



5th Indian International Conference on Artificial Intelligence (IICAI-11)

December 14-16, 2011

Siddaganga Institute of Technology (SIT), Tumkur-572103, India

(The papers for which the authors informed that they are not attending the conference are not included in the schedule)

Date → and Time	2-5.15PM Dec.14 (tea break between 3.45 - 4.00PM)	10AM-1.15PM Dec.15 (tea break between 11.45AM- 12.00 NOON)	2-5.15PM Dec.15 (tea break between 3.45- 4.00PM)	10AM-1PM (or until completion) Dec.16 (tea break between 11.45 - 12.00 NOON)
Rooms ↓				
Room 1	S1	S2	Tutorial 1	Tutorial 2
Room 2	S3	S4	S5	S9
Room 3	S6	S7	S8	S11
Room 4	S10	S12	S13	S20
Room 5	S16	S14	S15	S21
Room 6	S17	S18	S19	VACANT

S1, S2, ..., S21 represent Session 1, Session 2, ..., Session 21 respectively.

Rooms and Abbreviations

- Room 1: Media Centre
- Room 2: TEL 101 (Telecommunication Department, Ground Floor)
- Room 3: ECL 201 (Electronics Department, 1st Floor)
- Room 4: ECL 301 (Electronics Department, 2nd Floor)
- Room 5: ECL 401 (Electronics Department, 3rd Floor)
- Room 6: Seminar Hall (MCA Department)

Tutorial 1: Trust Networks

Dr. Krishnaprasad Thirunarayan

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

Website: <http://knoesis.wright.edu/tkprasad>

Tutorial 2: Moment Invariants and their Applications in Image Analysis

Dr. Viswanath Pulabaigari

Department of Computer Science and Engineering, Rajeev Gandhi Memorial College of Engineering & Technology, Nandyal, AP, India

Website: <http://sites.google.com/site/viswanathpulabaigari>

- **On December 14**, between 9.00AM-12.00 NOON (or until completion): the inauguration ceremony followed by a high tea and then keynote by Dr.Lorenza Saitta on “Phase Transitions: A New Paradigm for Evaluating Complexity in Learning and other Complex Systems” in Room 1.
- **On December 14**, between 6-7PM: a cultural programme in Birla Auditorium, SIT Campus.
- **On December 14**, between 7.30-9.30PM: conference banquet (vegetarian only). No alcohol.
- **On December 15**: between 8.15-9.05AM: keynote by Dr.Attilio Giordana on “Smart-homes: A New Challenge for Artificial Intelligence” in Room 1. Between 9.10-10AM: keynote by Dr. Raghu Krishnapuram on “The *what*, *why*, and *how* of mining noisy data” in Room 1.

- **On December 15**, between 5.45-7PM: A visit to Siddaganga Mutt (where the delegates can see the prayer of 9000 students along with revered Swamiji. Then, the delegates will receive Prasadam & blessings from revered Swamiji. All interested people are welcome to attend. Contact the registration desk for details. Free transportation will be arranged by SIT.
- **On December 15**, between 7.30-9.30PM: conference dinner (vegetarian only) hosted by SIT. No alcohol.
- **On December 16**, between 8.45-9.45AM: keynote by Dr. Sargur N. Srihari on “Probabilistic Graphical Models and Machine Learning” in Room 1.
- **On December 16**, between 2PM-until completion: certificates and awards presentation and conclusion ceremony in Room 1.
- **Each paper presentation** is for 30 minutes (if free time is available due to absence of another presenter or so then you can use that time, as determined by the session chair). You should be in the presentation room at least 10 minutes before the session (**not** before your paper presentation) starts and sign an attendance sheet with your session chair.

Session 1. Pattern Recognition and Signal Processing-1

Session Chairs: Hanumantha Raju (155), Krishna Dutta (19)

Parameter Learning of Spatially Variant Finite Mixture Model using Bayesian Sampling-Resampling for MR Images -- *A. Phophalia*, S. K. Mitra

ICA Based Traitor Tracing Scheme -- *S. Juneja*, M. S. Raval, M. V. Joshi

Fourier - Bessel based Cepstral Coefficient Features for Text-Independent Speaker Identification -- *C. Prakash*, S. V. Gangashetty

Prohibitory Traffic Signs Detection Using LVQ and Windowed Hough Transform -- *H. Fleyeh*, N. U. Bhuiyan, R. Biswas

Efficient Broadcast Monitoring using Audio Change Detection -- *R. Shah*, K. Chandrayan, P. Rao

Session 2. Pattern Recognition and Signal Processing-2

Session Chairs: Dipjyoti Sarma (115), B S Mahanand (132)

Corner-Based Tracking of Moving Vehicles in Traffic Videos -- *E. Dallalzadeh*, D. S. Guru, S. Manjunath, M. G. Suraj

Video Scene Segmentation with a Semantic Similarity-- *N. Kumar*, *P. Rai*, C. Pulla, CV Jawahar

Real Time Pre-Processing Filter Design for a Speech Processing System using TMS320C6713 --*D. Sarma*, K.K. Sarma

Brain Morphometric Analysis on Alzheimer’s Disease Magnetic Resonance Images -- *Mahanand B S*, A. Kumar M

Shape from an Endoscope Image using Extended Fast Marching Method -- D.R. Neog, *Y. Iwahori*, M. K. Bhuyan, R.J. Woodham, K. Kasugai

An Efficient Metric for Evaluating the Quality of Color Image Enhancement

-- *M. C Hanumantharaju*, M. Ravishankar, D. R. Rameshbabu, V. N. M. Aradhya

Session 3. Pattern Recognition and Signal Processing-3

Session Chairs: Hanumantha Raju (155), Pradipta Kumar Nanda (1007)

Color Image Segmentation using Constrained Compound Markov Random Field Model and Homotopy Continuation Method -- *Nanda P.K.*, P. Sucheta

Automatic Segmentation of MRI Brain Image using Type-3 Fuzzy C-Means Clustering Algorithm -- *H. Verma*, R. K. Agrawal

Classification of Flowers based on Whorl Region -- D S Guru, *Y. H. S. Kumar*, S. Manjunath

Depth-Wise Segmentation of a 3D Image Using its Depth Map: An Entropy-Based Approach -- *S. S. Mirkamali*, P. Nagabhushan

A Multistage Approach for Handwritten Kannada Numeral Recognition -- *I.P. Darshini*, *V.N. M. Aradhya*, G. H. Kumar

Assamese Numeral Recognition using Morphological Operations and Artificial Neural Network -- *K. Dutta*, A. Mitra, K.K. Sarma

Session 4. Pattern Recognition and Signal Processing-4

Session Chairs: Rituparna Datta (100), Pradipta Kumar Nanda (1007)

Indexing of offline signatures -- D S Guru, *K B Nagasundara*, S Manjunath

On the use of phase of the discrete cosine transform for text detection in document images and video frames under variations in illumination -- *M. S. Kumari*, B. H. Shekar

An improved offline handwritten character segmentation algorithm for *Bangla* script -- *S.Malakar*, P. Ghosh, R. Sarkar, N. Das, S. Basu, M. Nasipuri

Automatic Detection of Texture Defects using Texture-Periodicity and Chi-square Histogram Distance -- *V. Asha*, N.U.Bhajantri, P. Nagabhushan

An Intelligent Network for handwritten Devnagri Digit recognition using Structural features -- P. Singh, *S. Gulani*, A. Verma, N.S. Chaudhari

An Efficient method for the Devnagri handwritten vowel recognition -- P. Singh, *J. Sabharwal*, A. Verma, N. S. Chaudhari

Session 5. Pattern Recognition and Signal Processing-5

Session Chairs: Rituparna Datta (100), Parismita Gogoi (114)

Face recognition based on discriminative fractional Discrete Cosine Transform -- *G Thippeswamy*, B H Shekar

Face Recognition with Single Training Image Per Person using 2DLDA in DCT Space -- *G. V. Bhat*, K K Achary

Exploration of Active Pixels in Intelligent Face Recognition for Constrained Mobile Systems

-- M. Rao G, *P. Kumar*, A. Mittal, V. Kumari G, Babu G.R

Cured Tobacco Leaves Grading: An Approach Based on Inter-Valued Data

-- D S Guru, *P B Mallikarjuna*, S Manjunath, M M Shenoi

Fuzzy Logic Based Detection of Follicles in Ultrasound Images of Ovaries -- P.S.Hiremath, *J. R. Tegnoor*

A Growing Hierarchical Self-Organizing Map approach for machine-part cell formation

--*M. Chattopadhyay*, *N. Das*, P. K Dan, S. Majumdar

Session 6. Pattern Recognition, Evolutionary Computation and Neural Networks -1

Session Chairs: Parismita Gogoi (114), Manojit Chattopadhyay (705)

Unsupervised Detection of Texture Defects using Texture-Periodicity and Universal Quality Index

-- *V. Asha*, P. Nagabhushan, N.U.Bhajantri

Detection of Architectural Distortions with Spiculations in Mammograms by analyzing the structure of mammary glands -- *Minavathi*, S. Murali, M. S. Dinesh

Effectiveness of PSO Based Neural Network for Seasonal Time Series Forecasting

--*R. Adhikari*, R.K. Agrawal

Discrimination of Black Tea Quality using Electronic Nose: A GA based approach

--*A. Sarkar*, *A. Saha*, B. Tudu, N. Bhattacharyya, R. Bandyopadhyay

MORCFA: A Multiple Objective Robot Coalition Formation Algorithm -- *M. Agarwal*, *L. Vig*, N. Kumar

Comparison between two Biologically Inspired Algorithms: 'Cepstral and Phase Method' for Stereoscopic Depth Estimation -- *S. Sharma*, C.M.Markan

Session 7. Pattern Recognition, Evolutionary Computation and Neural Networks -2

Session Chairs: Rituparna Datta (100), Krishna Dutta (19)

Shaft orbit pattern recognition for fault diagnosis of Induction motor using Neural Network

-- *P.Konar*, P. Chattopadhyay

Fitness Function Evaluation of parallel transmitted tomographic image Reconstruction using Genetic Algorithms -- A. Majumder, *R. Datta*

ANN-assisted Booth Multiplier for Design of Convolutional Encoder for Application in Wireless Communication-- *P. Gogoi*, K.K. Sarma

Differential Evolution using Jumping Genes Adaptation -- A. M. Gujarathi, S. Purohit, *R. Manchanda*, D. Ghosh

Session 8. Classification, Clustering, and Machine Learning

Session Chairs: Lorenza Saitta (54), Rituparna Datta (100)

UNL based Context Clustering for News Event Detection -- *Umamaheswari E, Geetha T V*

Intrusion Detection Using an Ensemble of Decision Trees -- *G.K. Kumar, P.Viswanath, A.Ananda Rao*

Comparative Study on Performance of Single Classifier with Ensemble of Classifiers in Predicting Radiological Experts Ratings on Lung Nodules -- *Vinay.K, A. Rao, Hemanthakumar.G*

Clustering of Products to Identify Optimal Inventory Prediction Models -- *P. Zhang, M. Joshi, P. Lingras*

Session 9. Theory and Algorithms-1

Session Chairs: Hanumantha Raju (155), P. Helen Chandra (704)

Abstract Graphical Models for Approximate Inference -- *L. Saitta*

Mimamsa Inspired Representation of Actions (MIRA) -- *B. Srinivasan, R. Parthasarathi*

Cellular Automata Application in Cryptography -- *M. Szaban, F. Sereczynski*

Binary Sequent Calculi for Finite Many-valued Logics -- *Z. Majkic, B. Prasad*

Algorithms for Reconstruction of Triangular and Hexagonal Arrays -- *V. Masilamani, F. Sweety, S. Annadurai, D.G. Thomas, T. Kalyani*

A Parallel Approach for Solving a Large-Scale Traveling Salesman Problem -- *R. Bazylevych, R. Dupas, B. Prasad, B. Kuz, R. Kutelmakh, L. Bazylevych*

Session 10. Theory and Algorithms-2

Session Chairs: Nityananda Das (705), P. Helen Chandra (704)

k - Context Free Puzzle Grammar and Languages -- *S.T. Kalavthy S.M., H. Chandra P.*

3-CNF-Satisfiability in Polynomial Time -- *N.S. Chaudhari*

Optimization Strategy apply to an Attribute Algorithm for the Abstract Interpretation
--*K. MUSUMBU*

Session 11. Knowledge Management and Data Mining-1

Session Chair: Hanumantha Raju (155)

Mining Icebergs in Time-Stamped Databases -- *J. Adhikari, P R Rao, W. Pedrycz*

Knowledge Modeling From Software Documentation -- *M. Gopal, G.S Mahalakshmi, V. Vani*

Instance Based Dynamic Feature Selection for Network Traffic Monitoring
-- *S. Lal, P. Kulkarni, A. Singh*

Session 12. Knowledge Management and Information Retrieval

Session Chairs: Manojit Chattopadhyay (705), S. Sendhilkumar (627)

Ant Miner Based Intrusion Detection System with Various Feature Selection Algorithms

-- K Joshil Raj, *V. S. Nayak*, V. K. Jayaraman

Real Time Rough Set based Behavior Cluster Modeling System -- *N. Gupta*, S. Lal

Automatic Literature Review Generation - Conducting a Comparison of Research Papers
--*K. Jaidka*, C.S.G. Khoo, J.C. Na

Near-Duplicates Detection and Filtering in Web Search using Focused Crawler
--Y. S. Mudhasir, *S. Sindhikumar*

Ontology-based Retrieval System Using Semantic Indexing -- *N. Mittal*, G. Gupta, H. Mangal

Extreme Subjectivity of Multimodal Biometrics Solutions: Role of Strong and Weak modalities / features information -- *M. Imran*, A. Rao, Hemanthakumar G

Session 13. Web Intelligence and Data Mining

Session Chairs: Anil Kumar K.M (18), RBV Subramanyam (53)

A Statistical Approach for Automatic Keyphrase Extraction -- M. Abulaish, *Jahiruddin*, L. Dey

Mining Sequential Features and Opinion Words in User Generated Contents
--*T. Ahmad*, M.N. Doja

Ontology Based Application Model for Feature Driven Development -- *F. Siddiqui*, M.A. Alam

Journal Impact Factor: A Measure of Quality or Popularity? -- J. Deepika, *G.S.Mahalakshmi*

Ontology based Sentiment Classification -- R.Thiyagu, *S.Sindhikumar*

A Two Phase Semantic Approach to Detect Web Users' Opinion-- *A. Kumar K.M*, Suresha

Session 14. Nonstationary Signal Analysis-1

Session Chair: Nityananda Das (705)

Parameterizing Speech Phonemes by Exponential Sinusoidal Model -- *J.K. Talasila*, P. Sircar

Computation of Fourier Bessel Transform Using Hybrid Functions -- *R. K. Pandey*, V.K. Singh, S. Singh

The Warped Chirp Z-Transform -- *G Ramamurthy*, Spoorthy S

An Efficient Face Recognition System Using ICA and Moment Invariants -- *K. V. Arya*, K. Pal

Session 15. Nonstationary Signal Analysis-2

Session Chairs: Rituparna Datta (100), Hanumantha Raju (155)

Beamwidth Prediction of DPA Smart Antenna Using Support Vector Machine
--*A. Rawat*, R. N. Yadav, S.C.Shrivastava

Analysis and Assessment of Ultrasound Images for Fetal Biometry Using Morphological Operators
-- *V. Rawat*, A. Jain, V. Shrimali

Session 16. AI Applications in Agriculture and Social Sciences

Session Chairs: Rajni Jain (830), Sudeep Marwaha (827), Karm Veer Arya (804)

Ontology based Expert System for Varietal Selection of Maize -- *S. Marwaha*, A. Saha, V. K. Yadav

Prediction of first lactation 305-day milk yield based on weekly test day records using artificial neural networks in Sahiwal Cattle -- Dongre V.B, Gandhi R.S, *Ruhil A.P*, Gupta R.K, Singh R.K.

A prediction model for *Alternaria* blight in Mustard Crop Based on Artificial Neural Network
--*A. Kumar*, R. Agrawal

Software Process Model for Total Factor Productivity of Agriculture
-- *J. Rajni*, S. Alam A.K.M., A. Alka

Tackling the Sparsity Problem in Recommender Systems by Leveraging on Indirect User-User and Item-Item Similarity -- *D. Anand*, K.K. Bharadwaj

Session 17. AI Applications and Natural Language Processing

Session Chair: Karm Veer Arya (804)

Anaphora Resolution in Tamil using Universal Networking Language
--*Balaji J*, Geetha T V, R. Parthasarathi, M. Karky

Popular Trend Summarization System -- Anusuya M., Kasthuri G., *P. V. Rao*, T. V. Geetha

Language Independent Rhetorical Structure Framework Using Universal Networking Language
--*Subalalitha C.N*, R. Parthasarathi

UNL Deconverter for Malayalam -- *B.S. Bhagianath*, S.L. Pandian

Adaptive Learning Approach using Learning Automata for Dialogue Management Optimization
-- *K. Gopalakrishnan*, S. Ramakrishnan

Design Perspectives of Intelligent Tutoring System -- *R.K. Barbhuiya*, K. Mustafa, S. Jabin

Session 18. AI Applications

Session Chairs: Rituparna Datta (100), Farheen Siddiqui (779)

Application and Evaluation of Open Wonderland in Constructing Web based 3D Virtual World: A Case Study -- *Vani.V*, P. Kumar R, Mohan S, E. Livingston

On Interestingness Modeling and Humanness Evaluation for Generating Tamil Summary of a Cricket Match -- *J.H. Raju J.*, I. Reka P., Nandavi K.K., M. Karky

Fuzzy Automata Inspired Intelligent Assesment of Learning Achievement
-- *U. K. Chakraborty*, S. Roy

Intelligent Scaffolding System Based on Fuzzy Agent for an e-learning environment
--*Bhattacharya. S*, Roy. S

A Data Driven Fuzzy Inference System for Parametric Modeling of Water Quality
--*M.A.Jayaram*, P. Priyadarshini, Nandeesh, T.S.Umesh

Session 19. Miscellaneous Topics in Artificial Intelligence

Session Chairs: Paramjeet Singh Rajpal (5), Jhimli Adhikari (21)

Reliability Modeling and Analysis of Helicopter Operations using Discrete-Event Simulation
--*P.S. Rajpal*

Performance and Security of Biometric Fusion against Spoof Attacks
--*Z. Akhtar, M. Rizwan, S. Kale*

On the relation between hunger, dopamine and action rate -- L. Vig, A. Gupta, *A. Basu*

Cultural Dynamics, Clashes and Stability -- *E. Tzafestas*

On the sociocognitive origins of emergent languages in interacting linguistic communities
--*I. Vagias, E. Tzafestas*

Session 20. Short Papers-1

Session Chair: Jhimli Adhikari (21)

Mining Sentiments from Micro-blogs -- *S. Misra, RBV Subramanyam*

ABHIVYAKTI: Hand Gesture recognition using Orientation histogram in different light conditions
-- J. L. Raheja, *Manasa M. B. L., A. Chaudhary, S. Raheja*

Metaphors and Creativity: Constructing Meaning in Language -- *S. Karmakar, R. Kasturirangan*

Session 21. Short Papers-2

Session Chair: Manjunath Aradhya (17)

A New Run Length based Method for Scene Text Detection
--*M. Basavanna, P. Shivakumara, S. K. Srivatsa, G. H. Kumar*

Clustering of XML Documents on the basis of Content and Structure
--*N. Mittal, P A. Rao, S. Jinde, A. Gupta, K Adhikari*

Comparative Evaluation of Text Similarity Detection in Research Publications
--*J. Deepika, G.S. Mahalakshmi*