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	Nota di contenuto	A unified model for the simulation of artificial and biology-oriented neural networks -- Weight freezing in constructive neural networks: A novel approach -- Can general purpose micro-processors simulate neural networks in real-time? -- Large neural net simulation under Beowulf-like systems -- A constructive cascade network with adaptive regularisation -- An agent-based operational model for hybrid connectionist-symbolic learning -- Optimal discrete recombination: Hybridising evolution strategies with the A algorithm -- Extracting rules from artificial neural networks with kernel-based representations -- Rule improvement through decision boundary detection using sensitivity analysis -- The role of dynamic reconfiguration for

implementing artificial neural networks models in programmable hardware -- An associative neural network and its special purpose pipeline architecture in image analysis -- Effects of global perturbations on learning capability in a CMOS analogue implementation of synchronous Boltzmann machine -- Beta-CMOS artificial neuron and implementability limits -- Using on-line arithmetic and reconfiguration for neuroprocessor implementation -- Digital implementation of artificial neural networks: From VHDL description to FPGA implementation -- Hardware implementation using DSP's of the neurocontrol of a wheelchair -- Forward-backward parallelism in on-line backpropagation -- A VLSI approach for spike timing coding -- An artificial dendrite using active channels -- Analog electronic system for simulating biological neurons -- Neural addition and fibonacci numbers -- Adaptive cooperation between processors in a parallel Boltzmann machine implementation -- Adaptive Brain Interfaces -- Identifying mental tasks from spontaneous EEG: Signal representation and spatial analysis -- Independent component analysis of human brain waves -- EEG-based brain-computer interface using subject-specific spatial filters -- Multi-neural network approach for classification of brainstem evoked response auditory -- EEG-based cognitive task classification with ICA and neural networks -- Local pattern of synchronization in extraestriate networks during visual attention -- A bioinspired hierarchical system for speech recognition -- A neural network approach for the analysis of multineural recordings in retinal ganglion cells -- Challenges for a real-world information processing by means of real-time neural computation and real-conditions simulation -- A parametrizable design of the mechanical-neural transduction system of the auditory brainstem -- Development of a new space perception system for blind people, based on the creation of a virtual acoustic space -- Application of the Fuzzy Kohonen Clustering Network to biological macromolecules images classification -- Bayesian VQ image filtering design with fast adaption competitive neural networks -- Neural networks for coefficient prediction in wavelet image coders -- A neural network architecture for trademark image retrieval -- Improved automatic classification of biological particles from electron-microscopy images using genetic neural nets -- Pattern recognition using neural network based on multi-valued neurons -- Input pre-processing for transformation invariant pattern recognition -- Method for automatic karyotyping of human chromosomes based on the visual attention system -- Adaptive adjustment of the CNN output function to obtain contrast enhancement -- Application of ANN techniques to automated identification of bovine livestock -- An investigation into cellular neural networks internal dynamics applied to image processing -- Autopoiesis and image processing: Detection of structure and organization in images -- Preprocessing of radiological images: Comparison of the application of polynomic algorithms and artificial neural networks to the elimination of variations in background luminosity -- Feature extraction with an associative neural network and its application in industrial quality control -- Genetic algorithm based training for multilayer discrete-time cellular neural networks -- How to select the inputs for a multilayer feedforward network by using the training set -- Neural implementation of the JADE-algorithm -- Variable selection by recurrent neural networks. Application in structure activity relationship study of cephalosporins -- Optimal use of a trained neural network for input selection -- Applying evolution strategies to neural networks robot controller -- On virtual sensory coding: An analytical model of the endogenous representation -- Using temporal information in ANNs

for the implementation of autonomous robot controllers -- Learning symbolic rules with a reactive with tags classifier system in robot navigation -- Small sample discrimination and professional performance assessment -- SOM based analysis of pulping process data -- Gradient descent learning algorithm for hierarchical neural networks: A case study in industrial quality -- Application of neural networks for automated X-ray image inspection in electronics manufacturing -- Forecasting financial time series through intrinsic dimension estimation and non-linear data projection -- Parametric characterization of hardness profiles of steels with neuro-wavelet networks -- Study of two ANN digital implementations of a radar detector candidate to an on-board satellite experiment -- Curvilinear component analysis for high-dimensional data representation: I. Theoretical aspects and practical use in the presence of noise -- Curvilinear Component Analysis for high-dimensional data representation: II. Examples of additional mapping constraints in specific applications -- Image motion analysis using scale space approximation and simulated annealing -- Blind inversion of Wiener systems -- Separation of speech signals for nonlinear mixtures -- Nonlinear blind source separation by pattern repulsion -- Text-to-text machine translation using the RECONTRA connectionist model -- An intelligent agent for brokering problem-solving knowledge -- A system for facilitating and enhancing web search -- Applying Ontology to the web: A case study -- How to find suitable ontologies using an ontology-based WWW broker -- Towards personalized distance learning on the web -- Visual knowledge engineering as a cognitive tool -- Optimizing web newspaper layout using simulated annealing -- Artificial neural network-based diagnostic system methodology -- Neural networks in automatic diagnosis malignant brain tumors -- A new evolutionary diagram: Application to BTGP and information retrieval -- Artificial neural networks as useful tools for the optimization of the relative offset between two consecutive sets of traffic lights -- ASGCS: A new self-organizing network for automatic selection of feature variables -- Adaptive hybrid speech coding with a MLP/LPC structure -- Neural predictive coding for speech signal -- Support vector machines for multi-class classification -- Self-organizing yprel network population for distributed classification problem solving -- An accurate measure for multilayer perceptron tolerance to additive weight deviations -- Fuzzy inputs and missing data in similarity-based heterogeneous neural networks -- A neural network approach for generating solar irradiation artificial series -- Color recipe specification in the textile print shop using radial basis function networks -- Predicting the speed of beer fermentation in laboratory and industrial scale.

| Sommario/riassunto | This book constitutes, together with its compagnion LNCS 1606, the refereed proceedings of the International Work-Conference on Artificial and Neural Networks, IWANN'99, held in Alicante, Spain in June 1999. The 91 revised papers presented were carefully reviewed and selected for inclusion in the book. This volume is devoted to applications of biologically inspired artificial neural networks in various engineering disciplines. The papers are organized in parts on artificial neural nets simulation and implementation, image processing, and engineering applications. |