WSES International Conference on
Neural Networks and Applications
Tenerife Playa, Canary Islands, Spain
February 12-14, 2001

PROGRAM

Monday, February 12

Room A'
Opening (Plenary Lectures):
Plenary Lecture 1, Prof. I. Burhan Türkºen, 8:00-8:50
"Fuzziness in the New Millennium"

Plenary Lecture 2, Prof. N. E. Mastorakis, 8:50-9:20
"Cellular Neural Networks (CNN's) for 2-D Systems Analysis"

Room A'
Session 1: 9:20-11:00
Chair: S. Dlay, D. Andina

Comparison of Blind Source Separation Algorithms
by: *Li Yan, Powers David, Peach James*

Self-Organizing Dynamic Graphs
by: *Ezequiel Lopez-Rubio, Jose Munoz-Perez, Jose Antonio Gomez-Ruiz*

Analog design of a competitive middle layer for a new neural network for optical character recognition
by: *Ian P. Morns, Satnam. S. Dlay*

Optimisation of Neutron Beams for BNCT Using Artificial Neural Networks
by: *Armando Vieira, Ana Fernandes, Rafael Patricio*

Forecasting exchange rates using neural network and fuzzy system based techniques
by: *V. S. Kodogiannis, A. Lolis*

Coffee Break   11:00 – 11:30

Room A'
Session 2: 11:30-13:30
Chair: B. Oommen, D. Korze

Visual and audio communication between visitors of virtual worlds
by: *Matjaz Divjak, Danilo Korze*

Evolution of Wandering Behavior in a Multi Agent System: An Experiment
by: *Roland Schwaiger, Konrad Lang*

A non-recurrent low-complexity neural network for the speech prediction
by: *Hassene Faiedh, Zied Gafsi, Mongia Mhiri, Kamel Besbes*

Function of the Human Brain
by: *Ales Grmela*

Pseudoinverse Learning Algorithm for Feedforward Neural Networks
by: *Ping Guo, Michael R. Lyu*

Creating a Provincial Long-Term Growth Model for China using the Kohonen Algorithm
by: *Elpida Makriyanni, Philip Treleaven*

Room A'
Session 3: 15:00-17:00
Chair: M. Lehtokangas, K. Saeed

A Review on the Minimal State Space Realization for a Class of N-D Discrete Time Lossless Bounded Real Functions
by: *George Antoniou, Nikos Mastorakis*

Medical wavelet-neural diagnosis in chagasic cardiopaties
by: *Roberto Carranza, Diego Andina*

Constructive Neural Networks with Regularization
by: *Jani Lahnajarvi, Mikko Lehtokangas, Jukka Saarinen*

New Approaches for Cursive Languages Recognition: Machine and Hand Written Scripts and Texts
by: *Khalid Saeed*

VBR Video Traffic Prediction Using Neural Networks with Multiresolution Learning
by: *Yao Liang, Edward W. Page*

Neuro-fuzzy systems with inference based on bounded product
by: *Danuta Rutkowska, Leszek Rutkowski, Robert Nowicki*

Coffee Break   17:00 – 17:30

Room A'
Session 4: 17:30-20:10
Chair: E. Mérida-Casermeiro, H.-C. Lu

Improvement of a Measurement Plotting System Performance with Fractional Order Hold adjusted by Neural Networks
by: *Rafael Barcena, Manuel de la Sen, Koldo Basterretxea*

Multiagent environment for hybrid AI models
by: *Roman Neruda, Pavek Krusina, Zuzana Petrova*

Performance improvement of a NN radar detector using a two-steps pre-processing stage
by: *M. Pilar Jarabo Amores, Manuel Rosa Zurera, Francisco Lopez Ferreras, Pablo Lopez Espi*

ë-universe: introduction and preliminary study
by: *Abdolreza Joghataie*

Constructive Neural Networks - Automated Allocation of Hidden Units into Hidden Layers
by: *Jani Lahnajarvi, Mikko Lehtokangas, Jukka Saarinen*

Supervised fuzzy hyperline segment neural network for rotation invariant handwritten character recognition
by: *Uday Kulkarni, Trimbak Sontakke, Gurunath Randale*

A Neural Network for Context-based Arithmetic Coding in Lossless Image Compression
by: *George A. Triantafyllidis, Michael G. Strintzis*

Detection of Faces and Facial Features in Images using a Novel Neural Network Technique
by: *Nikos Sarris, Nikos Grammalidis, Michael G. Strintzis*

Tuesday, February 13

Room A'
Session 5: 8:00-11:00
Chair: D. Rutkowska, K. Basterretxea

An Infomax learning algorithm for visual neural networks
by: *Kenji Okajima*

Automatic selection of training patterns to improve the generalization of Multilayer Feedforward Neural Networks
by: *I. M. Galvan, P. Isasi, J.M. Valls*

An improved discrete neural network algorithm for the traveling salesman problem
by: *Enrique Merida-Casermeiro, Gloria Galan-Marin, Jose Munoz-Perez*

Designing Radial Basis Neural Networks using a Distributed Architecture
by: *J.M. Valls, A. Leal, I.M. Galvan, J.M. Molina*

By using neural network with radial basis function for neural filter design
by: *Hung-Ching Lu, Ta-Hsiung Hung, Shian-Tang Tzeng*

Processing and Classification of Auditory Brainstem Response Signals
by: *Andrzej Izworski, Ryszard Tadeusiewicz, Andrzej Pasawski*

Function Approximation with Evolved Multilayer Perceptrons
by: *P.A. Castillo, M.G. Arenas, J.G. Castellano, M. Cillero, J.J. Merelo, A. Prieto, V. Rivas, G. Romero*

Effects of Genetic Drift in Selection Strategy of Boltzmann Tournament
by: *Alberto Perez Alonso*

Feature Subset Selection Based on ANN Sensitivity Analysis - a Practical Study
by: *J. N. Fidalgo*

Coffee Break   11:00 – 11:30

Room A'
Session 6: 11:30-13:30
Chair: E. Mérida-Casermeiro, H.-C. Lu

Forecasting of surface ozone concentrations 24 hours in advance using neural networks
by: *Emili Balaguer Ballester, Emilio Soria Olivas, Jose Luis Carrasco Rodriguez, Secundino del Valle-Tascon*

On Searching for Patterns with Lower Errors
by: *Iveta Mrazova*

A Mapping Technique for the Synthesis of Linear Threshold Gate Networks Used to Implement Boolean Functions
by: *Peter Celinski, Gregory D. Sherman, Jose F. Lopez, Derek Abbott*

Environment Identification by Alignment of Abstract Sensory Flow Representations
by: *Fredrik Linaker, Kim Laurio*

An Integrated Self-Organizing Map for the Traveling Salesman Problem
by: *Hui-Dong Jin, Kwong-Sak Leung, Man-Leung Wong*

Automatic Information Categorization through Concept Formation of Associative Memory Model
by: *Toshiki Kindo, Hideyuki Yoshida, Takehiko Shida*

Room A'
Session 7: 15:00-17:00
Chair: H. Masun, I. M. Galván

Parameter Quantization Effects in Gaussian Potential Function Neural Networks
by: *Erkan Karakus, Gunhan Dundar, Arif Selcuk Ogrenci*

Random Sequence Generation Using Clipped Hopfield Neural Network
by: *Choi-Kuen Chan, Chi-Kwong Chan, L.M.Cheng*

Experience with FIR BP neural networks for prediction problems
by: *Stanislav Kaleta, Daniel Novotny, Peter Sincak*

Applying artificial neural networks to the classification of wheat varieties processed via maldi-tof mass spectrometry
by: *David Schibeci, Rob Potter, Kevin Wathen-Dunn, Mike Jones, Matthew Bellgard*

Time Coded Neurons, Geometric Networks, and Homomorphic Learning
by: *Regina Bernhaupt, Jochen Pfalzgraf*

A computational model for character recognition based on multi-resolution channels and IAM

by: *Sung-Yang Bang, Chang-Su Park, Sang-Ki Kim and Dae-Jin Kim*

Coffee Break   17:00 – 17:30

Room A'
Session 8: 17:30-19:50
Chair: R. Olsson, R. Bernhaupt

Adaptive LRBP using Learning Automata for Neural Networks
by: *B. Mashoofi, M. B. Menhaj, S. Motamedi, M. R Meybodi*

An adaptive neuro-fuzzy inference system as a soft sensor for viscosity in rubber mixing process
by: *Seppo Merikoski, Mikko Laurikkala, Hannu Koivisto*

On RCE Like Neural Networks Based Image Processing and it's ZISC-036 Based Fully Parallel Implementation Solving Real World and Real Complexity Problems. (Part-Two : Industrial Applications)
by: *Kurosh Madani, Ghislain de Tremiolles, Pascal Tannhof*

Modelling of Ship's Motion Using Artificial Neural Networks
by: *Bogdan Zak, Zygmunt Kitowski, Jozef Malecki*

Face recognition by a new type of neural networks
by: *Gennadii Ososkov and Alexei Stadnik*

SOM Winner-Searching Algorithm Based on Subset of Most Discriminate Codebooks
by: *Tarek El. Tobely, Yuichiro Yoshiki, Ryuichi Tsuda, Naoyuki Tsuruta, Makoto Amamiya*

Subband Images Quality Control using Fuzzy Logic and Neural Networks
by: *Peter Planinšic*

Wednesday, February 14

Room A'
Session 9: 8:00-:11:00
Chair: Y. Liang, H. Masun

Data Mining Applied to CRM for a Long Distance Telephone Company
by: *Hugo L.C. Azevedo, Marley M.B.R. Vellasco, Emmanuel P.L. Passos*

A Hierarchical Anomaly Network Intrusion Detection System using Neural Network Classification

by: *Zheng Zhang, Jun Li, C. N. Manikopoulos, Jay Jorgenson, Jose Ucles*

A Combined Artificial Neural Net - Multinomial Logit Model to Measure Marketing Effects

by: *Harald Hruschka, Werner Fettes, Markus Probst*

Image Processing using CNNs and FPGAs: Initial Results

by: *D. Amanatidis, D. Tsaptsinos, P.R. Giaccone, G.A Jones*

Simultaneous Evolution of Structure and Activation Function Types in Generalized Multi-Layer Perceptrons

by: *Helmut Mayer, Marc Strapetz, Roman Fuchs*

Decomposed Multi-layer Architecture for the Recognition of Non-linear Problems

by: *Jamil Ahmad*

A novel ann controller for interior permanent magnet motor drive

by: *Yi Yang, D. M. Vilathgamuva, M. A. Rahman*

Two Neural Network Based Classification Systems for Acoustic Helicopter Signals

by: *Sami M. Viitanen, Jari T. Syrjorinne, Jukka P.P. Saarinen*

Missing frame recovery method for G.723.1 based on neural networks

by: *Jari Turunen, Pekka Loula*

Coffee Break   11:00 – 11:30

Room A'
Session 10: 11:30-13:30
Chair: D. Amanatidis, P. J. Amores

Model of the milling process on the basis of cutting force: A Neural Network-based Approach

by: *R.E. Haber, R. H. Haber, C.R. Peres, A. Alique, S. Ros*

Explanation of feedforward Neural Networks through sensibility analysis

by: *Jesús Besada Juez, Miguel A. Sanz-Bobi*

On the Complexity of Backpropagation with Momentum and Gradient Descent on Sigmoidal Steepness
by: *Wing Kai Leung*

Approximation of Sigmoid Function and the Derivative for Artificial Neurons
by: *Koldo Basterretxea, Jose Manuel Tarela, Ines del Campo*

The Effect of Virtual Term Generation on the Neural-based Approaches to Time Series Prediction
by: *Taeho C. Jo, Jerry Seo*

Neural programming - automatic synthesis of symbolic programs using numerical optimization
by: *Roland Olsson*

Room A'
Session 11: 15:00-17:00
Chair: W. K. Leung, A. Vieira

High Performance Associative Memory and Sign Constraints
by: *N. Davey, R. Adams*

A survey of neural computing of effective properties of random composites
by: *Abraham I. Beltzer, Victor A. Gotlib, Tadanobu Sato*

Ultrafast Neural Network Learning from Uncertain Data
by: *Jacob Barhen, Vladimir Protopopescu*

A case study of SVM extension techniques on classification of imbalanced data
by: *K. K. Lee, C. J. Harris, S. R. Gunn, P. A. S. Reed*

A novel approach to blind source separation in the frequency domain
by: *Adriana Dapena, Luis Castedo*

A Model For Prognosis of Early Breast Cancer
by: *Jose M. Jerez, Joes A. Gomez, Jose Muñoz, Emilio Alba*

Coffee Break   17:00 – 17:30

Room A'
Session 10: 17:30-19:30
Chair: A. Dapena, K. Basterretxea

RNA Secondary Structure Prediction by MFT Neural Networks
by: *Bruno Apolloni, Luca Lotorto, Anna Morpurgo, Anna Maria Zanaboni*

Neural Network Approach In Predicting Academic Performance
by: *Roshidi Bin Din, Robizah Sudin*

Computing the Bhattacharyya error bound in classifiers Using direct bias correction bootstrap methods
by: *B. John Oommen and Qun Wang*

Match Adaptive Resonance Theory Neural Network for Arabic Alphabet Recognition
by: *Homsi Masun , Sukkar Fadel*

Stability measures of some chordal graphs with restricted dominating numbers
by: *Punar Dundar*