

Proceedings

International Conference on Computational Intelligence and Multimedia Applications

ICCIIMA 2007

13-15 December 2007
Sivakasi, Tamil Nadu, India



Los Alamitos, California
Washington • Tokyo



TABLE OF CONTENTS

VOLUME 1

ARTIFICIAL INTELLIGENCE

Solution of Differential-Algebraic Equation Systems using Neural Networks	1
<i>J. Abdul, Samath, P. Balasubramaniam</i>	
Sentence Similarity Computation Based on WordNet and Corpus Statistics.....	7
<i>P. Selvi, N.P. Gopalan</i>	
Towards Dynamic Load Balancing in Heterogeneous Cluster using Mobile Agent.....	13
<i>N. Nehra, R.B. Patel</i>	
IntelligenTester – Software Test Sequence Optimization Using Graph Based Intelligent Search Agent.....	20
<i>D. Jeya Mala, V. Mohan</i>	
Stability Analysis of the Ant System Dynamics with Non-uniform Pheromone Deposition Rules.....	26
<i>I.K. Saha</i>	
Rough Set Based Feature Selection for Web Usage Mining	31
<i>H.H. Inbarani, K. Thangavel, A. Pethalakshmi</i>	
Parameter Estimation in High Performance Sensor Less Vector Controlled Drives.....	37
<i>M. Sasikumar, V. Sankardoss, S.C. Pandian</i>	
Java Based Test Case Generation and Optimization Using Evolutionary Testing	42
<i>D.C.S. Siva, J.D. Nithila, A. Askarunisha, N. Ramaraj</i>	
Ontology Based Structured Representation for Domain Specific Unstructured Documents.....	48
<i>H.L. Shashirekha, S. Murali</i>	
A New Particle Swarm Optimization with Quadratic Interpolation	53
<i>M. Pant, T. Radha, V.P. Singh</i>	
Avoiding Traffic Jam using Ant Colony Optimization- A Novel Approach	59
<i>P. Bedi, N. Mediratta, S. Dhand, R. Sharma, A. Singhal</i>	
An Agent-Based Architecture with Centralized Management for a Distance Learning System	66
<i>F. Nargesian, E. Nazemi</i>	
The Logic of Reasoning by Procedural Argumentation for Knowledge Sharing.....	75
<i>G.S. Mahalakshmi, T.V. Geetha</i>	
Psychodynamic Appraisal Mechanism for Emotional Development through Multi-modal Interaction.....	80
<i>J. Liu, H. Ando</i>	
Two Level Language Models for Improving the Performance of Tamil Speech Recognition.....	85
<i>S. Saraswathi, T.V. Geetha</i>	
Visualization of Plagiarism Detected in Documents.....	90
<i>T. Mala, T.V. Geetha</i>	

Particle Swarm Optimization Using Gaussian Inertia Weight	95
<i>M. Pant, T. Radha, V.P. Singh</i>	
Enhancing The Efficiency Of Regression Testing Through Intelligent Agents	101
<i>T.M.S. Umma Salima, A. Askarunisha, N. Ramaraj</i>	
Behavior of Agent Based Dynamic Load Balancing Algorithm for Heterogeneous P2P Systems.....	107
<i>K. Saruladha, G. Santhi</i>	
SWAN: A Swarm-Intelligence Based Framework for Network Management of IP Networks	112
<i>A. Gupta, N. Koul</i>	
Application of Particle Swarm Optimization for Optimal Placement of Unified Power Flow Controllers in Electrical Systems with Line Outages.....	117
<i>S.T. Jaya Christa, P. Venkatesh</i>	
Parts of Speech Disambiguation in Telugu	123
<i>S. Suresh Kumar, S. Ashok Kumar</i>	
Research of Classification Based On Extenics.....	127
<i>D. Ye, Y. Yu, B. Zeng</i>	
Learning Student Models through an Ontology of Learning Strategies	131
<i>A. Balakrishnan</i>	
Adaptive Selection of Top-m Retrieval Schemes for Data Fusion using Tabu Search.....	134
<i>N.P. Gopalan, K. Batri, B. Siva Selvan</i>	
A Mutiagent System for Web Mining using Adjustable User Profile and Vibrant Confederacy.....	137
<i>B. Anandampilai, K.L. Shunmuganathan, V. Vasudevan</i>	

ARTIFICIAL NEURAL NETWORKS

An Intelligent Learning Strategy for Managing Users' Mobility in UMTS Networks.....	140
<i>J.A.P. Singh, V.K. Govindan, M.P. Sebastin</i>	
Short Term Hourly Load Forecasting Using Combined Artificial Neural Networks	150
<i>P. Subbaraj, V. Rajasekaran</i>	
Scene Categorization using Invariant Moments and Neural Networks	159
<i>V. Devendran, H. Thiagarajan, A.K. Santra</i>	
Neural Based Parameter Identification and Fault Diagnosis in a Three-Tank System	164
<i>S. Srinivasan, P. Kanagasabapathy, N. Selvagesan</i>	
Development of Intelligent Sensor System for Classification of Material Type using Neural Networks	169
<i>N.N. Charniya, S.V. Dudul</i>	
Simulation of Quantum Cellular Automata Circuits using Neural Networks.....	174
<i>E.N. Ganesh, L. Kishore, M.J.S. Rangachar</i>	
Reliability Analysis of Quantum Cellular Automata Circuits Using Bayesian Networks	179
<i>E.N. Ganesh, L. Kishore, M.J.S. Rangachar</i>	
Clustering and Least Square based Neural Technique for Learning and Identification of Suspicious Areas within Digital Mammograms.....	185
<i>P. McLeod, B. Verma</i>	

Software Reliability Prediction using Wavelet Neural Networks	190
<i>N.R. Kiran, V. Ravi</i>	
Radial Basis Function Neural Networks and Principal Component Analysis for Pattern Classification.....	195
<i>M. George</i>	
Power Quality Disturbances Classification Using Probabilistic Neural Network.....	202
<i>K. Manimala, K. Selvi</i>	
Composite Counterpropagation Neural Networks for Solving Power Flow Problem	207
<i>A. Rathinam, S. Padmini</i>	
Parallel Implementation of Backpropagation on Master Slave Architecture.....	212
<i>J.V.S. Srinivas, P.V.R.R. Bhogendra Rao, V. Kamakshi Prasad</i>	
Fault Tolerance Analysis of Neural Networks for Pattern Recognition.....	217
<i>P.P. Panduranga, D.H. Rao, A.G. Deshpande</i>	
Neural Network Based Speed Control for 6/4 Switched Reluctance Motor.....	222
<i>C. Muniraj, S. Chandrasekar</i>	
Multi Layer Feed Forward Neural Network for Contingency Evaluation of Bulk Power System	227
<i>S. Ankaliki, A.D. Kulkarni, T. Ananthapadmanabha</i>	
Application of Artificial Neural Network in Cellular Handoff Management.....	232
<i>P.P. Bhattacharya</i>	
A Novel Method to Measure the Learning Capability of a Parameter in Artificial Neural Network with Application to Network Freezing.....	237
<i>S. Urolagin, K.V. Prema, N.V. Subba Reddy</i>	
Security Assessment of Power Systems using Artificial Neural Networks- A Comparison Between Euclidean Distance Based Learning and Supervised Learning Algorithms.....	245
<i>A. Rathinam, S. Padmini</i>	
Affective State Analysis of Speech for Speaker Verification: Experimental Study, Design and Development.....	250
<i>A.R. Panat, V.T. Ingole</i>	
Comparative Filtering Performance of Neural Networks.....	257
<i>V.R. Mankar, A.A. Ghatol</i>	
Applications of Artificial Neural Networks in Power Electronics	262
<i>S. Albert Alexander, J. Karthikeyan, A. Sivivasanth</i>	
Wavelet Feature based Neural Classifier System for Object Classification with Complex Background.....	267
<i>B. Nagarajan, P. Balasubramanie</i>	
Analysis of Classification by Supervised and Unsupervised Learning.....	275
<i>S.D. Sapkal, S.N. Kakarwal, P.S. Revankar</i>	
Intelligent Fuzzy Coordinated Control Scheme for Pressure Control Process.....	280
<i>N. Kanagaraj, P. Sivashanmugam</i>	
Generalized Neural Network Model to Predict the Properties of Sintered Al-Fe Composite.....	285
<i>P. Radha, G. Chandrasekaran, N. Selvakumar</i>	
A Novel Approach for the Analysis of Epileptic Spikes in EEG	292
<i>M. Ganesan, P.S. Sathidevi, K.P. Indiradevi</i>	

Growing Cell Structures (GCS) – A Constructive Learning Neural Network for Tool Wear Estimation Application	297
<i>P.P. Srinivasa, T.N. Nagabhushana, R.B.K.N. Rao</i>	
Off-Line Signature Recognition and Verification using Neural Network.....	302
<i>M.V. Karki, K. Indira, S. Sethu Selvi</i>	
Development of Hybrid ANN Structures for Performance Enhancement of Adaptive Channel Equalisers	308
<i>S. Das</i>	
Neural Network based Decision Support System for Diagnosis of Esophagitis.....	315
<i>S.S. Saraf, G.R. Udipi, S.D. Hajare</i>	
A Constructive Approach of Modified Standard Backpropagation Algorithm with Optimum Initialization for Feedforward Neural Networks	320
<i>N. Gunaseeli, N. Karthikeyan</i>	
Design of Microstrip Antennas Using Artificial Neural Networks	327
<i>J.L. Narayana, K. Sri Rama Krishna, L.P. Reddy</i>	
Classification of Power Quality Disturbance Signals using FFT, STFT, Wavelet Transforms and Neural Networks- A Comparative Analysis	330
<i>D. Devaraj, T. Jayasree</i>	

EDUCATION

Soft Computing Techniques and Role of PowerWorld Simulator for Forecasting and Mitigation of Power System Blackout	333
<i>F.A. Shaikh, Zaheeruddin, M.S. Jameel Asghar, G. Singh</i>	

FUZZY SYSTEMS

On-line Evolving Fuzzy Clustering.....	336
<i>V. Ravi, E.R. Srinivas, N.K. Kasabov</i>	
A Robust Control Strategy for UPFC to Improve Transient Stability Using Fuzzy Bang-Bang Control	341
<i>R.D. Prakash, N.K. Nair</i>	
The Optimality Conditions for Single Variable Fuzzy-valued Functions	346
<i>V.D. Pathak, U.S.M. Pirzada</i>	
Generalization of Trapezoidal Vague Set and its Use for Analyzing the Fuzzy System Reliability	353
<i>A. Kumar, S.P. Yadav, S. Kumar</i>	
Building Fuzzy OLAP Using Multi-attribute Summarization	359
<i>D.P.V. Kasinadh, P.R. Krishna</i>	
Available Transfer Capability Estimation Using Fuzzy Logic.....	364
<i>C. Vaithilingam, R.P. Kumudinidevi</i>	
Studies on a PC-Based Fuzzy and Non-Fuzzy On-Off Controller for a Temperature Process.....	369
<i>S. Pal, S.K. Sen, G. Sarkar, A. Deb</i>	
A Fuzzy Logic Based Power Electronic System for Wind Energy Conversion Scheme	384
<i>L. Gidwani, R. Kumar</i>	

A Multi-agent Optimal Path Planning Approach to Robotics Environment	389
<i>T.G. Kumar, V.P. Vijayan</i>	
An Experimental Comparative Analysis of Integrated Fuzzy Logic Controller (IFLC) and PID Speed Control of PMDC Micro Motor	394
<i>G. Radhesham, A.B. Kulkarni</i>	
A Robust Trust Model with Rated Genuine Feedbacks in a Grid Environment	401
<i>P. Varalakshmi, S.T. Selvi, P. Kanchana, S. Waziah</i>	
Prediction of Engine Emissions through Fuzzy Logic Modeling	409
<i>N. Bose, S. Kumar</i>	
Modified Fuzzy-Based Random Early Detection for Constant Bit Rate and Poisson Traffic	418
<i>R.R. Santhosh, M. Selvakumar, P.E. Sankaranarayanan</i>	
A Structured Soft (Max-Min) Decision Trees for Patient Specific Fuzzy Classifier in the Classification of Epilepsy Risk Levels from EEG Signals	424
<i>R. Sukanesh, R. Harikumar</i>	

GENETIC ALGORITHM

A Genetic Algorithm and Particle Swarm Optimization Approach for Lower Order Modelling of Linear Time Invariant Discrete Systems	429
<i>S.N. Sivanandam, S.N. Deepa</i>	
MGIGA: An Iterative Merge Based Genetic Algorithm for Motif Discovery in Genomic Sequences	434
<i>K.G. Srinivasa, S. Pendyala, A. Bhatt, K.R. Venugopal, L.M. Patnaik</i>	
Multi Objective Portfolio Optimization Models and its Solution using Genetic Algorithms	439
<i>C. Chiranjeevi, V.N. Sastry</i>	
Application of a Multi-objective Genetic Algorithm to Solve Reliability Optimization Problem	444
<i>A. Kishor, S.P. Yadav, S. Kumar</i>	
A Hybrid Genetic Algorithm for Optimal Power Flow Incorporating FACTS Devices	449
<i>K. Vijayakumar, R.P. Kumudinidevi, D. Suchithra</i>	
Thermal Unit Commitment Problem by using Genetic Algorithm, Fuzzy Logic and Priority List Method	454
<i>D.P. Kadam, S.S. Wagh, P.M. Patil</i>	
Optimal Combined Non-convex Economic and Emission Load Dispatch using NSDE	459
<i>N. Sinha, B.S. Purkayastha, B. Purkayastha</i>	
Study on Reduction of Machining Time in CNC Turning Centre by Genetic Algorithm	467
<i>R. Saravanan, V. Janakiraman</i>	
GA-Based Adaptive Wavelet Denoising of Low-Dose Medical Images: Application to EMR Tomograms	473
<i>V. Thavavel, R. Murugesan</i>	
Optimal Design of Digital IIR Filters Using Real Structured Genetic Algorithm	479
<i>C. Tsai, Y. Liu, J. Lin, C. Lin</i>	
An Efficient Hybrid Algorithm for Data Clustering Using Improved Genetic Algorithm and Nelder Mead Simplex Search	484
<i>S.C. Satapathy, J.V.R. Murthy P.V.G.D. Prasada Reddy, V. Katari, S. Malireddi, V.N.K. Srujan Kollisetty</i>	

Performance Study of Mutation Operator in Genetic Algorithms on Anticipatory Scheduling	497
<i>R. Muthu Selvi, R. Rajaram</i>	

HYBRID SYSTEMS

A Compact User Model for Hybrid Movie Recommender System	502
<i>M.Y.H. Al-Shamri, K.K. Bharadwaj</i>	
Design of Optimal Discrete Wavelet for ECG Signal using Orthogonal Filter Bank	508
<i>R.S.S. Kumari, S. Bharathi, V. Sadasivam</i>	
ECG Signal Interferences Removal using Wavelet Based CSTD Technique	513
<i>R.S.S. Kumari, A. Thilaganimala, V. Sadasivam</i>	
Effectiveness of LP Derived Features and DCTC in Twins Identification- Iterative Speaker Clustering Approach	518
<i>A. Revathi, R. Chinnadurai, Y. Venkataramani</i>	
Data Encryption using Event-related Brain Signals	523
<i>K.V.R. Ravi, R. Palaniappan, C. Eswaran, S. Phon-Amnuaisuk</i>	
Trust Based Grid Scheduling Algorithm for Commercial Grids	528
<i>S. ThamaraiSelvi, P. Balakrishnan, R. Kumar, K. Rajendar</i>	
Automatic Detection of Epileptic Spikes in the Long Term Electroencephalogram using Wavelet Transform	535
<i>K.P. Indiradevi, E. Elias, P.S. Sathidevi</i>	
Discrete Event Supervisory Control of Optimal Tracking Systems	540
<i>B. Philip</i>	
Ideas of Control Design for Cellular Signal Transduction Pathway of Ras	544
<i>Y. Liu, C. Lin</i>	
Game Theoretic Model For P2P Trust Management	547
<i>M. Harish, G.S. Mahalakshmi, T.V. Geetha</i>	
Realization of Adaptive Filters for NEXT Crosstalk Mitigation in Two Wire ADSL on DSP	550
<i>S. Ravishankar, B.V. Uma, K.V. Padmaja</i>	
Implementation of Novel Bit Loading Algorithm with Power Cut-back in ADSL Transmitter on DSP	553
<i>S. Ravishankar, K.V. Padmaja, B.V. Uma</i>	

MEMORY, STORAGE & RETRIEVAL

The Theory of Time and Space in Object Relational Databases	556
<i>S. Justus, K. Iyakutti</i>	
Quality Controlled Wavelet Compression of ECG Signals by WEDD	562
<i>M.S. Manikandan, S. Dandapat</i>	
Medical Image Retrieval by Combining Low Level Features and Dicom Features	568
<i>A.G. Selvarani, S. Annadurai</i>	

VOLUME 2

DATA MINING

Generation of Unified Data Structure and Data Warehouse for Protein Data Banks	573
<i>D.P.P. Latha, D., D.J.P. Raj, D.J.S. Sharmila</i>	
An Intelligent Data Miner Tool for a Publication Database	578
<i>B. Siva Selvan, N.P. Gopalan, K. Batri</i>	
Clustering Categorical Data using Silhouette Coefficient as a Relocating Measure	583
<i>S. Aranganayagi, K. Thangavel</i>	
Mobile Agent Based Distributed Data Mining	588
<i>U.P. Kulkarni, P.D. Desai, T. Ahmed, J.V. Vadavi, A.R. Yardi</i>	
Query Optimization for Inter Document Relationships in XML Structured Document	595
<i>R. Senthilkumar, A. Kannan, D. Vimala, M. Bhuvaneshwari</i>	

KNOWLEDGE BASED ENGINEERING

Automatic Web Page Classification by Combining Feature Selection Techniques and Lazy Learners	600
<i>M.I. R. Rajaram, K. Selvakuberan</i>	
TopExpert: A Knowledge Based Software for EM Topology Based Interaction Modelling	605
<i>V. Jithesh, R. Longjam, D.C. Pande</i>	
Concurrent Resolution in Logic Programming Using Petri Net Models	610
<i>A. Bhattacharya, A. Konar, A.K. Mandal</i>	
On the Implementation of a Knowledge Management Tool for SPI	615
<i>K. Alagarsamy, S. Justus, K. Iyakutti</i>	
Cluster Validation using Splitting and Merging Technique	623
<i>A.K. Das, J. Sil</i>	
Automated Reasoning Tool for the Detection of Race Conditions in Web Services	628
<i>K. Sathiyamurthy, S.A.M. Sophia, A. Ashalatha, P. Sujitha</i>	
Algorithm for Efficient Data Mining	633
<i>S.P. Latha, N. Ramaraj</i>	
Neural Network based Interpolation of Wind Tunnel Test Data	638
<i>S.T. Selvi, S. Rama, E. Mahendran</i>	
Association Rule Mining with Dynamic Adaptive Support Thresholds for Associative Classification	643
<i>C.S.K. Selvi, A. Tamilarasi</i>	
Mining Analysis of SIS database using Rough Set Theory	648
<i>P. Ramasubramanian, K. Iyakutti, V. Sureshkumar, P. Thangavelu</i>	
Knowledge Discovery from Web Usage Data: Extraction of Sequential Patterns through ART1 Neural Network based Clustering Algorithm	655
<i>G.T. Raju, Kunal, P.S. Satyanarayana</i>	
Intelligent Negotiating Agent in Steel Procurement Process	660
<i>B.B. Sarkar, P. Kundu</i>	

Web Document Clustering Technique Using Case Grammar Structure	665
<i>K.P. Supreethi, E.V. Prasad</i>	
Semantic Web Enabled Resource Scheduler: An Approach using Temporal Extensions to Ontologies	670
<i>S. Marwaha, M. Gupta, M. Bansal, P. Bedi</i>	
Distributed Meeting Scheduler – A Knowledge Based Approach to Schedule Meetings	677
<i>K. Saruladha, C. Priya, S. Rohini</i>	
Machine Learning Techniques for Automated Web Page Classification using URL Features.....	683
<i>I. Devi, R. Rajaram, K. Selvakuberan</i>	

LEARNING ALGORITHMS

Efficient Dimensionality Reduction Approaches for Feature Selection	686
<i>C. Deisy, B. Subbulakshmi, S. Baskar, N. Ramaraj</i>	
Tamil Document Summarization Using Semantic Graph Method.....	693
<i>M. Banu, C. Karthika, P. Sudarmani, T.V. Geetha</i>	
Rule Mining Algorithm with a New Ant Colony Optimization Algorithm	700
<i>K. Thangavel, P. Jaganathan</i>	
Intelligent Information Extraction with Soft Matching Rules and Knowledge Discovery using Genetic Algorithm for Text Mining.....	706
<i>A. Christy, P. Thambidurai</i>	
A Level Structure Based Hybrid Evolutionary Algorithm for the Edge Bisection Problem.....	711
<i>R. Sharma, K. Srivastava</i>	
CPPA: A Fast Coverage Algorithm.....	716
<i>S. Surve, N.M. Singh, B.K. Lande</i>	

LOGIC SYNTHESIS

Neural Network Based Macromodels for High Level Power Estimation.....	722
<i>K. Roy</i>	
Input Variable Partitioning Method for Functional Decomposition of Functions Specified by Large Truth Tables.....	727
<i>P. Morawiecki, M. Rawski, H. Selvaraj</i>	
A High Speed Block Convolution using Ancient Indian Vedic Mathematics	732
<i>M.C. Hanumantharaju, H. Jayalaxmi, R.K. Renuka, M. Ravishankar</i>	
Performance Analysis of DVS Algorithms for Reducing Processor Energy Consumption.....	737
<i>A. Chilambuchelvan, S. Saravanan, J.R.P. Perinbam</i>	
Efficient Implementation of AES Algorithm in FPGA Device.....	742
<i>S. Kaur, R. Vig</i>	
An Efficient Montgomery Multiplication Algorithm and RSA Cryptographic Processor	751
<i>R. Garg, R. Vig</i>	
Implementation of Interval Arithmetic Algorithms on FPGAs	759
<i>R. Shettar, R.M. Banakar, P.S.V. Nataraj</i>	

A 8-Bit TIQ Based 780 MSPS CMOS Flash A/D Converter	764
<i>J. Ramesh, K. Gunavathi</i>	

PATTERN RECOGNITION

Face Recognition by Multiresolution Curvelet Transform on Bit Quantized Facial Images	769
<i>A. Majumdar, A. Bhattacharya</i>	
Generalized Branch and Bound Algorithm for Feature Subset Selection	774
<i>P. Viswanath, P.V. Kumar, V.S. Babu, M.V. Kumar</i>	
A Robust Wavelet-based Text-Independent Speaker Identification	779
<i>P.T. Nghia, P.V. Binh, N.H. Thai, N.T. Ha, P. Kumsawat</i>	
Handwritten Kannada Numeral Recognition Based on Structural Features	784
<i>B.V. Dhandra, R.G. Benne, M. Hangarge</i>	
A Comparative Analysis of Unsupervised K-means, PSO and Self-Organizing PSO for Image Clustering	789
<i>S.C. Satapathy, B.N.V.S.S.V. Prasada Rao, J.V.R. Murthy, P.V.G.D. Prasad Reddy</i>	
Classification of Texture Rotation Invariant in Images Using Feature Distributions	798
<i>B.E. Ramesh, B. Shadaksharappa, S.V. Gangashetty</i>	
An Approach to Cartographic Object Extraction from High Resolution Satellite Imagery	803
<i>T.T. Mirnalinee</i>	
Orthogonal Moments based Texture Analysis of CT Liver Images	809
<i>V.S. Bharathi, M.A.L. Vijilious, L. Ganesan</i>	
Feature Extraction and Dimensionality Reduction Using Radon and Fourier Transforms with Application to Face Recognition	816
<i>D.V. Jadhao, R.S. Holambe</i>	
Defect Detection in Patterned Fabrics Using Modified Local Binary Patterns	823
<i>F. Tajeripour, E. Kabir, A. Sheikhi</i>	
Recognition of Postal Codes from Fingerspelling Video Sequence	831
<i>D.S. Guru, M.G. Suraj</i>	
Hybrid Learning using Multiobjective Genetic Algorithms and Decision trees for Power Quality Disturbance Pattern Recognition	836
<i>B.V. Krishna, K. Baskaran</i>	
Fingerprint Verification using Gabor Co-occurrence Features	841
<i>S. Arivazhagan, T.G. Arul Flora, L. Ganesan</i>	
An Improved Associative Classifier	846
<i>S. Rodda, M. Shashi</i>	
A Rough Set Based Associative Classifier	851
<i>S. Rodda, M. Shashi</i>	
Comparison of Statistical and Structural Features for Handwritten Numeral Recognition	856
<i>B.P. Chacko, P.B. Anto</i>	
Face Recognition using Multi-Resolution Transform	861
<i>S. Arivazhagan, J. Mumtaj, L. Ganesan</i>	
Estimating the Skin Cancer using Fractals	867
<i>G. Jayalalita, R. Uthayakumar</i>	

Symbolic Representation of On-line Signatures	873
<i>D.S. Guru, H.N. Prakash</i>	
Performance Analysis of Accelerated Quickreduct Algorithm	878
<i>A. Pethalakshmi, K. Thangavel</i>	
Detecting Patterns in Irregular Time Series with Fractal Dimension	883
<i>P. Paramanathan, R. Uthayakumar</i>	
A Minimal Channel Set for Individual Identification with EEG Biometric Using Genetic Algorithm	888
<i>K.V.R. Ravi, R. Palaniappan</i>	
Fractal Modeling of Mammograms based on Mean and Variance for the Detection of Microcalcifications	894
<i>D. Sankar, T. Thomas</i>	
Pattern Recognition in South Indian Classical Music using a Hybrid of HMM and DTW	899
<i>M.S. Sinith, K. Rajeev</i>	
Multiple Classifiers for Unconstrained Offline Handwritten Numeral Recognition	904
<i>P.K. Sharma</i>	
An OCR System for Printed Kannada Text using Two-stage Multi-network Classification Approach Employing Wavelet Features	909
<i>R.S. Kunte, R.D.S. Samuel</i>	
Face Detection using a Modified SVM-based Classifier	916
<i>M. Roohi, G. Mirjalily, M.T. Sadeghi</i>	
Malayalam Vowel Recognition Based On Linear Predictive Coding Parameters and k-NN Algorithm	921
<i>T.M. Thasleema, V. Kabeer, N.K. Narayanan</i>	
Wavelet Feature Based Confusion Character Sets for Gujarati Script	926
<i>J. Dholakia, A. Yajnik, A. Negi</i>	
Boosting Framework for Face Recognition	932
<i>E.A.K. James, S. Annadurai</i>	
Automatic Drusen Detection from Colour Retinal Images	937
<i>S.S. Parvathi, N. Devi</i>	
A Technique Based on Neural Network for Predicting the Secondary Structure of Proteins	942
<i>P. Agarwal, S.A.M. Rizvi</i>	
Gabor Wavelet Feature Based Face Recognition Using the Fractional Power Polynomial Kernel Fisher Discriminant Model	947
<i>D.V. Jadhao, R.S. Holambre</i>	
Segmentation, Recognition and Synthesis of Tamil Characters for Robotic Writing	954
<i>S. Batmavady, K. Manivannan, P.C. Janvier</i>	
A Two Stage Classification Approach for Handwritten Devanagari Characters	959
<i>S. Arora, D. Bhattacharjee, M. Nasipuri, L. Malik</i>	
A Projection Based Statistical Approach for Handwritten Character Recognition	964
<i>S. Pal, J. Mitra, S. Ghose, P. Banerjee</i>	
Combining Gabor Local Texture Pattern and Wavelet Global Features for Fingerprint Matching	972
<i>S.B. Nikam, P. Goel, R. Tapadar, S. Agarwal</i>	
Multi- Biometrics Approach for Facial Recognition	978
<i>C. Nandini, C.N. RaviKumar</i>	

Illumination Invariant Character Recognition using Binarized Gabor Features	983
<i>S. Urolagin, K.V. Prema, N.V.S. Reddy</i>	
A Novel Feature Extraction Technique for Face Recognition.....	991
<i>J.S. Rani, D. Devaraj, R. Sukanesh</i>	
Face Recognition using Wavelet Transform and Locally Discriminating Projection	996
<i>M. Sujaritha, S. Annadurai</i>	
Evaluation of Edge Detection Techniques towards Implementation of Automatic Target Recognition	1001
<i>J. Manikandan, B. Venkataramani, M. Jayachandran</i>	
Neural Network Based Offline Tamil Handwritten Character Recognition System	1006
<i>J. Sutha, N. Ramaraj</i>	
Variance Based Extraction and Hidden Markov Model Based Verification of Signatures Present on Bank Cheques	1011
<i>R. Jayadevan, S. Subbaraman, P.M. Patil</i>	
Performance Evaluation of Kernel Based Techniques for Brain MRI Data Classification.....	1016
<i>D. Selvathi, R.S. Ram Prakash, S. Thamarai Selvi</i>	
Offline Handwritten Character Detection using Image Components	1021
<i>L. Basavaraj, R.D.S. Samuel</i>	
Analysis of Living and Dead Finger Impression Identification for Biometric Applications	1026
<i>P. Sengottuvelan, A. Wahi</i>	
Global and Local Features Based Handwritten Text Words and Numerals Script Identification.....	1031
<i>B.V. Dhandra, M. Hangarge</i>	
Iris Recognition Implementing Forward Backward HMM GRASP and Tabu Search	1036
<i>V. Nair, J.J. Kizhakethottam</i>	
1D Wavelet Transform of Projection Profiles for Isolated Handwritten Malayalam Character Recognition.....	1041
<i>R. John, G. Raju, D.S. Guru</i>	
Performance Analysis of Feature Extraction Schemes for Artificial Neural Network Based ECG Classification.....	1046
<i>R. Ghongade, A.A. Ghatol</i>	
Automatic Rotational Invariant Texture Segmentation	1051
<i>T. Ray, P.K. Dutta</i>	
Mining Gene Expression Data using Enhanced Intelligence Clustering and Memory Reduction Techniques.....	1056
<i>B. Sathiyabhama, N.P. Gopalan</i>	
A Novel Fingerprint Recognition System with Direction Angles Difference	1061
<i>M.V. Karki, S.S. Selvi</i>	
An Off line Cursive Script Recognition System using Fourier-Wavelet Features.....	1066
<i>K. Indira, S. Selvi</i>	
Detection of T-waves in 12-Lead Electrocardiogram.....	1072
<i>S.S. Mehta, N.S. Lingayat</i>	
Pattern Recognition with Localized Gabor Wavelet Grids	1077
<i>B.V. Kumar, D.R.S. Sharan</i>	

Clustering Principal Components for Identification and Analysis of Prime Activity and Accompanying Activities in Scattered fMRI Data	1082
<i>H.N. Suma, S. Murali</i>	
Bacteria Foraging Based Independent Component Analysis	1087
<i>D.P. Acharya, G. Panda, S. Mishra, Y.V.S. Lakshmi</i>	
Multiple Textured Objects Segmentation using DWT based Texture Features in Geodesic Active Contour	1092
<i>S. Prakash</i>	
Classifying Mammogram Images Using Fractal Features.....	1099
<i>S. Don, K. Revathy</i>	
Audio Signal Classification Based on Optimal Wavelet and Support Vector Machine	1104
<i>R.S.S. Kumari, D. Sugumar, V. Sadasivam</i>	
A Study on Human Hair Analysis and Synthesis	1109
<i>V. Vijayakumar, R. Bremanath</i>	
Author Index	