neural and Electronic Networks*, New York, Academic Press.
- [Q.118] Ritter, H. and Kohonen, T. [1989], "Self-Organizing Semantic Maps," *Biolog. Cybernetics*, Vol. 61, pp. 241-254.

- [Q.119] Rosenblatt, F. [1961], *Principles of Neurodynamics: Perceptrons and the Theory of Brain Mechanisms*, Washington D.C., Spartan Books.
- [Q.120] Rumelhart, D.E. and McClelland, J.L. [1986], Parallel Distributed Processing: Explorations in the Microstructure of Cognitions: Foundations, MIT Press, Cambridge, MA.
- [Q.121] Scott, A.C., [1977], *Neurophysics*, John Wiley and Sons, New York.
- [Q.122] Scrrano-Gotarredona, T., Linares-Barranco, B. and Andreou, A.G.
 [1998], Adaptive Resonance Theory Micro-Circuit Design Techniques, Kluwer, Boston, MA.
- [Q.123] Serra, R. and Zanarini, G. [1990], *Complex Systems and Cognitive Processes*, Berlin, Springer-Verlag.
- [Q.124] Shafer, G. [1976], A Mathematical Theory of Evidence, Princeton, Princeton University Press.
- [Q.125] Simpson, P.K. [1989], Artificial Neural Systems, Pergamon Press, Elmsford, New York.
- [Q.126] Simpson, P.K. [1990], Artificial Neural Systems: Foundations, Paradigms, Applications and Implementation, Pergamon Press, Elmsford, New York.
- [Q.127] Sinha, N.K. and Gupta, M.M., (Editors) [1999], Soft Computing and Intelligent Control Systems: Theory and Applications, A Volume of 25 Invited Chapters, Academic Press, New York, 614 pages.
- [Q.128] Sinha, N.K. and Gupta, M.M. and Zadeh, L.A. [1999], "Soft-Computing and Intelligent Control Systems, Theory and Applications," Academic Press, New York.
- [Q.129] Spath, H. [1980], *Cluster Analysis Algorithms for Data Reduction and Classification of Objects*, Ellis Horwood Limited, Chichester.
- [Q.130] Special Issues on Neural Networks", *IEEE Control System*, April 1998, April 1989, April 1990.

- [Q.131] Squire, L.R., [1982], *Memory, Learning, and Higher Function*, Springer-Verlag, New York.
- [Q.132] Szu, H.H., [1991], "Optical Neuro-Computing", *Handbook of Neural Computing and Applications*, Academic Press, New York.
- [Q.133] Tagliarini, G.A. and Page, E.W. [1988] "A Neural Network Solution to the Concentrator Assignment Problem," *Neural Information Processing Systems*, (Ed.) D.Z. Anderson, New York, American Institute of Physics, pp. 775-782.
- [Q.134] Tou, J.T. and Gonzalez, R.C., [1974], *Pattern Recognition Principles*, Reading, MA, Addison-Wesley Publishing Co.
- [Q.135] Touretzky, D.S., (Editor), [1989], Advances in Neural Information Processing Systems, Vol. 1, San Mateo, CA: Morgan Kaufmann Publishers.
- [Q.136] Touretzky, D.S., (Editor), [1990], Advances in Neural Information Processing Systems, Vol. 2, San Mateo, CA: Morgan Kaufmann Publishers.
- [Q.137] "Translating Human Vision Research into Engineering Technology," [2002], Special Issue of the Proceedings of the IEEE, Vol. 90, No. 1, Jan., pp. 1-169.
- [Q.138] Tsypkin, Ya.Z. [1973]. Foundation of the Theory of Learning Systems, New York, Academic Press.
- [Q.139] Tufte, E.R. [1996], Visual Explanation: Images and Quantities, Evidence and Narrative, Cheshire, U.K., Graphics.
- [Q.140] Vapnik, V. [1995], *The Nature of Statistical Learning Theory*, Springer-Verlag, New York.
- [Q.141] Verdu, S. [1998], *Multiuser Detection*, Cambridge Univ. Press, Cambridge, U.K.
- [Q.142] von Neumann, J. [1958], *The Computer and the Brain*, New Haven, Conn., Yale University Press,.

- [Q.143] Wang, L.X. [1994], *Adaptive Fuzzy Systems and Control*, Englewood Cliffs, NJ, Prentice-Hall.
- [Q.144] Wasserman, P.D. [1989], *Neural Computing: Theory and Practice*, Van Nostrand Reinhold, New York.
- [Q.145] Watson, G.A., [1980], *Approximation Theory and Numerical Methods*, New York, John Wiley and Sons.
- [Q.146] Weld, D.S. and De Kleer, J. [1990], Readings in Qualitative Reasoning about Physical Systems, San Mateo, CA, Morgan Kaufmann.
- [Q.147] Westphal, C. and Blaxton, T. [1998], Data Mining Solutions -Methods and Tools for Solving Real-World Problems, New York, Wiley.
- [Q.148] Wieland, A. and Leighton, R. [1988], Geometric Analysis of Neural Network Capabilities, MP-88 W00022, McLean, Va, Mitre Corporation.
- [Q.149] Wiener, N., [1948], Cybernetics, John Wiley and Sons, New York.
- [Q.150] Wiggins, S. [1990], Introduction to Applied Nonlinear Dynamical Systems and Chaos, Springer-Verlag, New York.
- [Q.151] Yarbus, A.L., [1967], *Eyes Movements and Vision*, Plenum, New York.
- [Q.152] Young, T.Y. and Calvert, T.W. [1974], *Classification, Estimation and Pattern Recognition*, New York, Elsevier Publishing Co.
- [Q.153] Zurada, J.M. [1992b], Introduction to Artificial Neural Systems, West Publishing Company, St. Paul.

[R] Societies on Neural Networks and Fuzzy Logic

- [R.1] Canadian Society for Fuzzy Information and Neural Systems (CANS-FINS)
- [R.2] Canadian Society for Computational Studies of Intelligence (CSCSI)
- [R.3] Dutch Foundation for Neural Networks (SNN)
- [R.4] European Neural Network Society (ENNS)
- [R.5] IEEE Neural Networks for Signal Processing Committee
- [R.6] Italian Neural Network Society (SIREN)
- [R.7] Japanese Neural Network Society (JNNS)
- [R.8] North American Fuzzy Information Processing Society (NAFIPS)
- [R.9] Neural Computing Applications Forum (NCAF)
- [R.10] Stimulation Initiative for European Neural Applications (SIENA)
- [R.11] Swedish Neural Network Society (SNNS)
- [R.12] The International Neural Network Society (INNS)

[S] Journals on Neural Networks and Fuzzy Logic

- [S.1] Adaptive Behavior
- [S.2] Behavioral and Brain Sciences
- [S.3] Biological Cybernetics
- [S.4] Connection Science
- [S.5] Fuzzy Sets and Systems
- [S.6] IEEE Transactions on Fuzzy Systems
- [S.7] IEEE Transactions on Image Processing
- [S.8] IEEE Transactions on Neural Networks
- [S.9] IEEE Transactions on Signal Processing
- [S.10] International Journal of Approximate Reasoning
- [S.11] International Journal of Neural Systems
- [S.12] Journal of Artificial Intelligence Research
- [S.13] Journal of Cognitive Neuroscience
- [S.14] Journal of Fuzzy Sets and Systems
- [S.15] Journal of Uncertainty, Fuzziness and Knowledge-Based Systems
- [S.16] Network: Computation in Neural Systems
- [S.17] Neural Computation
- [S.18] Neural Networks
- [S.19] Neural Network World
- [S.20] Neural Processing Letters
- [S.21] Neurocomputing

[T] Conferences on Neural Networks and Fuzzy Logic

- [T.1] Artificial Neural Networks in Engineering (ANNIE)
- [T.2] Annual Conference on Evolutionary Programming
- [T.3] Annual Meeting on Neural Control of Movement
- [T.4] European Congress on Intelligent Techniques and Soft Computing (EUFIT)
- [T.5] European Meeting on Cybernetics and Systems Research
- [T.6] From Animals to Animate International Conference on Simulation of Adaptive Behavior (SAB)
- [T.7] IEEE Internal Conference on Fuzzy Systems (FUZZ IEEE)
- [T.8] IEEE Internal Conference on Neural Networks (IEEE ICNN)
- [T.9] IEEE Internal Conference on Systems, Man, and Cybernetics
- [T.10] IEEE Internal Conference on Tools with Artificial Intelligence (ICTAI)
- [T.11] IEEE Workshop on Neural Networks for Signal Processing
- [T.12] IFAC Symposium on Intelligent Autonomous Vehicles
- [T.13] Industrial Fuzzy Control and Intelligent Systems Conferences (IFIS)
- [T.14] Intelligent Systems and Control (ISC)
- [T.15] Internal Conference on Artificial Neural Networks (ICANN)
- [T.16] Internal Conference on Evolutionary Computation
- [T.17] Internal Conference on Evolvable Systems: From Biology to Hardware (ICES)
- [T.18] Internal Conference on Intelligent Robots and Systems (IROS)
- [T.19] Internal Conference on Neural Networks and Brain
- [T.20] Internal Conference on Simulation of Adaptive Behavior
- [T.21] Internal ICSC/IFAC Symposium on Neural Computation
- [T.22] International Symposium on Intelligent Systems (AMSE-ISIS)
- [T.23] International Symposium on Soft Computing (SOCO)

- [T.24] International Symposium on Robotics with Applications (ISORA)
- [T.25] International Workshop on Neural Networks for Identification, Control
- [T.26] Joint Conference on Information Sciences (JCIS)
- [T.27] Neural Information Processing Systems Natural and Synthetic (NIPS)
- [T.28] Robotics, and Signal Image Processing (NICROSP)
- [T.29] World Congress on Computational Intelligence (IJCNN, FUZZ-IEEE, ICEC)
- [T.30] World Congress on Neural Networks (WCNN)

[U] Internet Resources on Neural Networks and Fuzzy Logic

[U.1]	IEEE Neural Network Council http://engine.ieee.org/nnc/
[U.2]	Fuzzy Logic and Neurofuzzy Reseources
	http://www-isis.ecs.suton.ac.uk/research/nfinfo/fuzzy.html
[U.3]	Fuzzy Logic Entry at Yahoo
	http://www.yahoo.com/Science/Computer_Science/Artificial_
	Intelligence/Fuzzy_logic
[U.4]	NeuroNet Eurpean Network of Excellence
	http://ww.neuronet/ph.kcl.ac.uk
[U.5]	North American Fuzzy Information Processing Society
	http://seraphim.csee.usf.edu/nafips.html
[U.6]	Web Dictionary of Cybernetics and Systems
	hhtp://pespmcl.vub.ac.be/ASC/indexASC.html