

TABLE OF CONTENTS

KEYNOTES

-
- | | | |
|-----|--|----|
| 1) | Security and Trust- New Challenges to Computing Today in Cyberspace | 1 |
| | Tirumale Ramesh | |
| 2) | Energy-Aware Resource Management for Computing Systems | 7 |
| | Howard Jay Siegel , Bhavesh Khemka , Ryan Friese , Sudeep Pasricha , Anthony A. Maciejewski , Gregory A. Koenigz, Sarah Powersz, Marcia Hiltonx, Rajendra Rambharosx, Gene Okonskix, and Steve Poolezx | |
| 3) | From Specification Languages to Wide-Spectrum Logics | 13 |
| | Martin Henson | |

TRACK: EDUCATION

-
- | | | |
|------|--|----|
| 4) | Enhancing JFLAP with automata construction problems and automated feedback | 19 |
| | Vinay S. Shekhar, Anant Agarwalla, Akshay Agarwal, Nitish B., Viraj Kumar | |
| 5) | PoGest: A vision based tool for facilitating Kathak learning | 24 |
| | Sonal Gupta, Sanjay Goel | |
| 6) | CoSDEES: A Framework for developing CSD Environments for Educational Settings | 30 |
| | Ritu Arora, Sanjay Goel, R.K. Mittal | |
| 7) | LectureKhoj: Automatic Tagging and Semantic Segmentation of Online Lecture Videos | 37 |
| | Esha Baidya (Kayal) , Sanjay Goel | |
| 8) | Crowdlearning: An Incentive-based Learning Platform for Crowd | 44 |
| | Nilesh Padhariya, Kshama Raichura | |
| 9) | Using WebGL to Implement a Glass Lens in Online Labs | 50 |
| | Raghu Raman, Unnikrishnan KV, Smrithi Rekha V, Prema Nedungadi | |
| 10) | A Free and Open Source Framework for Rural Education | 56 |
| | Smrithi Rekha V, V.Adinarayanan | |

TRACK: ALGORITHM

-
- | | | |
|------|---|-----|
| 11) | A Wireless Dynamic Gesture User Interface for HCI Using Hand Data Glove | 62 |
| | Shitala Prasad, Piyush Kumar, Kumari Priyanka Sinha | |
| 12) | A Novel Hybrid Memetic Search in Artificial Bee Colony Algorithm | 68 |
| | Sandeep Kumar, Ashutosh Kumar, Vivek Kumar Sharma, Harish Sharma | |
| 13) | Fat Time Optimization Protocol In Cellular Networks | 74 |
| | Shiven Chawla, Sakshi Agarwal | |
| 14) | Information Metrics for Low-rate DDoS Attack Detection : A Comparative Evaluation | 80 |
| | Monowar H. Bhuyan, D. K. Bhattacharyya, J. K. Kalita | |
| 15) | A Heuristic for Two Bin Partition Problem | 85 |
| | Allahbaksh M. Asadullah, Dinesha K.V., P.C.P. Bhatt | |
| 16) | Earned Value Analysis For Real Time Wireless sensor Network | 89 |
| | Neetika jain, Krishna Kant | |
| 17) | EmoXtract: Domain Independent Emotion Mining Model for Unstructured Data | 94 |
| | Akriti Saini, Bhavya Suri, Nishank Bhatia & Shikha Jain | |
| 18) | Static Hand Gesture Recognition using Stacked Denoising Sparse Autoencoders | 99 |
| | Varun Kumarm G.C. Nandi, Rahul Kala | |
| 19) | An Integrated Spoken Language Recognition System Using Support Vector Machines | 105 |
| | Garima Vyas, Malay Kishore Dutta | |
| 20) | Classification of Glaucoma Based on Texture Features Using Neural Networks | 109 |
| | Deepti Yadav, M.Partha Sarathi, Malay Kishore Dutta | |
| 21) | Dynamic Thresholding Technique for Detection of Hemorrhages in Retinal Images | 113 |
| | Akhilesh Sharmaa, Malay Kishore Dutta, Anushika Singh, M. Parthasarathi, Carlos M. Travieso | |
| 22) | Automatic Mood Detection of Indian Music Using MFCCs and K-means Algorithm | 117 |
| | Garima Vyas, Malay Kishore Dutta | |

23)	Leveraging Frequency and Diversity based Ensemble Selection to Consensus Clustering Arko Banerjee	123
24)	Computing Multiplicative Order and Primitive Root in Finite Cyclic Group Shri Prakash Dwivedi	130
25)	Author Name Disambiguation Using Vector Space Model and Hybrid Similarity Measures Tasleem Arif, Rashid Ali, M. Asger	135
26)	A Novel Bayesian Belief Network Structure Learning Algorithm Based on Bio-Inspired Monkey Search Meta Heuristic Sangeeta Mittal, Krishna Gopal, S.L. Maskara	141
27)	Consensus Clustering for Dimensionality Reduction D Sandhya Rani, T Sobha Rani, S Durga Bhavani	148
28)	A Novel Algorithm for List Accessing Problem Sanjaya Kumar Panda	154
29)	Proposed algorithm for frequent item set generation Archana Singh, Jyoti Agarwal	160

TRACK: SYSTEMS (Hardware & Software)

30)	Performance Comparison for Data Storage - Db4o and MySQL Databases Sudhanshu Kulshrestha, Shelly Sachdeva	166
31)	A Novel Architecture for Identity Management System Using Virtual Appliance Technology Parth Srivastava, Sachin S. Pande	171
32)	Door Negotiation of a Omni Robot Platform Using Depth Map Based Navigation in Dynamic Environment Ananda Sankar Kundu, Oishee Mazumder, Ritwik Chattaraj, Subhasis Bhaumik	176
33)	GPU Based Geometric Hashing For Space Partitioning Bhavin Patel, Vibha Patel	182
34)	Energy and Carbon Efficient VM Placement and Migration Technique for Green Cloud Datacenters Bharti Wadhwa, Amandeep Verma	189
35)	Impact of Topological Properties over Link Prediction Based on Node Neighbourhood: A Study Anand Kumar Gupta, Neetu Sardana	194
36)	Hierarchical Map-Based Location Service for VANETs in Urban Environments Amita Garg, Kavita Pandey, Buddha Singh	199
37)	An Empirical Study of the Sensitivity of Quality Indicator for Software Module Clustering Amarjeet, Jitender Kumar Chhabra	206
38)	Dynamic Scaling of web services for Xen based virtual cloud environment Mallika Malhotra, Sanya Kapoor, Prakash Kumar	212
39)	Image Realization Steganography with LCS based Mapping Ratnakirti Roy, Suvamoy Changder	218
40)	Quantification of Non-functional Requirements Kiran Khatter, Arvind Kalia	224
41)	Trajectory Generation for Myoelectrically Controlled Lower Limb Active Knee Exoskeleton Ananda Sankar Kundu, Oishee Mazumder, Ritwik Chattaraj, Subhasis Bhaumik, Prasanna Kumar Lenka	230
42)	Audio De-noising by Spectral Subtraction Technique Implemented on Reconfigurable Hardware Tanmay Biswas, Chandrajit Pal, Sudhindu Bikash Mandal, Amlan Chakrabarti	236
43)	Grasp Mapping for Dexterous Robot Hand: A Hybrid Approach Ritwik Chattaraj, Bikash Bepari, Subhasis Bhaumik	242
44)	Performance Analysis of S-Random Interleaver for IDMA System Using MRRC Diversity Scheme Sonam Sharma, Paresh Chandra Sau, Aasheesh Shukla	248
45)	LSMRP: Link Stability based Multicast Routing Protocol in MANETs Gaurav Singal, Vijay Laxmi, Manoj Singh Gaur, Chhagan Lal	254
46)	Path Tracking of Automated Guided Vehicle Neerja Gupta, Abhishek Singhal, J. K. Rai, Rohit Kumar	260
47)	Design and Development of a Real Time Scheduling Algorithm for Mixed Task Set on Multi-core Processors Mayuri Digalwar, Pravin Gahukar, Sudeept Mohan	265

48)	Reference Broadcast Synchronization-Based Prevention to DoS attacks in VANET	270
	Karan Verma, Halabi Hasbullah, Hemant Kumar Saini	
49)	LevelSync: A Hierarchical Time Synchronization Mechanism for Wireless Sensor Networks	276
	Dhyanendra S. Rathore, Dibyahash Bordoloi, Emmanuel S. Pilli, M. C. Govil	
50)	Performance Evaluation of Long Integer Multiplication Using OpenMP and MPI on Shared Memory Architecture	283
	Jitendra V. Tembhurne,Shailesh R. Sathe	
51)	Fuzzy Rule based Checkpointing Arrangement for Fault Tolerance in Mobile Grids	289
	Parmeet Kaur,Pritee Parwekar	
52)	Cluster Growth Technique for Combinatorial Evolvable Digital Circuits	294
	Atul K Srivastava,Hariom Gupta	
53)	Towards Program Execution Summarization: Deriving State Diagrams from Sequence Diagrams	299
	Swaminathan Jayaraman ,Kishor Kamath D ,Bharat Jayaraman	
54)	Performance Analysis of RED for Stabilized Queue	306
	Sanjeev Patel	
55)	Cryptanalysis of “A Biometric-Based User Authentication Scheme for Heterogeneous Wireless Sensor Networks”	312
	Mrudula Sarvabhatla, M.Giri Chandra, Sekhar Vorugunti	

TRACK: APPLICATIONS

56)	Learning Domain-Specific and Domain-Independent Opinion Oriented Lexicons using Multiple Domain Knowledge	318
	K.Sai Vishnu, T.Apoorva , Deepa Gupta	
57)	Privacy Breach of Social Relation from Location Based Mobile Applications	324
	Vartika Srivastava,Vinayak Naik, Anuradha Gupta	
58)	Towards Software Engineering Paradigm for Software as a Service	329
	Niyati Baliyan,Sandeep Kumar	
59)	Collaborating Trust and Item-prediction with Ant Colony for Recommendation	334
	Abhishek Kaleroun , Dr. Shalini Batra	
60)	SemIndex: Efficient Indexing Mechanism for Ontologies	340
	Vandana Dhingra, Komal Kumar Bhatia	
61)	An Enhanced Marking Target Statement Strategy of E-PIE for Testability Estimation	346
	Megha Joshi ,Neetu Sardana	
62)	Hopeful Hearts: A Mobile Health Care Application	351
	Neetu Sardana,Neha Nirwal,Arpita Jadhav Bhatt	
63)	Spotting the Phenomenon of Bad Smells in MobileMedia Product Line Architecture	357
	Manjinder Kaur, Parveen Kumar	
64)	Selecting and Formalizing an Architectural Style: A Comparative Study	364
	Ashish Kumar Dwivedi, Santanu Kumar Rath	
65)	Integrated Features of Haar-like Wavelet Filters	370
	Megha Agarwal	
66)	Automatic Bug Labeling using Semantic Information from LSI	376
	Indu Chawla, Sandeep K Singh	
67)	Correlation Based Word Sense Disambiguation	382
	Madhavi Agarwal, Jyoti Bajpai	
68)	A Lightweight Sybil Attack Detection Framework for Wireless Sensor Networks	387
	P. Raghu Vamsi, Krishna Kant	
69)	Adaptive Trust Model for Secure Geographic Routing in Wireless Sensor Networks	394
	P. Raghu Vamsi, Krishna Kant	
70)	Spatio-Temporal Extraction, Visualization and Investigation of Worldwide Disease Alerts	400
	Chirag Bhalla, Priyanka Sadana, Anuj Manocha, Manish K Thakur	
71)	Discriminant Features for Metamorphic Malware Detection	406
	Jikku Kuriakose, Vinod P.	
72)	Anti-Forensics Techniques: An Analytical Review	412
	Anu Jain ,Gurpal Singh Chhabra	

73)	Automatic Construction of Process Template from Business Rule	419
	Deepak Kumar Sharma, Naveen Prakash, Himani Sharma	
74)	ICSECV: An Efficient Approach of Video Encryption	425
	Saumya Batham, Virendra Kumar Yadav, Amit Kumar Mallik	
75)	A two warehouse inventory model with non- instantaneous deterioration and partial backlogging	431
	S. R. Singh, Himanshu Rathore	
76)	Sentiment Analysis of Twitter Data Using Machine Learning Approaches and Semantic Analysis	437
	Geetika Gautam, Divakar Yadav	
77)	Explicit TenseClassifier	443
	Rahul Pradhan, Dilip Kumar Sharma	
78)	An Analytical approach based on self organized maps (SOM) in Indian classical music raga clustering	449
	Akhilesh K Sharma, Kamaljit I. Lakhtaria, Avinash Panwar, Santosh Vishwakarma	
79)	Leveraging Hadoop Framework to develop Duplication Detector and analysis using MapReduce, Hive and Pig	454
	Priyanka Sethi, Prakash Kumar	
80)	Email Recipient Prediction Using Reverse Chronologically Arranged Implicit Groups	461
	Akash Desai, Subrat Kumar Dash	
81)	A System for Identification of Idioms in Hindi	467
	Priyanka, Dr. R.M.K. Sinha	
82)	Designing Prosody Rule-set for Converting Neutral TTS Speech to storytelling style speech for Indian Languages: Bengali, Hindi and Telugu	473
	Parakrant Sarkar, Arijul Haque, Arup Kumar Dutta, Gurunath Reddy M, Harikrishna D M, Prasenjit Dhara, Rashmi Verma, Narendra N P, Sunil Kr. S B, Jainath Yadav, K. Sreenivasa Rao	
83)	Local Weather Interpolation Using Remote AWS Data with Error Corrections Using Sparse WSN for Automated Irrigation for Indian Farming	478
	Hema N., Krishna Kant	
84)	Selecting a Set of Appropriate Metrics for Detecting Code Clones	484
	Geetika Bansal, Rajkumar Tekchandani	
85)	Performance Evaluation of Various Resampling Techniques on IRS Imagery	489
	Shardha Porwal, Sunil Kumar Katiyar	
86)	Web service selection on the basis of QoS parameter	495
	Neerja Negi, Satish Chandra	
87)	Focused Crawling with Ontology using Semi- Automatic Tagging for Relevancy	501
	Risha Gaur, Dilip Kumar Sharma	
88)	New Approaches for Service Composition based on Graph Models	507
	Pavankumar Guluru, Rajdeep Niyogi	
89)	Significance of CV Transition and Steady Vowel Regions for Language Identification	513
	Dipanjan Nandi, Arup Kumar Dutta and K. Sreenivasa Rao	
90)	A Weight Based Energy-Aware Hierarchical Clustering Scheme for Mobile Ad Hoc Networks	518
	Anubhuti Roda Mohindra, Charu	
91)	User Feedback Scoring and Evaluation of a Product Recommendation System	525
	Shahab Saquib Sohail, Jamshed Siddiqui, Rashid Ali	
92)	A High Payload Audio Watermarking Algorithm Robust against Mp3 Compression	531
	Arashdeep Kaur, Malay Kishore Dutta, K.M.Soni, Nidhi Taneja	
93)	Solar Radiation Modelling for the Estimation of the Solar Energy Generation	536
	José G. Hernández-Travieso, Carlos M. Travieso, Jesús B. Alonso, Malay Kishore Dutta	
94)	A Lexicon Pool Augmented Naive Bayes Classifier for Nepali Text	542
	S. K. Thakur and V. K. Singh	
95)	A Prolific Approach towards Automating Component Repository Search	547
	Ram Chatterjee, Himani Rathi	
96)	ROI-Based Fragile Medical Image Watermarking Technique for Tamper Detection and Recovery using Variance	553
	R. Eswaraiyah, E. Sreenivasa Reddy	
97)	Application of Energy Reduction Techniques using Niche Pareto GA of Energy Analyzer for HPC Applications	559
	Shajulin Benedict	

98)	A cloud based deployment framework for load balancing policies	565
	Komal Mahajan, Deepak Dahiya	
99)	Inverse Study of Double-Glazed Solar Collector using Hybrid Evolutionary Algorithm	571
	Ranjan Das	
100)	Multi-resolution Local Extrema Patterns using Discrete Wavelet Transform	577
	Manisha Verma, Balasubramanian Raman, Subrahmanyam Murala	
101)	OFDTs:-An Optimally Fair Dynamic Task Scheduling Algorithm in Cloud Environment	583
	Shilpi Saxena, Satyendra Singh Chouhan	
102)	Document Categorization in Multi-Agent Environment with Enhanced Machine Learning Classifier	589
	Seema Singh, Chandra Prakash	
103)	Multi-output Radial Basis Function Interpolation of Saturated Steam Table for Full Scope Simulator Design	595
	Shweta Khushu, Faruk Kazi	
104)	NDj – AODV: Node Disjoint Multipath Routing in Mobile Ad Hoc Networks based on AODV Protocol	601
	Vivek Arya, Charu Gandhi	
105)	Positioning Multiple Mobile Robots for Geometric Pattern Formation: An Empirical Analysis	607
	Avinash Gautam ,Apoorv Umang Saxena, Prerak Mall, Sudeept Mohan	
106)	Automated Generation of Song Lyrics using CFGs	613
	Sameerchand Pudaruth, Sandiana Amourdon, Joey Anseline	
107)	A Modified BP Network using Malsburg Learning for Rotation and Location Invariant Fingerprint Recognition and Localization with and without Occlusion	617
	Sumana Kundu, Goutam Sarker	
108)	Using a Thesaurus-Based Approach for the Categorisation of Web Sites	624
	Sameerchand Pudaruth, Youven Ankiah and Keshav Sembhoo	
109)	Integrating Greedy based Approach with Algorithm to Generate Mixed covering arrays for pair wise testing	629
	Priti Bansal, Nitish Mittal, Aakanksha Sabharwal, Sakshi Koul	

INVITED PAPER

110)	An efficient computational framework for labeling large scale spatiotemporal remote sensing datasets	635
	Manu Sethi, Yupeng Yan, Anand Rangarajan, Ranga Raju Vatsavaiy, and Sanjay Ranka	
	Author Index	641