

Technical Sessions

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- [Poster Session I \(December 21, 2005\)](#)
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December 20, 2005 11:40 AM -- 1:00 PM		
Session - 1	Session - 2	Session - 3
Rough Set Foundations Spl. Session Chair: Dr. Dominik Slezak Venue : New Academic Building (Room No. 2)	Pattern Recognition I Chair : Dr. A. K. Jain Venue : New Academic Building (Room No. 1)	Image Processing I Chair : Dr. Rama Chellappa Venue : Geology Auditorium
<p>1. Title: Approximation Spaces in Machine Learning and Pattern Recognition</p> <p>Authors: Andrzej Skowron, Jaroslaw Stepaniuk and Roman Swiniarski</p> <p>2. Title: Rough Contraction through Partial Meets</p> <p>Authors: Mohua Banerjee and Pankaj Singh</p> <p>3. Title: Parallel Island Model for Attribute Reduction</p> <p>Authors: Mohammad M. Rahman, Dominik Slezak and Jakub Wroblewski</p> <p>4. Title: Probability Measures for Prediction in Multi-Table Information Systems</p> <p>Authors: R. S. Milton, V. Uma Maheswari and Arul Siromoney</p>	<p>1. Title: An Efficient Hybrid Hierarchical Agglomerative Clustering (HHAC) Technique for Partitioning Large Data Sets</p> <p>Authors: P. A. Vijaya, M. Narasimha Murty and D. K. Subramanian</p> <p>2. Title: On Simultaneous Selection of Prototypes and Features in Large Data</p> <p>Authors: T. Ravindra Babu, M. Narasimha Murty and V. K. Agrawal</p> <p>3. Title: Clustering Within Quantum Mechanical framework</p> <p>Author: Guleser K. Demir</p> <p>4. Title: Feature extraction for nonlinear classification</p> <p>Authors: Anil K. Ghosh and Smarajit Bose</p>	<p>1. Title: Unsupervised Classification of Remote Sensing Data using Graph Cut-Based Initialization</p> <p>Authors: Mayank Tyagi, Ankit K Mehra, Subhasis Chaudhuri and Lorenzo Bruzzone</p> <p>2. Title: Eigen Transformation based Edge Detector for Gray Images</p> <p>Authors: P. Nagabhushan, D.S. Guru, B.H. Shekar</p> <p>3. Title: Image Enhancement By High-order Gaussian Derivative Filters Simulating Non-classical Receptive Fields in the Human Visual System</p> <p>Authors: Kuntal Ghosh, Sandip Sarkar and Kamales Bhaumik</p> <p>4. Title: A New Approach for High-Dimensional Unsupervised Learning: Applications to Image Restoration</p> <p>Authors: Nizar Bouguila and Djemel Ziou</p>

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December 20, 2005 3:00 PM -- 5:00 PM		
Session - 1	Session - 2	Session - 3
<p>Rough Set Theoretic Approaches to Spatio-Temporal Data Spl. Session Chair: Dr. Mohua Banerjee Venue : New Academic Building (Room No. 1)</p>	<p>Symbolic Data Analysis Spl. Session Chair : Dr. Basu Tallur Venue : New Academic Building (Room No. 2)</p>	<p>Gesture Recognition Chair : Dr. Brian Lovell Venue : Geology Auditorium</p>
<p>1.Title: On-line Elimination of Non-relevant Parts of Complex Objects in the Behavioral Pattern Identification Authors: Jan G. Bazan and Andrzej Skowron</p> <p>2. Title: Object Extraction in Gray-scale Images by Optimizing Roughness Measure of a Fuzzy Set Authors: D.V. Janardhan Rao, Mohua Banerjee, and Pabitra Mitra</p> <p>3.Title:Eliciting Domain Knowledge in Handwritten Digit Recognition Authors: Tuan Trung Nguyen</p> <p>4. Title: A Rough Sets Based Magnetic Resonance Imaging Partial Volume Detection System Authors: Sebastian Widz, Kenneth Revett and Dominik Slezak</p> <p>5. Title: Learning of General Cases Authors: Silke Janichen, Petra Perner</p>	<p>1.Title: The linear Factorial Smoothing for Analysis of Incomplete Data Authors: Basavanneppa Tallur</p> <p>2. Title: Symbolic data structure for postal address Representation and Address Validation through Symbolic Knowledge Base Authors: P. Nagabhusan, S. A. Angadi and B. S. Anami</p> <p>3. Title: Linear Regression for Dimensionality Reduction and Classification of Multi Dimensional Data Authors: Lalitha Rangarajan and P. Nagabhusan</p> <p>4. Title: Face Recognition Technique Using Symbolic PCA Method Authors: P.S. Hiremath and Prabhakar C. J</p> <p>5. Title: Fuzzy-Symbolic Analysis for Classification of Symbolic Data Authors: Dinesh M.S., K.C. Gowda, P. Nagabhusan</p>	<p>1. Title: Estimation of 2D Motion Trajectories from Video Object Planes and Its Application to Hand Gesture Recognition Authors: M. K. Bhuyan, D. Ghosh and P.K.Bora</p> <p>2. Title: Facial Asymmetry in Frequency Domain: The "Phase" Connection Authors: Sinjini Mitra Marios Savvides and B.V.K. Vijaya Kumar</p> <p>3. Title: Face Recognition using Topological Manifolds Learning Authors: Cao Wenming and Lu Fei</p> <p>4. Title: Human Computer Interaction System with Artificial Neural Network Using Motion Tracker and Data Glove Authors: Cemil Oz and Ming C. Leu</p> <p>5. Title: 3D Facial Pose Tracking in Uncalibrated Videos Authors: Gaurav Aggarwal, Ashok Veeraraghavan and Rama Chellappa</p> <p>6. Title: Linear Penalization Support Vector Machines for Feature Selection Authors: Jaime Miranda, Ricardo Montoya, Richard Weber</p>

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December 21, 2005 9:35 AM - 10:35 AM		
Session - 1	Session - 2	Session - 3
Evolutionary Computation Chair : Dr. D. Dutta Majumder Venue : New Academic Building (Room No. 2)	Image Processing II Chair: Dr. Lorenzo Bruzzone Venue : Geology Auditorium	Biomedical Applications Chair : Dr.. Michael Zhang Venue : New Academic Building (Room No. 1)
<p>1. Title: Incorporating Distance Domination in Multiobjective Evolutionary Algorithm</p> <p>Authors: P.K. Tripathi, S. Bandyopadhyay and S.K. Pal</p> <p>2. Title: I-EMO: An Interactive Evolutionary Multi-Objective Optimization Tool</p> <p>Authors: Kalyanmoy Deb and Shamik Chaudhuri</p> <p>3. Title: Systematically Evolving Configuration Parameters for Computational Intelligence Methods</p> <p>Authors: Jason M. Proctor, Rosina Weber</p>	<p>1. Title: Fusing Depth and Video using Rao-Blackwellized Particle Filter</p> <p>Authors: Amit Agrawal and Rama Chellappa</p> <p>2. Title: An Improved Shape Descriptor Using Bezier Curves</p> <p>Authors: Ferdous Ahmed Sohel, Gour C. Karmakar and Laurence S. Dooley</p> <p>3. Title: Signal Processing for Digital Image Enhancement Considering APL in PDP</p> <p>Authors: Soo-Wook Jang, Se-Jin Pyo, Eun-Su Kim, Sung-Hak Lee, and Kyu-Ik Sohng</p>	<p>1. Title: Neuronal Clustering of Brain fMRI Images</p> <p>Authors: Nicolas Lachiche Jean Hommet Jerzy Korezak and Agnes Braud</p> <p>2. Title: A Novel Algorithm for Automatic Species Identification Using Principal Component Analysis</p> <p>Authors: Shreyas Sen, Seetharam Narasimhan and Amit Konar</p> <p>3. Title: Isolation of Lung Cancer from Inflammation</p> <p>Authors: Md. Jahangir Alam, Siddeswar Ray and Hiromitsu Hama</p>

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December 21, 2005 11:40 AM - 1:00 PM

Session - 1	Session - 2	Session - 3
<p>Rough Sets in Machine Learning Spl. Session Chair: Dr. Jakub Wroblewski Venue : New Academic Building (Room No. 2)</p>	<p>Image Retrieval Chair : Dr. U. B. Desai Venue : Geology Auditorium</p>	<p>Pattern Recognition II Chair : Dr. Muhittin Gokmen Venue : New Academic Building (Room No. 1)</p>
<p>1. Title: Collaborative Rough Clustering Authors: Sushmita Mitra, Haider Banka and Witold Pedrycz</p> <p>2. Title: Outliers in Rough k-Means Clustering Authors: Georg Peters</p> <p>3. Title: Finding Interesting Rules Exploiting Rough Memberships Authors: Lipika Dey, Amir Ahmad and Sachin Kumar</p> <p>4. Title: Divisible Rough Sets Based on Self-Organizing Maps Authors: Rocío Martínez López and Miguel A. Sanz-Bobi</p>	<p>1. Title: Image Retrieval by Content using Segmentation Approach Authors: Bhogeswar Borah & Dhruva K. Bhattacharyya</p> <p>2. Title: Integration of Keyword and Feature Based Search for Image Retrieval Applications Authors: A. Vadivel, Shamik Sural and A.K.Majumdar</p> <p>3. Title: A Wavelet Based Image Retrieval Authors: Kalyani Mali, and Rana Datta Gupta</p> <p>4. Title: Use of Contourlets for Image Retrieval Authors: Rajashekhar and Subhasis Chaudhuri</p>	<p>1. Title: Handwritten Character Recognition Systems Using Image-Fusion and Fuzzy Logic Authors: Rupsa Chakraborty and Jaya Sil</p> <p>2. Title: Learning to Segment Document Images Authors: K.S. Sesh Kumar, Anoop Namboodiri and C.V. Jawahar</p> <p>3. Title: Handwritten <i>Bangla</i> Digit Recognition using Classifier Combination through DS Technique Authors: Subhadip Basu¹, Ram Sarkar, Nibaran Das, Mahantapas Kundu, Mita Nasipuri and Dipak Kumar</p> <p>4. Title: Text Similarity Measurement Using Concept Representation of Texts Authors: Abhinay Pandya and Pushpak Bhattacharyya</p>

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Poster Session - I

December 21, 2005

Time 3:25 PM – 4:55 PM

Venue: Geology Building (3rd Floor)

1. **Title** : Motion Estimation of Elastic Articulated Object from Image Points and Contours
Author(s) : Hailang Pan, Yuncai Liu and Lei Shi
2. **Title** : A Comparative Study of Different Texture Segmentation Techniques
Author(s) : Anirban Das, Madasu Hanmandlu and Shilpa Agarwal
3. **Title** : Run Length Based Steganography for Binary Images
Author(s) : Sos S. Aгаian and Ravindranath C. Cherukuri
4. **Title** : Parsing News Video using Integrated Audio-Video Features
Author(s) : S. Kalyan Krishna, Raghav Subbarao, Santanu Chaudhury and Arun Kumar
5. **Title** : A Holistic Classification System for Check Amounts Based on Neural Networks with Rejection
Author(s) : M.J. Castro, W. Diaz, F.J. Ferri, J. Ruiz-Pinales, R. Jaime-Rivas, F. Blat, S. Espana, P. Aibar, S. Grau and D. Griol
6. **Title** : A Novel 3D Face Recognition Algorithm Using Template Based Registration Strategy and Artificial Neural Networks
Author(s) : Niu Ben, Simon C. K. Shiu and Sankar K. Pal
7. **Title** : Biological Text Mining for Extraction of Proteins and Their Interactions
Author(s) : Kiho Hong, Junhyung Park, Jihoon Yang and Sungyong Park
8. **Title** : DNA Gene Expression Classification with Ensemble Classifiers Optimized by Speciated Genetic Algorithm
Author(s) : Kyung-Joong Kim and Sung-Bae Cho
9. **Title** : Parallel Sequence Alignment: A Lookahead Approach
Author(s) : Prasanta K. Jana and Nikesh Kumar
10. **Title** : Evolutionary Clustering Algorithm with Knowledge-based Evaluation for Fuzzy Cluster Analysis of Gene Expression Profiles
Author(s) : Han-Saem Park and Sung-Bae Cho

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December 22, 2005		9:35 AM - 10:35 AM	
Session - 1		Session - 2	
Support Vector Machines Chair : Dr. B. B. Chaudhuri Venue : New Academic Building (Room No. 1)		Data Mining Chair : Dr. Andrzej Skowron Venue : Geology Auditorium	
<p>1. Title: A Context-Sensitive Technique Based on Support Vector Machines for Image Classification</p> <p>Authors: Francesca Bovolo, Lorenzo Bruzzone</p> <p>2. Title: Arrhythmia Classification Using Local Holder Exponents and Support Vector Machine</p> <p>Authors: Aniruddha Joshi, Sharat Chandran, Sanjay Phadke, V. K. Jayaraman and B. D. Kulkarni</p>		<p>1. Title: Finding Locally and Periodically Frequent Sets and Periodic Association Rules</p> <p>Authors: Fokrul Alom Mazarbhuiya, A. Kakoti Mahanta and H. K. Baruah</p> <p>2. Title: Density-Based View Materialization</p> <p>Authors: A Das and D K Bhattacharyya</p> <p>3. Title: A Hybrid Data and Space Partitioning Technique for Similarity Queries on Bounded Clusters</p> <p>Authors: P.K. Bhunre, C.A. Murthy, Arijit Bishnu, B.B. Bhattacharya and M.K. Kundu</p>	

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December 22, 2005 11:40 AM - 1:00 PM

Session - 1	Session - 2	Session - 3
Bioinformatics Chair : Dr. Michael Zhang Venue : New Academic Building (Room No. 2)	Image Processing III Chair : Dr. V. D. Gesu Venue : Geology Auditorium	Pattern Recognition III Chair : Dr. Simon C. K. Shiu Venue : New Academic Building (Room No. 1)
<p>1. Title: Analyzing the Effect of Prior Knowledge in Genetic Regulatory Network Inference</p> <p>Authors: Gustavo Bastos and Katia Guimarães</p> <p>2. Title: Intelligent Data Recognition of DNA Sequences Using Statistical Models</p> <p>Authors: Jitimon Keinduangjun, Punpiti Piamsanga, and Yong Poovarawan</p> <p>3. Title: New Genetic Operators for Solving TSP: Application to Microarray Gene Ordering</p> <p>Authors: Shubhra Sankar Ray, Sanghamitra Bandyopadhyay and Sankar K. Pal</p> <p>4. Title: Genetic Algorithm for Double Digest Problem</p> <p>Authors: S. Surkolay, S. Banerjee, S. Mukhopadhyaya and C. A. Murthy</p>	<p>1. Title: A Novel CAM for the Luminance Levels in the Same Chromaticity Viewing Conditions</p> <p>Authors: Soo-Wook Jang, Eun-Su Kim, Sung-Hak Lee and Kyu-Ik Song</p> <p>2. Title: Hybrid Hierarchical Learning from Dynamic Scenes</p> <p>Authors: Prithwjit Guha, Pradeep Vaghela, Pabitra Mitra, Amitabha Mukerjee, K.S. Venkatesh</p> <p>3. Title: Applications of the Discrete Hodge-Helmholtz Decomposition to Image and Video Processing</p> <p>Authors: Biswaroop Palit, Mrinal K. Mandal and Anup Basu</p> <p>4. Title: An Edge-based Moving Object Detection for Video Surveillance</p> <p>Authors: M. Julius Hossain and Ok-Sam Chae</p>	<p>1. Title: Design of Two-dimensional IIR Filters Using an Improved DE Algorithm</p> <p>Authors: Swagatam Das and Debangshu Dey</p> <p>2. Title: A Split-based Method for Polygonal Approximation of Shape Curves</p> <p>Authors: R. Dinesh, Santhosh S Damle and D.S Guru</p> <p>3. Title: Anomaly Detection in a Multi-engine Aircraft</p> <p>Authors: Dinkar Mylaraswamy</p> <p>4. Title: Recognition of Fault Signature Patterns Using Fuzzy Logic for Prevention of Breakdowns in Steel Continuous Casting Process</p> <p>Authors: Arya K. Bhattacharya, P. S. Srinivas, K. Chithra, S. V. Jatla and Jadav Das</p>

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December 22, 2005		2:00 PM- 3:40 PM
Session - 1	Session - 2	
Security Chair : Dr. D. P. Mukherjee Venue : New Academic Building (Room No. 1)	Applications Chair: Dr. Bhargab B. Bhattacharya Venue : Geology Auditorium	
<p>1. Title: A Chosen Plaintext Steganalysis of Hide4PGP V 2.0</p> <p>Authors: Debasis Mazumdar, Soma Mitra, Sonali Dhali and Sankar K. Pal</p> <p>2. Title: An Efficient Parzen-Window Based Network Intrusion Detector Using A Pattern Synthesis Technique</p> <p>Authors: P. Viswanath M. Narasimha Murty and Satish Kambala</p> <p>3. Title: A Hybrid Approach To Digital Image Watermarking Using Singular Value Decomposition and Spread Spectrum</p> <p>Authors: Kunal Bhandari, Suman K. Mitra and Ashish Jadhav</p> <p>4. Title: An Information Hiding Framework for Lightweight Mobile Devices with Digital Camera</p> <p>Authors: Subhamoy Maitra, Tanmoy Kanti Das and Jianying Zhou.</p> <p>5. Title: Effective Intrusion Type Identification with Edit Distance for HMM-based Anomaly Detection System</p> <p>Authors: Ja-Min Koo and Sung-Bae Cho</p>	<p>1. Title: Classification of Remotely Sensed Images Using Neural-Network Ensemble and Fuzzy Integration</p> <p>Authors: G. Mallikarjun Reddy and B. Krishna Mohan</p> <p>2. Title: Isothetic Polygonal Approximations of a 2D Object on Generalized Grid</p> <p>Authors: Partha Bhowmick, Arindam Biswas, Bhargab B. Bhattacharya</p> <p>3. Title: Specifying Spatio Temporal Relations for Multimedia Ontologies</p> <p>Authors: Karthik Thatipamula, Santanu Chaudhury and Hiranmay Ghosh</p> <p>4. Title: A Combined fBm and PPCA Based Signal Model for On-line Recognition of PD Signal</p> <p>Authors: Pradeep Kumar Shetty</p>	

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Poster Session-II
December 22, 2005
Time 3:40 PM – 5:10 PM
Venue: Geology Building (3rd Floor)

1. **Title** : Intelligent Learning Rules For A Fuzzy Control of A Vibrating Screen
Author(s) : Claudio Ponce S and Ernesto Ponce
2. **Title** : An Evolutionary SPDE Breeding- based Hybrid Particle Swarm Optimizer:
Application in Coordination of Robot Ants for Camera Coverage Area
Optimization
Author(s) : Debraj De, Sonai Ray, Amit Konar and Amita Chatterjee
3. **Title** : Development of an Adaptive Fuzzy Logic Based Control Law for a Mobile Robot
with an Uncalibrated Camera System
Author(s) : T. Das and I. N. Kar
4. **Title** : A Hybrid Approach to Speaker Recognition in Multi-speaker Environment
Author(s) : Jigish Trivedi, Anutosh Maitra and Suman Mitra
5. **Title** : An Improved Differential Evolution Scheme for Noisy Optimization
Problems
Author(s) : Swagatam Das and Amit Konar
6. **Title** : Knowledge Enhancement through Ontology-guided Text Mining
Author(s) : Md. Abulaish and Lipika Dey
7. **Title** : Design of Hierarchical Classifier with Hybrid Architectures
Author(s) : M.N.S.S.K. Pawan Kumar and C. V. Jawahar
8. **Title** : An Optimum RBF Network for Signal Detection In Non-Gaussian Noise
Author(s) : D. G. Khainar, S. N. Merchant and U. B. Desai
9. **Title** : Simultaneous Multiobjective Multiple Route Selection Using Genetic Algorithm
for Car Navigation
Author : Basabi Chakraborty
10. **Title** : Fuzzy Proximal Support Vector Classification via Generalized
Eigenvalues
Author(s) : Jayadeva, Reshma Khemchandani and Suresh Chandra
11. **Title** : Segmentation of MR Images of the Human Brain Using Fuzzy Adaptive
Radial Basis Function Neural Network
Author(s) : Jamuna Kanta Sing, Dipak K. Basu, Mita Nasipuri and Mahantapas
Kundu

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December 22, 2005 5:10 PM - 6:30 PM

Session - 1	Session - 2	Session - 3
Case-Based Reasoning and Knowledge Discovery Integrations Spl. Session Chair : Dr. Kalyanmoy Gupta Venue : New Academic Building (Room No. 1)	Soft Computing Applied in Electrical Engg. Spl. Session Chair : Dr. Petr Ya. Ekel. Venue : New Academic Building (Room No. 2)	Web Intelligence Chair : Dr. B. Chanda Venue : Geology Auditorium
<p>1. Title: Learning Similarity Measure of Nominal Feature in CBR Classifiers</p> <p>Authors: Yan Li, Simon C. K. Shiu, Sankar K. Pal & James Nga-Kwok Liu</p> <p>2. Title: Decision Tree Induction with CBR</p> <p>Authors: Radhika Selvamani & Deepak Khemani</p> <p>3. Title: Rough Set Feature Selection Methods for Case-based Categorization of Text Documents</p> <p>Authors: Kalyan M Gupta, Philip G. Moore , David W. Aha & Sankar K. Pal</p>	<p>1. Title: Fuzzy Logic Based Control of Voltage and Reactive Power in Subtransmission System</p> <p>Authors: Ana Braga, Ricardo Carnevalli, Petr Ekel , Marcelo Gontijo, Marcio Junges, Bernadete Mendonca Neta & Reinaldo Palhares</p> <p>2. Title: A Voltage Sag Pattern Classification Technique</p> <p>Authors: Delio Fernandes, Mario Fabiano, Pyramo Costa Jr.,</p> <p>3. Title: Recurrent Neural Approaches for Power Transformers Thermal Modeling</p> <p>Authors: Michel Hell, Luiz Secco, Pyramo Costa Jr., Fernando Gomide</p> <p>4. Title: Artificial Neural Network Engine: Parallel and Parameterized Architecture Implemented in FPGA</p> <p>Authors: Milene B. Carvalho, Alexandre M. Amara, Luiz Eduardo da Silva Ramos, Carlos Augusto Paiva da Silva Martins and Petr Ekel</p>	<p>1. Title: Distribution Based Stemmer Refinement</p> <p>Authors: B. L. Narayan and Sankar K. Pal</p> <p>2. Title: Multi-Objective Optimization for Adaptive Web Site Generation</p> <p>Authors: Prateek Jain and Pabitra Mitra</p> <p>3. Title: An Automatic Approach to Classify Web Documents Using a Domain Ontology</p> <p>Authors: Mu-Hee Song, Soo-Yeon Lim, Seong-Bae Park, Dong-Jin Kang and Sang-Jo Lee</p> <p>4. Title: Speeding up Web Access Using Weighted Association Rules</p> <p>Authors: Abhinav Srivastava, Abhijit Bhosale and Shamik Sural</p>

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Size of the Posters

During the poster presentation you are expected to explain your work orally to interested participants. For presentation only **one poster area** per accepted paper is allowed.

Maximum size of a **poster area** is **38 inches x 44 inches (width x height)**.

Poster should be legible from a distance (~ 5 feet) to permit viewing by more than one person at a time.

There are poster boards available for display and board pins to put up your posters. It is acceptable to pin smaller sheets (e.g., A4 size papers) together to tile the poster area.

The header of your poster should state the title of the paper followed by the names of the authors and their affiliations.

All posters should be displayed in the pre-numbered locations at the site for poster presentations.

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