

Table of Contents

Machine Learning and Soft Computing

Effective Evolutionary Multimodal Optimization by Multiobjective Reformulation Without Explicit Niching/Sharing	1
<i>R. Kumar and P. Rockett</i>	
Development of Genetic Algorithm Embedded KNN for Fingerprint Recognition .	9
<i>H.R.S. Reddy and N.V.S. Reddy</i>	
Genetic IMM_NN Based Tracking of Multiple Point Targets in Infrared Image Sequence	17
<i>M.A. Zaveri, S.N. Merchant, and U.B. Desai</i>	
Finding the Natural Groupings in a Data Set Using Genetic Algorithms	26
<i>N. Chowdhury and P. Jana</i>	
Volumetric Measurement of Heart Using PA and Lateral View of Chest Radiograph	34
<i>I.C. Mehta, Z.J. Khan, and R.R. Khotpal</i>	
On the Optimization of Fuzzy Relation Equations with Continuous t-Norm and with Linear Objective Function	41
<i>D. Pandey</i>	
Progressive Boosting for Classifier Committee Learning	52
<i>Md.W.H. Sadid, Md.N.I. Mondal, Md.S. Alam, A.S.Md. Sohail, and B. Ahmed</i>	

Scheduling, Optimisation and Constraint Solving

Parallel SAT Solving with Microcontrollers	59
<i>T. Schubert and B. Becker</i>	
Flow Shop Scheduling with Late Work Criterion – Choosing the Best Solution Strategy	68
<i>J. Blazewicz, E. Pesch, M. Sterna, and F. Werner</i>	
GA-Based Multiple Route Selection for Car Navigation	76
<i>B. Chakraborty</i>	
Genetic Algorithm for Airline Crew Scheduling Problem Using Cost-Based Uniform Crossover	84
<i>K. Kotecha, G. Sanghani, and N. Gambhava</i>	

Neural Networks and SVMs

Neural Network and Wavelets in Arrhythmia Classification	92
<i>V. Jain and J.S. Sahambi</i>	
ECG Arrhythmia Analysis by Multicategory Support Vector Machine	100
<i>M.S. Khadtare and J.S. Sahambi</i>	
Approximation of Multi-pattern to Single-Pattern Functions by Combining FeedForward Neural Networks and Support Vector Machines	108
<i>V.H. Pakka</i>	
Comparison of Numerical Integration Algorithms in Raster CNN Simulation	115
<i>V. Murgesh and K. Murugesan</i>	

Natural Language Processing and Information Retrieval

Morphological Analyzer for Manipuri: Design and Implementation	123
<i>S.I. Choudhury, L.S. Singh, S. Borgohain, and P.K. Das</i>	
Using Selectional Restrictions for Real Word Error Correction	130
<i>R.S.D. Wahida Banu and R. Sathish Kumar</i>	
Mining Top – k Ranked Webpages Using Simulated Annealing and Genetic Algorithms	137
<i>P. Deepa Shenoy, K.G. Srinivasa, A.O. Thomas, K.R. Venugopal, and L.M. Patnaik</i>	
Using Document Dimensions for Enhanced Information Retrieval	145
<i>T. Jayasooriya and S. Manandhar</i>	

Speech and Signal Processing

Effect of Phonetic Modeling on Manipuri Digit Recognition Systems Using CDHMMs	153
<i>S.I. Choudhury and P.K. Das</i>	
Building Language Models for Tamil Speech Recognition System	161
<i>S. Saraswathi and T.V. Geetha</i>	
Implementation of Tamil Speech Recognition System Using Neural Networks . . .	169
<i>S. Saraswathi and T.V. Geetha</i>	
Introducing Pitch Modification in Residual Excited LPC Based Tamil Text-to-Speech Synthesis	177
<i>M.V. Krithiga and T.V. Geetha</i>	
Separation Performance of ICA Algorithms on FECG and MECG Signals Contaminated by Noise	184
<i>S.D. Parmar, H.K. Patel, and J.S. Sahambi</i>	

Networks and Mobile Computing

Evaluation of BER/PER Performance of a FLAMINGO Network	191
<i>S.P. Majumder and S. Dey</i>	
Fault Tolerance Studies for Wormhole Routing in Multiconnected Double-Loop Networks	198
<i>R. Vasappanavara, S. Kandula, and N. Chalamaiah</i>	
Applications and Parallel Implementations of Metaheuristics in Network Design and Routing	205
<i>S.L. Martins, C.C. Ribeiro, and I. Rosseti</i>	
Comparison of Integrated Micro and Macro Mobility Protocols	214
<i>D. Saraswady, V. Sai Prithiv, and S. Shanmugavel</i>	
Genetic Algorithm Based Optimization for Location Update and Paging in Mobile Networks	222
<i>A. Chandra and K. Mal</i>	

Parallel, Grid and High Performance Computing

Global Backfilling Scheduling in Multiclusters	232
<i>J. Yue</i>	
Computation of Ternary Covering Arrays Using a Grid	240
<i>J. Torres-Jimenez, C. De Alfonso, and V. Hernández</i>	
Impact of Algorithm Design in Implementing Real-Time Active Control Systems	247
<i>M.A. Hossain, M.O. Tokhi, and K.P. Dahal</i>	
An Efficient Technique for Dynamic Slicing of Concurrent Java Programs	255
<i>D.P. Mohapatra, R. Mall, and R. Kumar</i>	
A Simple Delay Testable Synthesis of Symmetric Functions	263
<i>H. Rahaman and D.K. Das</i>	

Innovative Applications for the Developing World

VOBA – A Voice Based Newsgroup	271
<i>U.B. Desai, N. Balachander, P. Dinakar, and V. Madhavan</i>	
An ICT Based Framework for Improving Rural Credit Delivery	279
<i>S.S. Satchidananda and S. Srinivasa</i>	
An Approach Towards a Decentralised Disaster Management Information Network	287
<i>M. Scalem, S. Bandyopadhyay, and A.K. Sircar</i>	

A Web-Based Examination System in the Context of Bangladesh 296
S. Dey and S. Mahmud

Cryptography and Security

Trust and Security Realization for Mobile Users in GSM Cellular Networks 302
J. Venkatraman, V. Raghavan, D. Das, and A.K. Talukder

A Software Agent Based Approach for Fraud Detection in Network Crimes 310
M.R. Patra and B.B. Jayasingh

An Ontology for Network Security Attacks 317
A. Simmonds, P. Sandilands, and L.van Ekert

Ensuring e-Security Using a Private-Key Cryptographic System
Following Recursive Positional Modulo-2 Substitutions 324
S. Dutta and J.K. Mandal

Author Index 333

Applied Computing

Second Asian Applied Computing Conference, AACC

2004, Kathmandu, Nepal, October 29-31, 2004.

Proceedings

Manandhar, S.; Austin, J.; Desai, U.; Oyanagi, Y.;

Talukder, A. (Eds.)

2004, XII, 340 p., Softcover

ISBN: 978-3-540-23659-7