

Contents

Part 1: Architectures

Scale Independence in the Visual System	1
<i>Raul C. Muresan</i>	
Dynamic Neuronal Information Processing of Vowel Sounds in Auditory Cortex.....	19
<i>Osamu Hoshino and Meihong Zheng</i>	
Convolutional Spiking Neural Network for Robust Object Detection with Population Code using Structured Pulse Packets.....	39
<i>Masakazu Matsugu, Katsuhiko Mori, and Yusuke Mitarai</i>	
Networks Constructed of Neuroid Elements Capable of Temporal Summation of Signals.....	56
<i>Alexander A. Kharlamov and Vladimir V. Raevsky</i>	
Predictive Synchrony Organized by Spike-Based Hebbian Learning with Time-Representing Synfire Activities.....	77
<i>Katsunori Kitano and Tomoki Fukai</i>	
Improving Chow-Liu Tree Performance by Mining Association Rules.....	94
<i>Kaizhu Huang, Irwin King, Michael R. Lyu, and Haiqin Yang</i>	
A Reconstructed Missing Data-Finite Impulse Response Selective Ensemble (RMD-FSE) Network.....	113
<i>Sirapat Chiewchanwattana, Chidchanok Lursinsap, and Chee-Hung Henry Chu</i>	
Higher Order Multidirectional Associative Memory with Decreasing Energy Function.....	128
<i>Hiromi Miyajima, Noritaka Shigei, and Nobuaki Kiriki</i>	
Fast Indexing of Codebook Vectors Using Dynamic Binary Search Trees with Fat Decision Hyperplanes	150
<i>Frederic Maire, Sebastian Bader, and Frank Wathne</i>	

Part 2: Learning Algorithms

On Some External Characteristics of Brain-like Learning and Some Logical Flaws of Connectionism.....	167
---	-----

Asim Roy

Superlinear Learning Algorithm Design.....	180
<i>Peter Geczy and Shiro Usui</i>	

Extension of Binary Neural Networks for Multi-class Output and Finite Automata.....	211
<i>Narendra S. Chaudhari and Aruna Tiwari</i>	

A Memory-Based Reinforcement Learning Algorithm to Prevent Unlearning in Neural Networks.....	238
<i>Seiichi Ozawa and Shigeo Abe</i>	

Structural Optimization of Neural Networks by Genetic Algorithm with Degeneration (GA ^d).....	256
<i>Tetsuyuki Takahama, Setsuko Sakai, and Yoshinori Isomichi</i>	

Adaptive Training for Combining Classifier Ensembles.....	278
<i>Nayer M. Wanas and Mohamed S. Kamel</i>	

Combination Strategies for Finding Optimal Neural Network Architecture and Weights.....	294
<i>Brijesh Verma and Ranadhir Ghosh</i>	

Part 3: Applications

Biologically Inspired Recognition System for Car Detection from Real-Time Video Streams.....	320
<i>Predrag Neskovic, David Schuster, and Leon N. Cooper</i>	

Financial Time Series Prediction Using Non-Fixed and Asymmetrical Margin Setting with Momentum in Support Vector Regression.....	334
<i>Haiqin Yang, Irwin King, Laiwan Chan, and Kaizhu Huang</i>	

A Method for Applying Neural Networks to Control of Nonlinear Systems.....	351
<i>Jinglu Hu and Kotaro Hirasawa</i>	

Robot Manipulator Control via Recurrent Neural Networks.....	370
<i>Luis J. Ricalde, Edgar N. Sanchez, and Jose P. Perez</i>	

Gesture Recognition Based on SOM Using Multiple Sensors.....	387
---	-----

Masumi Ishikawa

Enhanced Phrase-Based Document Clustering Using
Self-Organizing Map (SOM) Architectures405
M. Hussin, J. Bakus, and M. Kamel

Discovering Gene Regulatory Networks from Gene Expression
Data with the Use of Evolving Connectionist Systems.....425
Nikola K. Kasabov and Dimiter S. Dimitrov

Experimental Analysis of Knowledge Based Multiagent
Credit Assignment.....437
Ahad Harati and Majid Nili Ahmadabadi

Implementation of Visual Tracking System Using Artificial
Retina Chip and Shape Memory Alloy Actuator.....460
W. C. Kim, M. Lee, J. K. Shin, and H. S. Yang



<http://www.springer.com/978-3-540-21123-5>

Neural Information Processing: Research and
Development

Rajapakse, J.C.; Wang, L. (Eds.)

2004, IX, 478 p., Hardcover

ISBN: 978-3-540-21123-5