Table of Contents

Prediction and Forecasting

A Novel Prediction Mechanism with Modified Data Mining Technique for Call Admission Control in Wireless Cellular Network	1
The Study of Forecasting Model of Rock Burst for Acoustic Emission Based on BP Neural Network and Catastrophe Theory	11
Application of Wavelet Neural Network to Prediction of Water Content in Crude Oil	21
Prediction of Urban Heat Island Intensity in Chuxiong City with Backpropagation Neural Network	2 9
Research on the Fouling Prediction of Heat Exchanger Based on Wavelet Relevance Vector Machine	37
Electricity Price Forecasting Using Neural Networks Trained with Entropic Criterion	47
Least Square Support Vector Machine Ensemble for Daily Rainfall Forecasting Based on Linear and Nonlinear Regression	55
Estimating Portfolio Risk Using GARCH-EVT-Copula Model: An Empirical Study on Exchange Rate Market	65
Forecasting Financial Time Series via an Efficient CMAC Neural Network	73
Forecasting Daily Cash Turnover of Bank with EWMA and SVR Wei-min Ma and Wei Lu	83
Financial Distress Prediction Model via GreyART Network and Grey Model	91
Ming-Feng Veh. Chia-Ting Chang, and Min-Shyang Ley	



Risk Assessment Model Based on Immune Theory Tao Liu, Li Shang, and Zhifeng Hu	101
Short-Term Load Forecasting Based on Bayes and RS	109
Fuzzy Neural Networks	
Nonlinear System Modeling with a New Fuzzy Model and Neural Compensation	117
A Research of Fuzzy Neural Network in Ferromagnetic Target Recognition	129
Multiple T-S Fuzzy Neural Networks Soft Sensing Modeling of Flotation Process Based on Fuzzy C-Means Clustering Algorithm Jiesheng Wang, Yong Zhang, and Shifeng Sun	137
A Using Reliability Evaluation Model for Diesel Engine Based on Fuzzy Neural Network	145
Fuzzy Sliding Mode Control with Perturbation Estimation for a Piezoactuated Micromanipulator	153
A Credit Risk Rating Model Based on Fuzzy Neural Network	161
Interval-Valued Fuzzy Control	173
Research on Fuzzy Preference Relations-Based MAS for Decision Method	185
Optimization and Planning	
Study of Stochastic Demand Inventory Routing Problem with Soft Time Windows Based on MDP	193
An Agent-Based Approach to Joint Procurement Modeling with Virtual	
Organization	201

Approaches to Robotic Vision Control Using Image Pointing

Tian-Ding Chen

321

A Hybrid Evolutionary Approach to Band Selection for Hyperspectral Image Classification
Impulsive Environment Sound Detection by Neural Classification of Spectrogram and Mel-Frequency Coefficient Images
Classification and Control of Cognitive Radios Using Hierarchical Neural Network
Identifying Spatial Patterns of Land Use and Cover Change at Different Scales Based on Self-Organizing Map
Colon Tumor Microarray Classification Using Neural Network with Feature Selection and Rule-Based Classification
Signal and Image Processing
Dual Channel Speech Denoising Based on Sparse Representation
Frequency-Domain Blind Separation of Convolutive Speech Mixtures with Energy Correlation-Based Permutation Correction Li-Dan Wang and Qiu-Hua Lin
A Blind Broadband Beamforming Method for Speech Enhancement Dongxia Wang, Fuliang Yin, and Fuming Sun
Algorithm and Simulation Research for Blind Nonlinear System Identification
Study on Digital Image Correlation Using Artificial Neural Networks for Subpixel Displacement Measurement
Tree Modeling through Range Image Segmentation and 3D Shape
Analysis Mingrui Dai, Hongjun Li, and Xiaopeng Zhang

XXII Table of Contents

Neural Network Control of Spacecraft Formation Using RISE Feedback	521
Shicheng Wang, Haibo Min, Fuchun Sun, and Jinsheng Zhang	
A Simplified Modular Petri Net for the Walking Assistant Robot Zhen Zhang, Qixin Cao, Chuntao Leng, and Peihua Chen	529
Omni-directional Vision Based Tracking and Guiding System for Walking Assistant Robot	537
Dynamic Eye-in-Hand Visual Servoing with Unknown Target Positions	545
Optimum Motion Control for Stacking Robot	551
Passive Target Tracking Using an Improved Particle Filter Algorithm Based on Genetic Algorithm	559
Large-Scale Structure Assembly by Multiple Robots Which May Be Broken	567
Real-Time Five DOF Redundant Robot Control Using a Decentralized Neural Scheme	577
Improving Transient Response of Adaptive Control Systems Using Multiple Neural Network Models	587
An Information Theoretic Approach for Design MIMO Networked Control Systems	595
An Engineering Solution for Decoupling Control of Aircraft Motion Using Affine Neural Network Tsurng-Jehng Shen	603
Black-Box Input-Output Identification of a Class of Nonlinear Systems Using a Discrete-Time Recurrent Neurofuzzy Network	615

Passivity Analysis of Stochastic Neural Networks with Mixed	
Time-Varying Delays	623
A Novel Recovering Initial Conditions Method from Spatiotemporal Complex Dynamical System	631
An Intelligent Control Scheme for Nonlinear Time-Varying Systems with Time Delay	639
Master-Slave Chaos Synchronization of Uncertain Nonlinear Gyros Using Wavelet Neural Network	647
Transportation Systems	
WNN-Based Intelligent Transportation Control System	655
Incident Detection in Urban Road	663
An Efficient Web-Based Tracking System through Reduction of Redundant Connections	671
An Embedded All-Time Blind Spot Warning System	679
Design of Autonomous Parallel Parking Using Fuzzy Logic Controller with Feed-Forward Compensation	687
Telematics Services through Mobile Agents	695
Multi-agent System Model for Urban Traffic Simulation and Optimizing Based on Random Walk	703
Vehicle Detection Using Bayesian Enhanced CoBE Classification Zhong Zheng, Shen Xu, and Yi L. Murphey	713

Vibration Analysis of a Submarine Model Based on an Improved ICA Approach	721
A Hierarchical Salient-Region Based Algorithm for Ship Detection in Remote Sensing Images	729
Industrial Applications	
Turning Tool Wear Monitoring Based on Fuzzy Cluster Analysis	739
Part-Machine Clustering: The Comparison between Adaptive Resonance Theory Neural Network and Ant Colony System	747
Fault Diagnosis of Bearings Based on Time-Delayed Correlation and Demodulation as Well as B-Spline Fuzzy Neural Networks	757
Fast and Noninvasive Determination of Viscosity of Lubricating Oil Based on Visible and Near Infrared Spectroscopy	765
Chattering-Free Adaptive Wavelet Neural Network Control for a BLDC Motor via Dynamic Sliding-Mode Approach	773
A New BPSO Algorithm and Applications in Interruptible Load	
Management	783
Force Identification by Using Support Vector Machine and Differential Evolution Optimization	793
Soft Sensor Modeling of Ball Mill Load via Principal Component Analysis and Support Vector Machines	803
An Approach Based on Hilbert-Huang Transform and Support Vector Machine for Intelligent Fault Diagnosis	811

Real-World Applications

Based on Bayesian Networks	819
Variation Trend Analysis of Groundwater Depth in Area of Well Irrigation in Sanjiang Plain Based on Wavelet Neural Network Hong Ding, Dong Liu, and Fei-fei Zhao	829
A Petri-Net Modeling Method of Agent's Belief-Desire-Intention and Its Application in Logistics	837
Supply Chain Flexibility Assessment by Multivariate Regression and Neural Networks	845
An Intelligent Mobile Location-Aware Book Recommendation System with Map-Based Guidance That Enhances Problem-Based Learning in Libraries	853
Applying Least Squares Support Vector Regression with Genetic Algorithms for Radio-Wave Path-Loss Prediction in Suburban Environment	861
A Probabilistic Neural Network Approach to Modeling the Impact of Tobacco Control Policies by Gender	869
The BPNN-Fuzzy Logic Pre-control of an Underground Project in City Center of Shanghai	877
Optimal Parameter Inversion of Marine Water Quality Model Using a BPNN Data-Driven Model — A Case Study on DIN	885
Determination of Sugar Content of Instant Milk-Tea Using Effective Wavelengths and Least Squares-Support Vector Machine Fei Liu and Yong He	893
Sports Video Summarization Based on Salient Motion Entropy and Information Analysis	901

XXVI Table of Contents

A Neural Network Based Algorithm for the Retrieval of Precipitable	909	
Water Vapor from MODIS Data		
Shenglan Zhang, Lisheng Xu, Jilie Ding, Hailei Liu, and Xiaobo Deng		
A Neural Network Based Approach to Wind Energy Yield		
Forecasting	917	
Piers R.J. Campbell, Faheem Ahmed, Haydar Fathulla, and		
$Ahmad\ D.\ Jaffar$		
Research on New Intelligent Business-Oriented Decision-Making Model		
Based on MA and GA	925	
Weijin Jiang and Qing Jiang		
	000	
Author Index	933	