



**2<sup>nd</sup> Indian International Conference on Artificial Intelligence (IICAI-05)**  
**December 20-22 2005, National Insurance Academy Pune,**  
**25, Balewadi, Baner Road, Pune - 411 045, India**  
**[www.iiconference.org](http://www.iiconference.org)**

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Nov 21 2005

**Conference Schedule**  
**(Version -2)**

**Note 1:** The authors SHOULD bring their presentations in a flash drive or a CD (Zip drive and Floppy **will not be acceptable**).

**Note 2:** Please keep a valid ID always during the conference and banquet.

Authors of around 60 accepted papers mentioned that they cannot attend the conference due to unavoidable reasons. Such papers are NOT included in the schedule below.

The names of the authors and/or title of the papers may contain minor mistakes/variations (note that there are no mistakes in the information that is there in the proceedings).

<b>DECEMBER 20TH 9:00-11:15</b>	<b>DECEMBER 21ST 9:00-11:15</b>	<b>DECEMBER 22ND 9:00-11:15</b>
S1A Conference Opening + Keynote Speeches I	S4A Natural Language Processing for Information Retrieval II	S7A Fuzzy Sets and Fuzzy Logic Applications S7B Tutorials II S7C Image Processing S7D Evolutionary Computing + Computational Intelligence II
	S4B Pattern Recognition and Data Mining + Support Vector Machines and Forecasting II	
	S4C Intelligent Control I	
	S4D Abstraction in Probabilistic Planning and Learning + Logic and Knowledge Representation	
COFFEE BREAK 11:15-11:30		
<b>DECEMBER 20TH 11:30-13:15</b>	<b>DECEMBER 21ST 11:30-13:15</b>	<b>DECEMBER 22ND 11:30-13:15</b>
S2A Chemical and Bioprocess Systems + Bioinformatics and Computational Biology	S5A Keynote Speeches II	S8A Rough Sets and Soft Computing
S2B Neural Networks for Speech, Audio and Image Processing I		S8B Tutorials III
S2C Natural Language Processing for Information Retrieval I + Support Vector Machines and Forecasting I		S8C AI Techniques and Applications
S2D Computational Intelligence I		S8D Logical Consequence and its Combinations + Knowledge Representation and Reasoning
LUNCH BREAK 13:15-14:30		
<b>DECEMBER 20TH 14:30-17:00</b>	<b>DECEMBER 21ST 14:30-17:00</b>	<b>DECEMBER 22ND 14:30-17:00</b>
S3A Web Intelligence + Agents I	S6A AI Applications to Water Resources Engineering S6B Video Processing + Neural Networks for Speech, Audio and Image Processing II S6C Fuzzy Sets and Soft Computing S6D Semantic Web + Agents II	S9A Intelligent Robotics + Intelligent Control II S9B Tutorials IV S9C AI Applications to Hydraulic and Environmental Engineering S9D Rough Sets and Data Mining
S3B Tutorials I		
S3C Natural Computing in Infrastructure Engineering and Management		
S3D Application of AI and Meta-Heuristics to Computer-Aided Design of VLSI and Embedded Systems + Case-Based Reasoning + Theory and Algorithms		

DECEMBER 20<sup>TH</sup> 8:00- around 8:45 (outside the Conference Hall (lounge near the hall))

Registration

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DECEMBER 20<sup>TH</sup> 9:00-11:15 (Conference Hall)

Session S1A: Conference Opening + Keynote Speeches I

1. Keynote: Is Pattern Recognition a Statistical Problem? @ B.Yegnanarayana
  2. Keynote: Asynchronous Reasoning and Learning in Real-Time AI Systems @ Ashwin Ram
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DECEMBER 20<sup>TH</sup> 11:30-13:15 (Conference Hall)

Session S2A: Chemical and Bioprocess Systems + Bioinformatics and Computational Biology

Co-Chairs: Mukesh Doble

Department of Biotechnology, Indian Institute of Technology Madras, Chennai (Madras), India

Rakesh Angira

Department of Chemical engineering, Birla Institute of Technology & Science, Pilani, India

1. doble-1: Process Monitoring and Fault Detection using Curvilinear Component Analysis @ U.S.Phulwale, B. Jeevan Kumar, S.U. Patel, Yogesh.P.Badhe, S. S. Tambe, B.D.Kulkarni
2. doble-2. Artificial Neural Network Model for Pressure Gradient in Gas-Liquid Pipe Flow @ Jogesh Mankar, Sunil Bhagwat
3. doble-3. Artificial Neural networks based Model Predictive Control of Unstable Systems @ Anees Attarwala, M.Chidambaram
4. doble-4. Predictive Modeling of Biofilters Treating Benzene Vapours using Artificial Neural Networks @ Eldon R. Rene, M. Chidambaram, T. Swaminathan
5. 147: Optimization of Non-Linear Chemical Processes using Modified Differential Evolution @ Rakesh Angira, B.V. Babu

6. 440: The  $\delta$ -Calculus Process Algebra for Problem Solving and its Support for Bioinformatics @ Lara Atallah, Eugene Eberbach
  7. sung-1: Support Vector Identification of Light Induced Genes from Microarray Data Incorporating Motif Information @ R. Vigneshwar, Onkar C. Kulkarni, Valadi K. Jayaraman, Bhaskar D. Kulkarni
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DECEMBER 20<sup>TH</sup> 11:30-13:15 (Multi-Purpose Hall)

Session S2B: Neural Networks for Speech, Audio and Image Processing I

Co-Chairs: S.R. Mahadeva Prasanna

Department of Electronics and Communication Engineering, Indian Institute of Technology Guwahati, Guwahati, India  
Chitrlekha Mahanta

Department of Electronics and Communication Engineering, Indian Institute of Technology Guwahati, Guwahati, India

1. 172: Gujarati Numeral Recognition using Wavelets and Neural Network @ S. Rama Mohan, Archit Yajnik
  2. 336: An MLP based Approach for Recognition of Handwritten 'Bangla' Numerals @ Subhadip Basu, Nibaran Das, Ram Sarkar, Mahantapas Kundu, Mita Nasipuri, Dipak Kumar Basu
  3. 406: Bangla Handwritten Character Recognition @ K. Roy, U. Pal, F. Kimura
  4. 423: Mixed Language Speech Recognition and Automated Dialog Management @ B.Ayyappan, K.Magesh Karthik, V.Thirumanjunathan, T.V.Geetha, S.Saraswathi
  5. 510: A Pragmatic Solution to an Indian Accented English Speech Synthesizer using Residual Excited Linear Predictive Coded Voice @ Sachin Agarwal, Pallavi Agarwal
  6. prasanna-1: Innovative Feature set for Multi Layered Perceptron (MLP) based Assamese Script Recognition @ Kandarpa Kumar Sarma, Prabin Kumar Bora, Chitrlekha Mahanta
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DECEMBER 20<sup>TH</sup> 11:30-13:15 (Classroom 1)

Session S2C: Natural Language Processing for Information Retrieval I + Support Vector Machines and Forecasting I

Co-Chairs: Rosso Paolo

Department of Information Systems and Computation, University Polytechnic Valencia, Valencia, Spain

Hrishikesh Bhaumik

Regional Computer Center Institute of Information Technology, Kolkata, India

1. 152: A Minimal Spanning Tree Based Method for Text Document Classification @ Hrishikesh Bhaumik, Nirmalya Chowdhury
  2. 416: A Multilingual Question Answering System using an n-grams based Passage Retrieval Engine @ José Manuel Gómez Soriano, Davide Buscaldi, Empar Bisbal Asensi, Emilio Sanchis Arnal, Paolo Rosso
  3. 453: Name Discrimination and Email Categorization using Unsupervised Clustering and Labeling of Similar Contexts @ Anagha Kulkarni, Ted Pedersen
  4. 352 Support Vector Machine Approach for Fault Monitoring and Identification in Power Transmission Systems @ D. Thukaram, H. P. Khincha, B. Ravikumar
  5. 359 An Efficient Clustering Scheme using Support Vector Methods @ J Saketha Nath, S K Shevade
  6. 454 A Comparative Study of Support Vector Machines Applied to the Supervised Word Sense Disambiguation Problem in the Medical Domain @ Mahesh Joshi, Ted Pedersen, Richard Maclin
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DECEMBER 20<sup>TH</sup> 11:30-13:15 (Classroom 2)

Session S2D: Computational Intelligence I

Co-Chairs: Dmitris Karras

Chalkis Institute of Technology, Greece

MM Raghuwanshi

Rajiv Gandhi Institute of Engineering, Research and Technology, Chandrapur, India

1. 112: Modeling and Analysis of Reliability Parameters of Repairable Systems using Artificial Neural Networks and Genetic Algorithms @ P.S. Rajpal, K.S. Shishodia, G.S. Sekhon
2. 221: Multi-parent Recombination operator with Polynomial or Lognormal Distribution for Real Coded Genetic Algorithm @ M.M.Raghuwanshi, O.G.Kakde

3. 402 A Self Adaptive Migration Model Genetic Algorithms for Data Mining Applications @ Srinivasa K G, Venugopal K R, L M Patnaik
  4. 1006: Traffic Engineering in Multi-service Networks based on Genetic Optimisation @ V. Pasiyas, D. A. Karras, R. Papademetriou
  5. 343 Enhancement Learning of GA using Euclidean Data Distance and PSO @ Dong Hwa Kim, Jin Ill Park
  6. 414 Edge Detection and Enhancement by a New Model for Neural Engineering @ Sandip Sarkar, Kuntal Ghosh, Kamales Bhaumik
  7. 340 Intelligent-Tuning of AVR System using Reference Model Based Immune Algorithm and PSO @ Dong Hwa Kim, Jin Ill Park, Seoung Hack Lee, Won Pyo Hong
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DECEMBER 20<sup>TH</sup> 14:30-17:00 (Conference Hall)

Session S3A: Web Intelligence + Agents I

Co-chairs:

Pawan Lingras

Saint Mary's University, Canada

Virendra Bhavsar

University of New Brunswick, Canada

1. 214 Sharing Protected Web Resources Among Independent Educational Organizations @ Sylvia Encheva, Sharil Tumin
2. 270 Semantic and QoS based Web Service Selection using Multi Agent System @ Sathyavathy P, Sneha C, Uma B, Swamynathan S, Geetha T V
3. 311 Document Similarity Analysis for a Plagiarism Detection System @ Parvati Iyer, Abhipsita Singh
4. 346 Multiagent System Based Multimedia Product-Information Presentations in E-trading @ S. S. Manvi, P. Venkataram
5. 446 Range Similarity Measures Between Buyers and Sellers in e-Marketplaces @ Lu Yang, Biplab K. Sarker, Virendrakumar C. Bhavsar, Harold Boley
6. 482 Better Personalization using Learning Classifier Systems @ Anil Shankar, Sushil Louis
7. 247 On Web-based Support Systems @ JingTao Yao
7. 148: From Three MultiAgent Systems to One Decision Support System @ Patrick Person, Hadhoum Boukachour, Michel Coletta, Thierry Galinho, Frédéric Serin

8. 240: A Modeling of Auto-poietic Multi-Agent Simulator @ Katsumi Hirayama
  9. 316: Relaxing Agent Conversation @ Kone Tadiou Mamadou
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DECEMBER 20<sup>TH</sup> 14:30-17:00 (Multi-Purpose Hall)

Session S3B: Tutorials I

1. Algorithms for Mining Sequence Data @ Raj Bhatnagar

Note: see the conference website to get the material you need to bring to the tutorial.

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DECEMBER 20<sup>TH</sup> 14:30-17:00 (Classroom 1)

Session S3C: Natural Computing in Infrastructure Engineering and Management

Co-Chairs: Sudhirkumar V. Barai

Department of Civil Engineering, Indian Institute of Technology Kharagpur, Kharagpur, India

D. Nagesh Kumar

Department of Civil Engineering, Indian Institute of Science, Bangalore, India

1. nciem103 – 188 A Novel Fuzzy Approach for Shape Determination of Traffic Signs @ Hasan Fleyeh
2. nciem106- 488: Parallel Genetic Algorithms for Structural Optimization @ Atul Narayan, S. V. Barai
3. nciem107- 490 Estimation of Concrete Slump based on Mix Constituents using Artificial Neural Networks @ Ashu Jain, Sanjeev Kumar Jha, Sudhir Misra
4. nciem 108- Finding Shortest Paths in Transportation Networks using Evolutionary Algorithms @ K. Ramachandra Rao, Nitish Saini
5. nciem109- 217: Neuro-Fuzzy Classification of Remotely Sensed Images: A Novel Approach @ Anupam Agarwal, G. Jagadish
6. nciem 110: GIS based Landslide Hazard Zonation using Neuro-Fuzzy Weighting @ D. P. Kanungo, M. K. Arora, R. P. Gupta, S. Sarkar

7. nciem 112- Application of Artificial Neural Network for Form Finding of Tensegrity Structures @ Ramakanta Panigrahi, Ashok Gupta, Suresh Bhalla, Kshitij Arora
  8. nciem 114: Micro-Simulation of Heterogeneous Single Lane Traffic in VISSIM for Computing Link Travel Time @ Saurabh Gupta, Tom V. Mathew
  9. nciem 115 -1004: An Intelligent Approach to Prediction of Refractory Life in Steel Plant @ Vasudev Singh, Tushar Agrawal, Veerendra Singh
  10. Nciem 117- 1008: Landfill Operation Reliability Management Based on Fuzzy Expert Systems @ I. M. Dokas, D. A. Karras, D. C. Panagiotakopoulos
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DECEMBER 20<sup>TH</sup> 14:30-17:00 (Classroom 2)

Session S3D: Application of AI and Meta-Heuristics to Computer-Aided Design of VLSI and Embedded Systems + Case-Based Reasoning + Theory and Algorithms

Co-Chairs: Ashwin Ram

College of Computing, Georgia Institute of Technology, Atlanta, USA

Amol Waghlikar

School of Information and Communication technology, Griffith University, Queensland, Australia

1. 130. Variable ordering of BDDs using Genetic Algorithm @ Moi Riba, Jatindra Kumar Deka
2. 447: Empirical Determination of Fuzzy Measures using Case-based Reasoning @ Amol Waghlikar, Peter Deer
3. 492 A Swarm Intelligence Approach to Automatic Medical Diagnosis @ Mihaela Ulieru, Rainer Unland
4. 299: A Constrained Optimal Multi-sensor based Target Tracking Algorithm for Surveillance Systems @ K Madhava Krishna, Henry Hexmoor
5. 319: Essential Hidden Variables: An Exploratory Algorithm @ Brian Patterson, Dimitris Margaritis
6. 422: Circular Languages and Learning Algorithms @ D.G.Thomas, V.R.Dare, T.Robinson, M.H.Begam
7. 450 Neurocomputational Mechanisms for Generalization During the Sequential Learning of Multiple Tasks @ Ashish Gupta, David C. Noelle
8. 478 Real-Time Search using Multiple Heuristic Estimates @ Said Kerrache, Habiba Drias
9. 203: Representative Individuals Initialisation in Cooperative Coevolution @ A. Blansch e, P. Gan arski, J.J. Korczak



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DECEMBER 21<sup>st</sup> 9:00-11:15 (Conference Hall)

Session S4A Natural Language Processing for Information Retrieval II

Co-Chairs: Rosso Paolo

Department of Information Systems and Computation, University Polytechnic Valencia, Valencia, Spain

Kamal Sarkar

Department of Computer Science and Engineering, Jadavpur University, Culcutta (Kolkata), India

1. 458: Standardization of Unstructured Textual Data into Semantic Web Format @ K A Abdul Nazeer, P P Abdul Haleem
2. 289: Single Document Summarization using NLP @ Jagadeesh J, Vasudeva Varma
3. rosso-1: The Influence of Semantics in Text Categorisation: A Comparative Study using the k Nearest Neighbours Method @ Edgardo Ferretti, Marcelo Errecalde, Paolo Rosso
4. rosso-2: Formalizing and Querying Heterogeneous Documents with Tables @ Krishnaprasad Thirunarayan, Trivikram Immaneni
5. rosso-3: Generating Short Summary from a Document Set @ Kamal Sarkar, Sivaji Bandyopadhyay
6. rosso-4: Indexing Entities to Improve Information Retrieval Performance @ Yenory Rojas Hernández, Antonio Ferrández Rodríguez, Jesús Peral Cortés, Jose Navarro Martínez
7. rosso-5: Automatic Text Summarization @ Saroj Kaushik, Parul Luthra
8. rosso-6: Design and Implementation of a Natural Language Interface to a Database (Bengali as a Case Study) @ Arup Panja, Sivaji Bandyopadhyay
9. rosso-8: Information Retrieval using Concept Maps: Another Way for the Representation of Information @ Oscar Martinez Bonastre, Paolo Rosso

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DECEMBER 21<sup>st</sup> 9:00-11:15 (Multi-Purpose Hall)

Session S4B: Pattern Recognition and Data Mining + Support Vector Machines and Forecasting II

Chair: Parag Kulkarni  
Capsilon India, Pune, India

1. 476: Processing Of Struck-out Handwriting @ U. Bhattacharya, B. B. Chaudhuri
  2. IICAI-PRDM-05: Dynamic RDT Model for Data Mining @ Rajni Jain, Sonajharia Minz
  3. IICAI-PRDM-06: Efficient Neural Network Models and Information Theoretic Feature Extraction in Improved E-Mail Spam Categorization @ V. Zorkadis, D.A. Karras M. Panayotou
  4. IICAI-PRDM-07: Two Stage Recognition of Handwritten Bangla Alpha-Numeric Characters using Neural Classifiers @ U. Bhattacharya, S.K. Parui, M. Sridhar, F. Kimura
  5. 194: Mining Interesting Temporal Patterns: An Information Theoretic Approach @ Avleen Bijral, Girish Keshav Palshikar
  6. 407 Learning Deterministic Finite Automata to Capture Sequential Patterns @ Lynne Vettel, Raj Bhatnagar
  7. 491 Fraud Detection System Based on Behavior Mining and Anomaly Detection @ Jianyun Xu, Andrew Sung, Qingzhong Liu, Srinivas Mukkamala
  8. 246: Estimation of Prediction Reliability in Regression Based on a Transductive Approach @ Zoran Bosnic, Igor Kononenko
  9. 1010: Using Chaos and Complexity Theory and Design of Experiments to Forecast Stock Prices: Tools of Artificial Intelligence @ Jason D'Cruz, Carmo D'Cruz, Muzaffar Shaikh
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DECEMBER 21<sup>st</sup> 9:00-11:15 (Classroom 1)

Session S4C: Intelligent Control I

Co-Chairs: Ramprasad Potluri

Department of Electrical Engineering, Indian Institute of Technology, Kanpur, India

Manisha Dubey

Department of Electrical Engineering, Maulana Azad National Institute of Technology, Bhopal, India

1. behera-1. Genetic Algorithm based tuning of Fuzzy Logic Damping Controller for Multi-machine Power System @ Manisha Dubey, Pankaj Gupta
2. behera-3. A Safe and Consistent Game-theoretic Controller for Nonlinear Systems @ R. Sharma, M. Gopal
3. behera-4. Optimal Train Rescheduling for single track Railway Line @ Srinivasulu Kyavars, Ramprasad Potluri

4. behera-5. Evolutionary Design of Inverse Dynamics Controllers for Multiple Arm Co-operating Manipulator Systems @ Anjan Kumar Swain, Urmila Bhanja, Alan S. Morris
  5. behera-6. Adaptive Control of Anytime Algorithm Parameters @ Sandip Aine, Rajeev Kumar, PP Chakrabarti
  6. behera-7. Intelligent Control Schemes for a Redundant Manipulator @ Prem Kumar P, Indrani Kar, Laxmidhar Behera
  7. behera-8. Design and Implementation of Fuzzy Control for Inverted Pendulum @ N. Senthil Manoharan, G. Uma, M. Umaphathy
  8. behera-9. Neural Network Based Optimal Control of a Variable Air Volume HVAC System @ Min Ning, M. Zaheeruddin
  9. behera-10. Artificial Neural Network Based Fault Detection, Location and Identification of Transmission Line Outages in Power System @ K.Visakha, M.Kunal Jain
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DECEMBER 21<sup>st</sup> 9:00-11:15 (Classroom 2)

Session S4D: Abstraction in Probabilistic Planning and Learning + Logic and Knowledge Representation

Co-Chairs: Zoran Majkic

Department of Computer Science, University of Maryland, College Park, USA

Katsumi Hirayama

The University of Kitakyushu, Japan

1. 301: Inferential Knowledge Sharing with Goal Hierarchies in Distributed Engineering Systems @ Richard Dapoigny, Patrick Barlatier, Nacima Mellal, Eric Benoit, Laurent Foulloy
2. 320: Sophisticated Indexes for Implementing Probabilistic Expert Systems @ C.J. Butz, F. Fang
3. 1003: An Abstraction-based Machine Learning Approach to Cartographic Generalisation @ Lorenza Saitta, Jean-Daniel Zucker, Sébastien Mustière
4. kaneiwa-1: "Rigorous" Knowledge Representation and New Concept of Information @ Masaharu Mizumoto
5. 174: Beyond Fuzzy: Parameterized Approximations of Heyting Algebras for Uncertain Knowledge @ Zoran Majkic
6. 176: Constraint Logic Programming and Logic Modality for Event's Valid-time Approximation @ Zoran Majkic
7. 206: An Eastern Specialization of Logic of Multiple-Valued Argumentation to Tetralemma Originated in India @ Hajime Sawamura

8. 521 Automated First Order Natural Deduction @ Alexander Bolotov, Vyacheslav Bocharov, Alexander Gorchakov, Vasilyi Shangin
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DECEMBER 21<sup>st</sup> 11:30-13:15 (Conference Hall)

Session S5A: Keynote Speeches II

1. Keynote: Model-based Systems – Theory and Industrial Applications @ Peter Struss
  2. Keynote: Project PRAKĀSH: Development of Object Perception Following Long-term @ Pawan Sinha
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DECEMBER 21<sup>st</sup> 14:30-17:00 (Conference Hall)

Session S6A: AI Applications to Water Resources Engineering

Co-Chairs: Ashu Jain

Department of Civil Engineering, Indian Institute of Technology Kanpur, Kanpur, India

Ramesh Rudra

School of Engineering, University of Guelph, Guelph, Ontario, Canada

- 1-2. wr100: Bayesian Learning and Relevance Vector Machines for Hydrologic Applications @ Rao S. Govindaraju (keynote speech – 30 minutes)
3. AG100: A Framework to Stochastically Evaluate Watershed Models @ I. Chaubey, K. P. Sudheer
4. wr101: Retrieval of Soil Moisture from ERS SAR Image Over Bare and Vegetated Surfaces using Neural Networks @ S. Said, U. C. Kothiyari, M. K. Arora
5. wr102: Artificial Neural Networks - A State of the Art Computing Technique in Stage Discharge Relationship @ A. Mani, V.R. Desai
6. wr103: Using JavaSANE to Evolve Neural Network Rainfall-Runoff Models @ Linda M. See, Robert J. Abrahart, Alison J. Heppenstall

7. wr104: Using Four Different Least-Squared Error Functions to Train a Neural Network Rainfall-Runoff Model @ Robert J. Abraham, Linda M. See, Alison J. Heppenstall
  8. wr105: Regional Rainfall Forecasting using Large Scale Climate Teleconnections and Evolutionary Algorithms @ D. Nagesh Kumar, M. Janga Reddy, Rajib Maity
  9. wr106: Multi-Objective Particle Swarm Optimization for Optimal Reservoir Operation @ M. Janga Reddy, D. Nagesh Kumar
  10. wr107: Development of Integrated Discharge and Sediment Rating Curves using Radial Basis Function Neural Networks @ Jain S. K., Sudheer K. P.
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DECEMBER 21<sup>st</sup> 14:30-17:00 (Multi-Purpose Hall)

Session S6B: Video Processing + Neural Networks for Speech, Audio and Image Processing II

Co-Chairs: S.R. Mahadeva Prasanna

Department of Electronics and Communication Engineering, Indian Institute of Technology Guwahati, Guwahati, India

P. K. Bora

Department of Electronics and Communication Engineering, Indian Institute of Technology Guwahati, Guwahati, India

1. 120: A Concept-Oriented Hierarchical Framework for News Video Classification, Indexing and Browsing @ M. H. Kolekar, S. Sengupta
2. 344 Video-Album- the Home Video Summary Extraction System @ Deshmukh S. M., Joshi S. D.
3. 411 Background Modeling and Target Tracking in Video Surveillance @ D. Ramesh, D. Ghosh
4. 424 Semiautomatic Technique for Semantic Video Object Extraction using Watershed Algorithm and Motion Tracking @ Vishnuvardhan P., D. Ghosh
5. prasanna-3: Self-organization Map for Estimating Close Speaking Microphone Speech from Throat Microphone Speech @ A. Shahina
6. 151: A Neural Network Based Method for Text Classification using Root Words to Form Pattern Vectors @ Hrishikesh Bhaumik, Nirmalya Chowdhury
7. 347: Writer Identification using Texture Analysis @ Manish Manoria, Amit Sinhal, Manish Maheshwari
8. 429: Facial Expression Recognition using Hidden Markov Models @ V.N.Poleswara Rao K., D.Ghosh
9. prasanna-2: Support Vector Machines for Face Recognition @ K. S. Hareesha, Suryakanth V. Gangashetty, V. Ramaswamy

10. prasanna-4: Text-Dependent Writer Identification using Word Length Analysis @ S. R. Mahadeva Prasanna, Ankur Goel, Ankush Samant
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DECEMBER 21<sup>st</sup> 14:30-17:00 (Classroom 1)

Session S6C: Fuzzy Sets and Soft Computing

Co-Chairs: Cory Butz

University of Regina

Marcin Szczuka

Warsaw University, Poland

1. 258 Design and Development of Fuzzy Logic Controllers @ N.B. Hui, S. Chattopadhyay, D.K. Pratihari, S.C. De Sarkar
  2. 426 Axiomatizations of Fuzzy Attribute Logic @ Radim Belohlavek, Vilem Vychodil
  3. 190 Mining Fuzzy Association Rules from Fuzzy Databases @ R.B.V. Subramanyam, A.Goswami
  4. 278 Projection and Fuzzy Classification Methods for Gene Expression Profile Analysis @ Ankur Kapil, Ravindra D. Gudi, Santosh Noronha
  5. 337 A Fuzzy Relational Approach to Event Recommendation @ Chris Cornelis, Xuetao Guo, Jie Lu, Guanquang Zhang
  6. 351 A Reflex Fuzzy Min Max Neural Network for Classification and Clustering @ A.V Nandedkar, P. K Biswas
  7. 403 An Efficient Fuzzy based Neuro Genetic Algorithm for Stock Market Prediction @ Srinivasa K G, Venugopal K R, L M Patnaik
  8. 263 Stock Technical Analysis using Fuzzy Logic @ Ahmed Abdullah, Raafat El-fouly
  9. 383 A Fuzzy Controlled Optimum UPQC with Minimum VA Loading @ Rammohan Rao E, Y. Y. Kolhatkar, S. P. Das
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DECEMBER 21<sup>st</sup> 14:30-17:00 (Classroom 2)

Session S6D: Semantic Web + Agents II

Co-Chairs: Krishnaprasad Thirunarayan

Department of Computer Science and Engineering, Wright State University, Dayton, USA.

S. Sendhilkumar

Department of Computer Science and Engineering, Anna University, Chennai (Madras), India

1. 207: Controlled Natural Language as Interface Language to the Semantic Web @ Rolf Schwitter
  2. 208: Web Search Using Personalized User Conceptual Index @ S. Sendhilkumar, T.V. Geetha
  3. 373: CKS–Net: A Conceptual and Computational Framework for the Management of Complex Knowledge Structures @ Stefania Bandini, Fabio Sartori
  4. 436: Processing Textual Information from Industrial Systems using Semantic Networks @ Abhinav Saxena, George Vachtsevanos
  5. 441: pdf2table: A Method to Extract Table Information from PDF-files @ Burcu Yildiz, Katharina Kaiser, Silvia Miksch
  6. 479 A Mobile Agent System for University Course Timetabling @ Yan Yang, Raman Paranjape, Luigi Benedicenti, Nancy Reed
  7. 318: Virtual Enterprise over COBMAF: A CORBA Based Multi Agent Framework @ Anoop Shrivastava, Nupur Giri, Nirav G., Devraj B., Tushar B., Manas K
  8. 471 Real-time Heuristic Search for Heterogeneous Multi-agent Systems @ Said Kerrache, Habiba Drias
  9. 427 A Model for Multi-issue Negotiation @ Shaheen Fatima, Michael Wooldridge, Nicholas R. Jennings
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DECEMBER 22<sup>nd</sup> 9:00-11:15 (Conference Hall)

Session S7A: Fuzzy Sets and Fuzzy Logic Applications

Chair: Ashok W. Deshpande

Berkeley Initiative in Soft Computing, Special Interest Group, Environment Management Systems, India;

Department of Bioinformatics, University of Pune, Pune, India

1. 1028: Fuzzy Modeling in Medical Diagnosis: A Case Study for Cardiovascular Diseases @ Kavishwar Waghlikar, Shirish Sutar, Ashok Deshpande
2. 1029: Fuzzy Water Quality Management Model: Application to a Case Study @ Subimal Ghosh, H. R. Suresh, P. P. Mujumdar

3. 321: Prediction of Performance Characteristics of the ECM Process using GA Optimized Fuzzy Logic Controller @ P. K. Jamwal, H.S.Shan
  4. 341: Bacteria Foraging Based Neural Network Fuzzy Learning @ Dong Hwa Kim, Chae Hoon Cho
  5. 360 Fuzzy Clustering with M-Estimators @ K Madhava Krishna, Prem K Kalra
  6. 223 Fuzzy Rough Bags @ Ganesan.G, C.Raghavendra Rao
  - 7-9. Three Additional/invited Presentations
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DECEMBER 22<sup>nd</sup> 9:00-11:15 (Ethnic Class Room: *Tapovan*)

Session S7B: Tutorials II

1. Neural Networks in Civil Engineering @ Sudhirkumar V. Barai, Ashu Jain, K.P. Sudheer
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DECEMBER 22<sup>nd</sup> 9:00-11:15 (Classroom 1)

Session S7C: Image Processing

Chair: P. K. Nanda

Image Processing and Computer Vision Lab, Department of Electrical Engineering, National Institute of Technology, Rourkela, India

1. 236: A Spatial Domain Robust Non-Oblivious Watermarking Scheme for Image Database @ Bhupendra Verma, Sanjeev Jain
2. 295: Estimation of Terrain Height Map from a Single Satellite Imagery using Shape from Shading Techniques @ Neeraj Chaurasia, Anupam Agrawal
3. 306: Gray Hausdorff Distance Measures for Comparing Face Images @ Vivek E.P, N. Sudha
4. 333 An Accurate and Efficient Skew Estimation Technique based on Moment of Inertia for Binary Document Images @ Shivakumara P, Manjunath Aradhya V N, Hemantha Kumar G
5. 334 An Improved Version of 2-Steps Method for Thinning for Binary Document Images @ Manjunath Aradhya V N, G Hemantha Kumar, Shivakumara P



6. 387 Brain MR Image Segmentation using Tabu Search and Hidden Markov Random Field Model @ P. K. Nanda, D. Patra, A. Pradhan
  7. 286: Recognition of Car License Plate using Morphology @ P.V.Suryanarayana, Suman K. Mitra, Asim Banerjee, Anil K. Roy
  8. 412 A New Mechanism of “Fuzzy” Edge Detection by Multi-scale Gaussian Filters in the light of Human Visual System @ Kuntal Ghosh, Sandip Sarkar, Kamales Bhaumik
  9. 160 Multisensor/multispectral Image Registration @ Mohd. Shahid, Sumana Gupta
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DECEMBER 22<sup>nd</sup> 9:00-11:15 (Classroom 2)

Session S7D: Evolutionary Computing + Computational Intelligence II

Chair: T.M. Rao

Department of Computer Science, State University of New York, College at Brockport, USA

Dimitris Karras

Chalkis Institute of Technology, Greece

1. 212: Non-dominated Sorting Differential Evolution (NSDE): An Extension of Differential Evolution for Multi-objective Optimization @ Rakesh Angira, B. V. Babu
  2. rao-1: Theme Preservation and the Evolution of Representation @ Keki Burjorjee, Jordan Pollack
  3. rao-2: A Variation of the PSO Algorithm Applied to Timetabling Problem @ T.M. Rao, Jason Tillett
  4. rao-3: Darwinian Particle Swarm Optimization @ Jason Tillett, T.M. Rao, Ferat Sahin, Raghuveer Rao
  5. rao-4: An Evolutionary Multi-objective Crowding Algorithm (EMOCA): Benchmark Test Function Results @ Ramesh Rajagopalan, Chilukuri K. Mohan, Kishan G. Mehrotra, Pramod K. Varshney
  6. 348 Artificial Neural Network Approach for Estimation of Optimal Pre-insertion Resistance and Switching Transient Peak Overvoltages During Transmission Line Energization @ D. Thukaram, H. P. Khincha, Sulabh Khandelwal
  7. 504: Artificial Neural Network-Based System Identification for a Flotation Column @ Prajna P. Samantaray, Swati Mohanty
  8. 310: Real-Code Self-Adaptive Genetic Algorithm @ M.M.Raghuwanshi, O.G.Kakde
  9. 180: Two New Heuristics for the Equal Piles Problem @ Alok Singh, Ashok K. Gupta
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DECEMBER 22<sup>nd</sup> 11:30-13:15 (Conference Hall)

Session S8A: Rough Sets and Soft Computing

Co-Chairs:

M.C. Deo

Indian Institute of Technology Bombay, India

JingTao Yao

University of Regina, Canada

1. Invited Talk
  2. 363 Research on Rough Set Theory Based on Pansystems Binary Relation @ Jing Qu, Yongli Li, Lin He, Wanjin Cai
  3. 313 On Interactive Data Mining @ Yan Zhao, Yiyu Yao
  4. 187 On the Practical Irrelevance of Diverging Implication between Probabilistic Conditional Independence and Embedded Multivalued Dependency @ C.J. Butz, P. Lingras
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DECEMBER 22<sup>nd</sup> 11:30-13:15 (Multi-Purpose Hall)

Session S8B: Tutorials III

1. XML Schema Languages for Knowledge Representation and Management (Part 1) @ Kavi Mahesh, J.K. Suresh
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DECEMBER 22<sup>nd</sup> 11:30-13:15 (Classroom 1)

Session S8C: AI Techniques and Applications

Chair: SS Manvi

Electrical and Communication Engineering Department, Indian Institute of Science, Bangalore, India

1. 171: A Method for Automatic Segmentation of Collapsed Colons at CT Colonography @ Tarik A. Chowdhury, Paul F. Whelan, Ovidiu Ghita
2. 178: Implementation of Wireless Sensors for Mine Detection @ Niranjana Kumar, G Shankaranarayanan

3. 277: Automatic Annotation of Documents with Metadata for use with Tutoring Systems @ Devshri Roy, Sudeshna Sarkar, Sujoy Ghose
  4. 366 Automatic Question Asking System @ Jagadeesh J, Prasad Pingali
  5. 381 A Method for Secure Query Processing in Mobile Databases @ Joydeep Biswas, Diganta Saha, Nirmalya Chowdhury
  6. 456 Qualitative Approach to Synthesis of Planar Grasp @ S. Dutta, S. M. Hazarika
  7. 1014: A First-Order Stochastic Prognostic System for the Diagnosis of Helicopter Rotor Systems for the US Navy @ Chayan Chakrabarti, Roshan Rammohan, George F. Luger
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DECEMBER 22<sup>nd</sup> 11:30-13:15 (Classroom 2)

Session S8D: Logical Consequence and its Combinations + Knowledge Representation and Reasoning

Chair: Walter Carnielli

Centre for Logic, Epistemology and the History of Science, State University of Campinas, Campinas, Brazil

1. walter-1: Plain Fibring and Direct Union of Logics with Matrix Semantics @ Marcelo E. Coniglio, Víctor L. Fernández
  2. walter-2: Quantum Algorithms, Paraconsistent Computation and Deutsch's Problem @ Juan C. Agudelo, Walter Carnielli
  3. walter-4: Combining Conjunction with Disjunction @ Jean-Yves Béziau, Marcelo E. Coniglio
  4. walter-6: Fibring and Sheaves @ P. Arndt, Rodrigo de Alvarenga Freire, Odilon Otávio Luciano, Hugo Luiz Mariano
  5. 372 The Role of Knowledge Artifacts in Knowledge Maintenance @ Stefania Bandini, Ettore Colombo, Giuseppe Vizzari
  6. 433 Discourse Thematic Organisation Reveals Domain Knowledge Structure @ Frédéric Bilhaut, Patrice Enjalbert
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DECEMBER 22<sup>nd</sup> 14:30-17:00 (Conference Hall)

Session S9A: Intelligent Robotics + Intelligent Control II

Co-Chairs: Ramprasad Potluri

Department of Electrical Engineering, Indian Institute of Technology, Kanpur, India  
Sukumar Kamalasan

Division of Engineering and Computer Technology, University of West Florida, Pensacola, USA

Sudeept Mohan

Computer Science Group, Birla Institute of Technology and Science, Pilani, India

1. 330: A Comparative Study of Few Conventional and Adaptive Control Algorithms for Manipulator Control @ Sudeept Mohan, Surekha Bhanot
2. 417: Sliding Mode Control for Linear drive and Disturbance Compensation for Micro-Motion Applications @ Shahzad Khan, Asif Şabanoviç
3. 439: Real Time Vision-based Control of a Carrom Playing Robot @ Guruprasad Somasundaram, Karthik Krishnakumar, Karthikeyan Shanmugam, Vinodh Kumar Rajendran
4. 1019: Robust Navigation Algorithms using Region and Edge Extraction @ Rajdeep Dogra, Ferat Sahin
5. 461: Trajectory Guided Recognition of Hand Gestures for Human Computer Interface @ M K Bhuyan, D. Ghosh, P. K. Bora
6. 300: Multimodal Function Optimization using a Glowworm Metaphor with Applications to Collective Robotics @ K.N. Krishnanand, D. Ghose
7. 161: A Framework for Multi-Robot Coalition Formation @ Lovekesh Vig, Julie A. Adams
8. 238: Neural Network Based Optimal Position/Force Control for Constrained Robot Manipulators @ N. Sukavanam, Vikas Panwar
9. 375 Some Studies on Camera Calibration and Image Processing for Mobile Robot Navigation @ Nirmal Baran Hui, Dilip Kumar Praithar
10. 1020: Empirical Analysis of Micro Electro Mechanical Systems using One Dimensional Radial Basis Functions @ Ajay Pasupuleti, Ferat Sahin
11. 1012: A Novel Intelligent Agent Supervisory Loop based Control Algorithm for Dynamic Systems @ Sukumar Kamalasan

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DECEMBER 22<sup>nd</sup> 14:30-17:00 (Multi-Purpose Hall)

Session S9B: Tutorials IV

1. XML Schema Languages for Knowledge Representation and Management (Part 2) @ Kavi Mahesh, J.K. Suresh
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DECEMBER 22<sup>nd</sup> 14:30-17:00 (Classroom 1)

Session S9C: AI Applications to Hydraulic and Environmental Engineering

Co-Chairs: Ashu Jain

Department of Civil Engineering, Indian Institute of Technology Kanpur, Kanpur, India

K.P. Sudheer

Department of Civil Engineering, Indian Institute of Technology Madras, Chennai (Madras), India

1. ee101: Comparison of ANNs and ARIMA Models for Forecasting Solid Waste Quantities @ Amitabh Kumar Srivastava, Arvind K. Nema
  2. ee102: Selection of Optimal Band Combination for Neural Network based Water Quality Retrieval from Landsat TM data @ Sudheer K.P., Chaubey I., Garg V.
  3. ee103-Computational Tools in Episodic Urban Air Quality Management (e-UAQM) @ S.M. Shiva Nagendra, Mukesh Khare
  4. ee104: Evaluation of Filtrate Water Quality of A River Bank Filtration Facility using Neural Computing Technique @ Goloka Behari Sahoo, Chittaranjan Ray
  5. ee105: Artificial Neural Networks based Ozone Forecast using Moving Window Modeling @ Jayachander Kodali, A.K. Gupta, S.V.Barai
  6. ee106: Estimating Groundwater Pollution Source Location from Observed Breakthrough Curves using Neural Networks @ Jitendra Kumar, Ashu Jain, Rajesh Srivastava
  7. ee107: Application of Artificial Neural Networks for Water Quality Management @ Ramesh Rudra, Satish Negi, Sanjogita Andriyas, Imran Ahmed, and Pradeep Goel
  8. he101: Neural Networks to Predict Scour of Piles in the Sea @ Shailesh Namekar, A. R. Kambekar, M.C. Deo
  9. he104: Reliability Constrained Optimal Design of Water Distribution Networks by Genetic Algorithm @ Suribabu C.R., Neelakantan T.R.
  10. 251: Application of Search Techniques in Optimal Design of Water Distribution Networks @ Roy P. Pardede, M.L. Kansal
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DECEMBER 22<sup>nd</sup> 14:30-17:00 (Classroom 2)

Session S9D: Rough Sets and Data Mining

Co-Chairs:

Mihir K. Chakraborty

University of Calcutta, India

S. Sankaran

University of Regina, Canada

1. Invited Talk – Rough Set Exploration System @ Marcin Szczuka
2. 370 Exploring Creative Concepts in the Nearest Neighborhood using Lexical Ontologies @ Prasad Pingali, J Jagadeesh, Vasudeva Varma, Bipin Indurkha
3. 185 Mining Frequent Item Sets Based on Binary Reduction Database @ Zhu Yu-Quan, Xie Cong-hua, Song Yu-Qing
4. 205 On Cardinality of Reducts for the Most Part of Binary Decision Tables @ Mikhail Ju. Moshkov
5. 519 SPICE: A Novel Approach to Data Analysis @ Jitender S. Deogun, Liying Jiang
6. 438 Functional Dependencies of Data Tables Over Domains with Similarity @ Radim Belohlavek, Vilem Vychodil

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DECEMBER 22<sup>nd</sup> 17:05 – until finished (Conference Hall)

Awards (includes best paper award) and Closing

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