18th International Conference
Intelligent Systems Design and Applications
(ISDA 2018)

&

10th World Congress
Nature and Biologically Inspired Computing
(NaBIC 2018)

December 06-08, 2018
VIT University, Vellore, India

Final Technical Program

Organized by
ISDA - NaBIC 2018 - Welcome message

Welcome to the 18th International Conference on Intelligent Systems Design and Applications (ISDA) and 10th World Congress on Nature and Biologically Inspired Computing (NaBIC), which is held in VIT University, India, during December 06-08, 2018. ISDA - NaBIC 2018 is jointly organized by the VIT University, India and Machine Intelligence Research Labs (MIR Labs), USA. ISDA - NaBIC 2018 brings together researchers, engineers, developers, and practitioners from academia and industry working in all interdisciplinary areas of intelligent systems, nature inspired computing, big data analytics, real world applications and to exchange and cross-fertilize their ideas. The themes of the contributions and scientific sessions range from theories to applications, reflecting a wide spectrum of the coverage of intelligent systems and computational intelligence areas. ISDA 2018 received submissions from 30 countries and each paper was reviewed by at least 5 reviewers in a standard peer-review process. Based on the recommendation by 5 independent referees, finally about 120 papers will be presented during the conference (acceptance rate of 48 % including virtual presentations). NaBIC 2018 received submissions from 11 countries and each paper was reviewed by at least 5 reviewers in a standard peer-review process. Based on the recommendation by 5 independent referees, finally about 15 papers will be presented during the conference (acceptance rate of 53 % including virtual presentations). Conference proceedings will be published by Springer Verlag, Advances in Intelligent Systems and Computing Series, which is now indexed by ISI Proceedings, DBLP, Ulrich's, EI-Compendex, SCOPUS, Zentralblatt Math, MetaPress, Springerlink etc.

Many people have collaborated and worked hard to produce the successful ISDA - NaBIC 2018 conference. First, we would like to thank all the authors for submitting their papers to the conference, for their presentations and discussions during the conference. Our thanks go to Program Committee members and reviewers, who carried out the most difficult work by carefully evaluating the submitted papers. Our special thanks to Raija Halonen, University of Oulu, Finland; Junzo Watada, Universiti Teknologi Petronas, Malaysia and Nelishia Pillay, University of Pretoria, South Africa for the exciting plenary talks.

We express our sincere thanks to the session chairs and organizing committee chairs for helping us to formulate a rich technical program.

General Chairs
Ajith Abraham, Machine Intelligence Research Labs (MIR Labs), USA
Aswani Kumar Cherukuri, Vellore Institute of Technology, India

Program Chairs
Patricia Melin, Tijuana Institute of Technology, Mexico
Emilio Corchado, University of Salamanca, Spain
Florin Popentiu Vladicescu, University “Politehnica” in Bucharest, Romania
Ana Maria Madureira, Instituto Superior de Engenharia do Porto, Portugal
Title: Empowering with ICT

Raija Halonen, University of Oulu, Finland

Abstract: Nowadays, inadequate management of amenable and preventable chronic illnesses for the ageing working population causes immense loss of productive life years for the industry (3.4 million productive life years in Europe), significant economic burden on the state budgets globally and poor health life of the patients. Moreover, the European level economic impact of mental problem is calculated as 470 billion euros annually and as 1700 billion euros globally. Only minority of people suffering from mental issues seek professional help for themselves even if they would benefit from such help – for example in Finland, only 34 % of people with major depression look for professional treatment, and similar results in other European countries and the US disclose that the problem is global. With the aging population, the number of individuals living with disabilities is increasing.

On the other hand, state-of-the-art ICT including sensor-based wearables has shown benefits in monitoring health, and the use of technological development in the form of miniature biosensing devices, smart textiles, microelectronics, and wireless communication has brought new possibilities to reduce healthcare cost. Recent studies also show that people are motivated to use wearable sensors to make their lives easier and to support them in managing their diseases. In the current talk the focus is on the possibilities to empower individuals who benefit from the ICT-based supportive actions.

Biography: Raija Halonen acts as an Adjunct Professor in the Faculty of Information Technology and Electrical Engineering at the University of Oulu, Finland. She is a member of the Research Unit of Empirical Software Engineering in Software, Systems and Services (M3S). Before joining the academic world Dr. Raija Halonen has worked on information systems both in the public sector and in private IT enterprises. After receiving her PhD she acted as a Postdoctoral Fellow in the Centre of Innovation & Structural Change, National University of Ireland Galway where she continues as a Research Associate while working in Finland. Lately her main research interests have been in ICT and social inclusion and ICT-enabled process improvement.
Title: Biologically Inspired Computation to Solve NP-hard Problems

Junzo Watada, Universiti Teknologi Petronas, Malaysia

Abstract: Since DNA-based molecular computation was pioneered, it has provided significant ideas and concepts that enable us to express new types of molecular computational algorithms, methods, and computing paradigms. In this talk, we show how to implement new types of molecular engineering experimental methods. While implementing these experimental methods, we propose several integrations of DNA-based algorithms (each of which includes its own molecular engineering experimentation for each purpose), advanced mathematical information engineering, and totally different field methodologies, meaning that algorithms have been integrated with other field methods and techniques for the first time. These multiplied integrated algorithms are associated with various forms in different engineering and science fields.

In this talk, the computational model that makes use of DNA molecular structures and characteristics at the nanometric level is referred to as nanobiocomputation, reflecting our focus on the nanometric and molecular engineering mechanisms associated with various areas of science and engineering. Four different interdisciplinary DNA-based algorithms are designed to develop nanobiocomputation and discussed in this dissertation; each design was based on theoretical concepts of nanometric molecules and molecular experimental data.

Biography: Junzo Watada received his B.Sc. and M.Sc. degrees in electrical engineering from Osaka City University, Japan, and his Ph.D degree from Osaka Prefecture University, Japan. Currently, he is a professor, the Department of Computer and Information Sciences, Universiti Teknologi PETRONAS, and a Professor Emeritus at Waseda University. He received the Henri Coanda Medal Award from Inventico in Romania in 2002. He is a Life Fellow of the Japan Society for Fuzzy Theory and Intelligent Informatics (SOFT). Prof Watada is an IEEE senior member, Executive Chair of ISME, WCICME, a vice-president and life member, Forum of Interdisciplinary Mathematics. He commits himself in editing various international journals as a principal editor of several journals and an editorial board member of more than 30 journals. His professional interests include artificial neural network, human centric data mining, soft computing, tracking systems, knowledge engineering, financial engineering and management engineering.
Title: Automated Design of Intelligent Systems Using Hyper-Heuristics

Nelishia Pillay, University of Pretoria, South Africa

Abstract: The field of hyper-heuristics is growing rapidly since its inception. Hyper-heuristics work in the heuristic space rather than the solution space which is typical of optimization techniques and have proven to be effective at solving discrete combinatorial optimization problems. More recently the potential of using hyper-heuristics for the automated design of machine learning and search techniques has been established. As we move into the fourth industrial revolution the aim is to provide off-the-shelf machine learning tools that the non-expert can apply to a particular application area to solve the problem at hand. Furthermore, the design of intelligent systems is a very time consuming process, requiring many man hours. Hence, there has been a drive towards the automated design of intelligent systems employing machine learning and search techniques, leading to the emergence of fields such as autoML.

This talk will firstly provide an overview of hyper-heuristics. It will then examine the automated design of intelligent systems examining various design decisions ranging from parameter tuning to the induction of operators and the hybridization of intelligent techniques. The talk will highlight how the four types of hyper-heuristics, namely, selection constructive, selection perturbative, generation constructive and generation perturbative, can be used in the automated design of intelligent systems. The talk will conclude by looking at future research directions of hyper-heuristics for automated intelligent system design.

Biography: Nelishia Pillay is a Professor and Head of Department of Computer Science at the University of Pretoria. She is chair of the IEEE Task Force on Hyper-Heuristics with the Technical Committee of Intelligent Systems and Applications at IEEE Computational Intelligence Society and holds the Multichoice Joint-Chair in Machine Learning. Her research areas include hyper-heuristics, combinatorial optimization, genetic programming, genetic algorithms and other biologically-inspired methods. She is an active researcher in field of evolutionary algorithm hyper-heuristics and the application thereof to optimization problems and automated design. This is one of the focus areas of the NICOG (Nature-Inspired Computing Optimization) research group which she has established.
Technical Program Schedule

December 06, 2018

09:30 - 10:00: Inauguration

10:00 - 10:45: Plenary 1 (Raija Halonen, University of Oulu, Finland)

10:45 - 11:05 Coffee break

11:05 - 01:00: Parallel Session: ISDA - 01

9  A Novel Design and Implementation of 8-bit and 16-bit Hybrid ALU
   Suhas Shirol, Ramakrishna S and Rajashekar Shettar

11  A Thermal Imaging Based Classification of Affective States using Multiclass SVM
    C M Naveen Kumar and Shivakumar G

13  AKCSS: An Asymmetric Key Cryptography Based on Secret Sharing in Mobile Ad Hoc Network
    Preethi R

29  Simulation of Friction Stir Welding of Aluminium Alloy AA5052 ? Tailor Welded Blanks
    M Arun Siddharth, Padmanaban Ramasamy and R. Vaira Vignesh

30  Information Systems Success: Extending the Theoretical Model from IT Business Value Perspective
    Thanh D. Nguyen

345 A Novel Air Gesture Based Wheelchair Control and Home Automation System

11:05 - 01:00: Parallel Session: ISDA - 02

33  Business Growth Using Open Source e-Commerce and ERP in Small Business
    Valtteri Kujala and Raija Halonen

35  Directional Multiscale Feature Extraction For Biomedical Image Indexing And Retrieval Using Contourlet Transform
    Amita Shinde, Amol Rahulkar and Chetankumar Patil

41  Modeling Hybrid Indicators for Stock Index Prediction
    Arjun R and Suprabha K R

51  Intention to Use M?Banking: The Role of E?WOM
    Thanh D. Nguyen, Thy Q. L. Nguyen, Thi V. Nguyen and Tung D. Tran
64 Design of Time-Frequency Localized Filter Bank Using Modified Particle Swarm Optimization
   Swati Madhe, Amol Rahulkar and Raghunath Holambe

65 Development of Low-Cost Real-Time Driver Drowsiness Detection System using Eye Centre Tracking and Dynamic Thresholding
   Fuzail Khan and Sandeep Sharma

71 A Hybrid Entropy Based Method Using Gaussian Kernel for Retinal Blood Vessel Segmentation
   Adhish N.K., R. Rajesh and Thasleema T.M.

11:05 - 01:00: Parallel Session: ISDA - 03

25 API Call Based Malware Detection Approach Using Recurrent Neural Network - LSTM
   Mathew J and Ajay Kumara M. A.

72 Precision Crop Protection using Wireless Sensor Network
   Radha R, Amit Kumar Tyagi, Staflin Betzy G and Kathiravan K

86 Background modeling using Deep-Variational Autoencoder
   Midhula Vijayan and Mohan R

87 Sewage Sludge Removal Method through Arm-Axis by Machine Robot
   Gobinath M and Malathi S

91 A Visual Spelling System using SSVEP Based Hybrid Brain Computer Interface with Video-Oculography
   Saravanakumar D and Ramasubba Reddy M

92 QBEECH: Multi-hop clustering of cognitive based sensor nodes in the administration of queen nodes
   Souvik Kundu, Srividya Karthikeyan and Karthikeyan A.

138 Turbo Coded STBC MIMO OFDM With DWT Based I/Q Balancing System
   Sundar Srinivas Kuchibotla, Naga Lakshmi Kalyani Movva, Mounika N and Aruna Kumari Ch

11:05 - 01:00: Parallel Session: ISDA – 04 and NaBIC – 01

ISDA

331 Sentiment Analysis for Scraping of Product Reviews from Multiple Web Pages Using Machine Learning Algorithms
   Suganya E

334 Association Rule Hiding Using Firefly Optimization Algorithm
   Sharmila S

NaBIC
3 Automatic Determination Number of Cluster for Multi Kernel NMKFCM Algorithm on Image Segmentation
Pradip Paithane and Dr. S.N. Kakarwal

11 Characteristics of Alpha/Numeric Shape Microstrip Patch Antenna for Multiband Applications
Thandaiah Prabu, Thulasi Bai and Benisha xavier

20 Hybrid Segmentation of Malaria-Infected Cells in Thin Blood Slide Images
Sayantan Bhattacharya, Anupama Bhan and Ayush Goyal

28 Soft-Margin SVM incorporating Feature Selection using Improved Elitist GA for Arrhythmia Classification
Vinod Kadam, Samir Yadav and Shivajirao Jadhav

34 Continuous Cartesian Genetic Programming with Particle Swarm Optimization
Jaroslav Loebl and Viera Rozinajova

01:00 - 02:00: Lunch

02:00 - 04:00: Parallel Session: ISDA - 05

96 Asymmetric Key Cryptosystem And Digital Signature Algorithm Built On Discrete Logarithm Problem (Dlp)
Ashish Kumar, Jagadeesh Kakarla and Muzzammil Hussain

97 A Study on Big Cancer Computing
Sabuzima Nayak and Ripon Patgiri

110 M2U2: Multifactor Mobile based Unique User Authentication Mechanism
Rachit Bhalla and Jeyanthi N

115 Generation of Image Caption using CNN-LSTM based approach
AravindKumar S, Varalakshmi P and Hemalatha M

120 A Novel Approach to Solve Class Imbalance Problem Using Noise Filter Method
G Rekha, V Krishna Reddy and Amit Kumar Tyagi

137 An improved classifier based on entropy and deep learning for bug priority prediction
V B Singh, Madhu Kumari and Meera Sharma

142 ECC based Encryption Algorithm for Lightweight Cryptography
Soumi Banerjee and Anita Patil

153 A Single Program Multiple Data Algorithm for Feature Selection
Bhabesh Chanduka, Tushaar Gangavarapu and Jaidhar C. D.

02:00 - 04:00: Parallel Session: ISDA - 06

161 Clustering time-series data generated by smart devices for human activity recognition
Jothi Ramasamy
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>163</td>
<td>A Priority-Based Ranking Approach for Maximizing the Earned Benefit in an Incentivized Social Network</td>
<td>Suman Banerjee, Mamata Jenamani, Dilip Pratihar and Abhinav Sirohi</td>
</tr>
<tr>
<td>164</td>
<td>Analysis of Basic-SegNet Architecture with variations in training options</td>
<td>Ganesh Padalkar and Madhuri Khambete</td>
</tr>
<tr>
<td>165</td>
<td>CRIST900: A Fully-Labeled Natural Image Dataset For Multi-Operator Content Aware Image Retargeting</td>
<td>Abhayadev Malayil and Santha T</td>
</tr>
<tr>
<td>175</td>
<td>Analysis of Overhead View Images at Intersection Using Machine Learning</td>
<td>Taisuke Hori, Mitsuhiro Namekawa and Syuya Kanagawa</td>
</tr>
<tr>
<td>179</td>
<td>A New Design Prospective for User Specific Intelligent Control of Devices in a Smart Environment</td>
<td>Vaskar Deka and Shikhar Kumar Sarma</td>
</tr>
<tr>
<td>187</td>
<td>Trust Based RPL Protocol for Internet of Things</td>
<td>Bhalaji Natarajan and Jayaram Hariharakrishnan</td>
</tr>
<tr>
<td>275</td>
<td>Characterization of edible oils using NIR spectroscopy and chemometric Methods</td>
<td>Rishi Ranjan, Navjot Kumar, A Hepsiba Kiranmayee and P C Panchariya</td>
</tr>
</tbody>
</table>

**02:00 - 04:00: Parallel Session: ISDA - 07**

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>168</td>
<td>Evaluation of advanced analysis method for human relationship using fuzzy theory</td>
<td>Toshihiro Yoshizumi, Tomoo Sumida, Yasunori Shiono, Mitsuhiro Namekawa and Kensei Tsuchida</td>
</tr>
<tr>
<td>188</td>
<td>Fractional Order Extended Kalman Filter For attitude Estimation</td>
<td>Nimmi Sharma and Dr Shashi Poddar</td>
</tr>
<tr>
<td>189</td>
<td>Implementation of Robust Solid State Drive controller using LZ77 compression and SHA-1 encryption technique</td>
<td>Amanda Kelly D'Costa, Raksha K P and Vasanthi D R</td>
</tr>
<tr>
<td>193</td>
<td>Design of low power SAR ADC with two different DAC structure and two different SAR logic designs and their comparisons</td>
<td>Chirapangi Aruna Kumari, G.M.G. Madhuri, Burri Praveen Kitty and Movva Naga Lakshmi Kalyani</td>
</tr>
<tr>
<td>200</td>
<td>Distributed Mining of Significant Frequent Colossal Closed Itemsets from Long Biological Dataset</td>
<td>Manjunath K Vanahalli and Nagamma Patil</td>
</tr>
</tbody>
</table>
205  OP3DBFT: A Power and Performance Optimal 3D BFT NoC Architecture
     Bheemappa Halavar and Basavaraj Talawar

207  An FPGA based Hardware Accelerator for Classification of Handwritten Digits
     Gautham Sundar Ram Ramesh, Nitin Chaturvedi, Sumeet Saurav and Sanjay Singh

04:00 - 04:20 Coffee break

04:20 - 05:20: Parallel Session: ISDA - 08

192  An Efficient Outlier Detection Mechanism for RFID-Sensor Integrated MANET
     Adarsh Kumar and Alok Aggarwal

206  Comparative Analysis of Elliptic Curve Cryptography based Lightweight Authentication
     Protocols for RFID-Sensor Integrated MANETs
     Adarsh Kumar and Alok Aggarwal

213  Feature Selection using Fast Ensemble Learning for Network Intrusion Detection
     Ujjwal Pasupulety, Adwaith Cd, Suraj Hegde and Nagamma Patil

214  An Embedded System for Watershed Based Hard Exudate Extraction
     Vasanthi Satyananda, Narayanaswamy K V and Karibasappa K

04:20 - 05:05: Parallel Session: ISDA - 09

215  Detection of Exudates from Fundus Images
     Vasanthi Satyananda, Narayanaswamy K V and Karibasappa K

216  Intuitionistic Fuzzy Soft Aggregation Operator Based on Einstein Norms And its
     Applications in Decision-making
     Rishu Arora

217  Parametric Similarity Measures on Linguistic Single-Valued Neutrosophic Sets with
     Application to Decision-making Problems
     Nancy

04:20 - 05:05: Parallel Session: ISDA - 10

222  A State-of-Art review on Automatic Video Annotation Techniques
     Krunal Randive and Mohan R

223  A Robust Speech Encryption system based on DNA Addition and Chaotic Maps
     Nagakrishnan R and Revathi A

347  A Single Ended Fuzzy Based Directional Relaying Scheme For Transmission Line
     Compensated by Fixed Series Capacitor
     Praveen Kumar Mishra and Anamika Yadav

06:00 Cultural Programme followed by Conference Banquet
December 07, 2018

09:00 - 10:00: Plenary 2 (Junzo Watada, Universiti Teknologi PETRONAS, Seri Iskandar, Perak Malaysia)

10:00 - 10:20: Coffee break

10:20 - 11:20: Plenary 3 (Nelishia Pillay, University of Pretoria, South Africa)

11:20 - 01:00: Parallel Session: ISDA - 11

40 Performance comparison of PID and ANFIS controller for stabilization of x and x-y Inverted pendulums
   Vikram Chopra, Ishan Chawla and Ashish Singla

151 Authorship Identification with Multi Sequence Word Selection Method
   Mubin Tamboli and Rajesh Prasad

231 A Novel Approach for Operational Performance Mail Processing Facility Layout selection using Grey Relational Analysis: A Case on India Speed Post Service Industry
   Vadivel S M and A H Sequeira

239 Differential Evolution trained Fuzzy Cognitive Map: An Application to modeling efficiency in Banking
   Gutha Jaya Krishna, Meesala Smruthi, Vadlamani Ravi and Bhamidipati Shandilya

250 Analysis on Improving the Performance of Machine Learning Models using Feature Selection Technique
   Maajid Khan, Nalina Madhav, Anjali Negi and Sumaiya Thaseen

255 Hybrid Evolutionary Algorithm for Optimizing Reliability of Complex Systems
   Gutha Jaya Krishna and Vadlamani Ravi

11:20 - 01:00: Parallel Session: ISDA - 12

252 A Normalized Rank Based A* Algorithm For Region Based Path Planning On An Image
   Sangeetha Viswanathan, Sivagami Ramadass and Ravichandran K S

253 Quantum inspired high dimensional conceptual space as KID model for elderly assistance
   Ishwarya Srinivasan and Cherukuri Cherukuri

256 Identification of Phishing Attack in Websites using Random Forest-SVM hybrid model
   Amritanshu Pandey, Noor Gill, Kashyap Sai Prasad Nadendla and Sumaiya Thaseen

257 Conflict Detection and Resolution with Local Search Algorithms for 4D-Navigation in ATM
Vitor Filincowsky Ribeiro, Henrique Torres de Almeida Rodrigues, Vitor Bona de Faria, Li Weigang and Reinaldo Crispiniano Garcia

260 A semi-local method for image retrieval
Hanen Karamti

11:20 - 01:00: Parallel Session: ISDA - 13

263 Physical Modeling Of The Tread Robot And Simulated On Even And Uneven Surface
Rashmi Arora and Rajmeet Singh

264 ipBF: A Fast and Accurate IP Address Lookup using 3D Bloom Filter
Ripon Patgiri, Samir Kumar Borgohain and Sabuzima Nayak

267 Comparison of a Backstepping and a Fuzzy Controller for Tracking a Trajectory with a Mobile robot
Rodrigo Silva, Daniel Gamarra and Marco Antonio Cuadros

332 Interval Chi-Square Score (ICSS): Feature Selection of Interval Valued Data
D S Guru and N Vinay Kumar

348 Hybrid of Intelligent Minority Oversampling and PSO-based Intelligent Majority Undersampling for Learning from Imbalanced Datasets
Seba Susan and Amitesh Kumar

270 Construction and Merging of ACM and ScienceDirect Ontologies
M. Priya and Aswani Kumar Cherukuri

11:20 - 01:00: Parallel Session: NaBIC - 02

31 Distributed Scheduling with Effective Holdoff Algorithm in Wireless Mesh Networks
K.S. Mathad and S.R. Mangalwede

36 List-Based Task Scheduling Algorithm For Distributed Computing System Using Artificial Intelligence
Akanksha Akanksha

55 Metaheuristic for Optimize the India Speed Post Facility Layout Design and Operational Performance Based Sorting Layout Selection using DEA Method
Vadivel S M, Sequeira A H and Sunil Kumar Jauhar

56 A Hybrid Evolutionary Algorithm for Evolving A Conscious Machine
Vijay Kanade

65 Mixed Reality in Action - Exploring Applications for Professional Practice
Adam Nowak, Mikołaj Woźniak, Michał Pieprzowski and Andrzej Romanowski

01:00 - 02:00: Lunch
02:00 - 04:00: Parallel Session: ISDA - 14

145  A Prototype Model Of Hand Assistive System Useful For Hearing Impaired
     Divya Udayan J, Anupama Ingale and Hemalata R

268  Modelling complex transport network with Dynamic Routing: a Queueing Networks
     approach
     Elmira Yu Kalimulina

269  Math modeling of the reliability control and monitoring system of complex network
     platforms
     Elmira Yu Kalimulina

273  Towards an Upper Ontology and Hybrid Ontology Matching for Pervasive Environments
     Karthik N and Ananthanarayana V S

278  Design and Application of Controller based on Sine-Cosine Algorithm for Load
     Frequency Control of Power System
     Saswati Mishra, Shubhrata Gupta and Anamika Yadav

279  A Perusal Analysis on Hybrid Spectrum Handoff schemes in Cognitive Radio Networks
     Josephine Dhivya

282  On Human Identification using Running Patterns: a Straightforward Approach
     Anusha R and Jaidhar C D

283  Analysis of Encoder-Decoder based deep learning architectures for semantic
     segmentation in remote sensing images
     Sivagami R, Srihari J and Ravichandran K S

02:00 - 04:00: Parallel Session: ISDA - 15

285  Le vision
     Neela Maadhuree and Ruben Mathews

286  Permission-based Android Malware Application Detection using Multi-Layer Perceptron
     Jannath Nisha O S and Mary Saira Bhanu S

287  Accelerating Image Encryption with AES using GPU: A Quantitative Analysis
     Aryan Saxena, Vatsal Agrawal, Rajdeepa Chakrabarty, Shubhjeet Singh and J. Saira Banu

296  Image Encryption Using New Chaotic Map Algorithm
     Subashanthini Selvaraj, Aswani Kumar Cherukuri and Pounambal M

297  Fast Implementation of Tunable ARN nodes
     Shilpa Mayannavar and Uday Wali

305  Facial Keypoint Detection Using Deep Learning And Computer Vision
     Middi Venkata Sai Rishita, Kevin Job Thomas and Tanvir Ahmed Harris
A group recommender system for academic venue personalization  
Abir Zawali and Imen Boukhris

An Augmented Algorithm for Energy Efficient Clustering  
Ushus Zachariah and Lakshmanan Kuppusamy

02:00 - 04:00: Parallel Session: ISDA - 16

Family Coat of Arms and Armorial Achievement Classification  
Martin Sustek, Frantisek Vidensky, Frantisek Zboril and Frantisek Zboril

FAST Community Detection for Proteins Graph-based Functional Classification  
Ben Rejab Arbi and Imen Boukhris

A Crisp-Based Approach for Representing and Reasoning on Imprecise Time Intervals in OWL 2  
Fatma Ghorbel, Elisabeth Métais and Faycal Hamdi

Algorithmic creation of genealogical models  
Frantisek Zboril, Jaroslav Rozman and Radek Koci

Performance Evaluation of Data stream mining Algorithm with shared density graph for micro and macro clustering  
Gopinathan S and Ramesh L

Data Mining with Association Rules for Scheduling Open Elective Courses using Optimization Algorithms  
Seba Susan and Aparna Bhutani

Compressed Sensing in Imaging and Reconstruction - An Insight Review  
Sreekala K and Dr. Krishna Kumar E

A Novel Decision Tree Algorithm for Fault Location Assessment in Dual-Circuit Transmission Line based on DCT-BDT Approach  
Ashok V and Anamika Yadav

04:00 - 04:20: Coffee break

04:20 - 05:05: Parallel Session: ISDA - 17

Opposition Based Salp Swarm Algorithm for Numerical Optimization  
Divya Bairath and Dinesh Gopalani

A Novel Swarm intelligence Based Optimization Method: Harris? Hawk Optimization  
Divya Bairath and Dinesh Gopalani

An Improved Opposition Based Grasshopper Optimisation Algorithm for Numerical Optimization  
Divya Bairath and Dinesh Gopalani

05:15 - 06:00: Closing ceremony
Clinical Decision Support System for Neuro-Degenerative Disorders: An Optimal Feature Selective Classifier and Identification of Predictor Markers
Lokeswari Venkataramana, Shomona Gracia Jacob, Saraswathi S and Athilakshmi R

Favoring the K-Means Algorithm with Initialization Methods
Anderson Oliveira and Maria Do Carmo Nicoletti

Authentication Scheme Using Sparse Matrix In Cloud Computing
Sunita Meena, Subhrat Sethi, Vipin Chandar Dholab, Shivani Kapur and Neeraj MANGA

Multidimensional Crime Dataset Analysis
Prerna Kapoor and Prem Singh

Review & Analysis of Few-shots Learning Approaches
Suvarna Kadam and Vinay Vaidya

Towards an Automatic Detection of Sensitive Information in Mongo Database
Heni Houyem and Gargouri Faiez

Link Quality and QoE aware Predictive Vertical Handoff mechanism for video streaming in urban VANET
Emna Bouzid Smida, Sonia Gaied Fantar and Habib Youssef

XOR Encryption Techniques For Video Steganography: A Comparative Analysis
Namrata Singh

Activity gesture recognition on Kinect sensor using Convolutional Neural Networks and FastDTW for the MSRC-12 dataset
Miguel Pfitscher, Daniel Welfer, Marco Antonio de Souza Leite Cuadros and Daniel Fernando Tello Gamarra

Plug in Electric Vehicle-Wind integrated multi-area Automatic Generation Control tuned by Intelligent Water Drops algorithm
Subhranshu Sekhar Pati, Aurobindo Behera and Tapas Kumar Panigrahi

Deep learning based approach for classification and Detection of papaya leaf diseases
Rathan Kumar Veeraballi

Three-materials image recover from value range projection data
Chuanlin Liu, Amit Yadav and Asif Khan

Multiple criteria fake reviews detection using belief function theory
Malika Ben Khalifa, Zied Elouedi and Eric Lefevre

Improved Logistic Regression Approach in feature selection for EHR
Shreyal Gajare and Shilpa Sonawani

90  K-nearest neighbors under possibility framework with optimizing parameters
Sarra Saied and Zied Elouedi

94  Perceive Core Logical Blocks of a C Program Automatically for Source Code
Transformations
Pallavi Ahire and Jibi Abraham

98  Food Monitoring Using Adaptive Naïve Bayes Prediction in IoT
Pramod Ganjewar, Barani S., Sanjeev Wagh and Santosh Sonavane

104  Mixed Credit Scoring Model of Logistic Regression and Evidence Weight in the
Background of Big Data
Keqing Chen, Amit Yadav and Asif Khan

108  A model for identifying Historical landmarks of Bangladesh from image content using a
Depth-wise Convolutional Neural Network
Afsana Ahsan Jeny, Masum Shah Junayed, Syeda Tanjila Atik and Sazzad
Mahamd

117  ADABA: an Algorithm to Improve the Parallel Search in Competitive Agents
Lidia Tomaz and Rita Julia

122  Mobility Aware Routing Protocol based on DIO message for Low power and Lossy
Networks
Shridhar Sanshi and Jaidhar Cd

123  Boosting Convolutional Neural Networks Performance based on FPGA Accelerator
Omran Al-Shamma, Mohammed Fadhel and Laith Alzubaidi

124  Real-time PCG Diagnosis using FPGA
Mohammed Fadhel, Omran Al-Shamma and Laith Alzubaidi

125  Cluster Center Initialization and Outlier Detection Based on Distance and Density for the
K-means Algorithm
Qi He, Zhenxiang Chen, Ke Ji, Lin Wang, Kun Ma, Chuan Zhao and Yuliang Shi

127  A Novel method for Retrieval of Remote Sensing Image using Wavelet Transform and
HOG
Minakshi Vharkate and Dr. Vijaya Musande

129  Classification of Red Blood Cells in Sickle Cell Anemia Using Deep Convolutional Neural
Network
Laith Alzubaidi, Omran Al-Shamma and Mohammed Fadhel

130  Robust and Efficient Approach to Diagnose Sickle Cell Anemia in Blood
Laith Alzubaidi, Mohammed Fadhel and Omran Al-Shamma

141  A UML/MARTE based design pattern for a wireless sensor node
Raoudha Saidya, Yessine Hadj Kacem, M.S Bensalah and Mohamed Abid
144 Reduced complexity affine projection algorithm based on variable projection order and multiple sub filter approach
   Radhika S and Chandrasekar A

149 Towards micro-expression recognition through Pyramid of uniform Temporal Local Binary Pattern features
   Taoufik Ben Abdallah, Radhouane Guermazi and Mohamed Hammami

150 Misbehavior Detection in C-ITS Using Deep Learning Approach
   Pranav Kumar Singh, Manish Kumar Dash, Paritosh Mittal, Sunit Kumar Nandi and Sukumar Nandi

154 Prosodic feature selection of personality traits for job interview performance
   Rohit Mishra, Santosh Kumar Barnwal, Shrikant Malviya, Prasoon Mishra and Uma Shanker Tiwary

155 A Hybrid Association Rule Miner using Probabilistic Context-free Grammar and Ant Colony Optimization for Rainfall Prediction
   Saranyadevi S, Murugeswari R, Bathrinath Sankaranarayanan and Sabitha Ms

157 Design of an Intelligent Cooperative Road Hazard Detection Persistent System
   Islam Elleuch, Achraf Makni and Rafik Bouaziz

160 A Data Mining Approach to Predict Academic Performance of Students Using Ensemble Techniques
   Samuel-Soma Ajibade, Nor Bahiah Ahmad and Siti Mariyam Shamsuddin

166 A Late Acceptance Hill-Climbing Heuristic Algorithm for the Double Vehicle Routing Problem with Multiple Stack and Heterogeneous Demand
   André Souza, Jonatas Chagas, Puca Penna and Marcone Souza

183 Crime Information Improvement for Situation Awareness Based on Data Mining
   Lucas Zanco Ladeira, Valdir Amancio Pereira Junior, Raphael Zanon Rodrigues and Leonardo Castro Botega

191 A Convolution Neural Network based Classification Approach for Recognizing Traditional Foods of Bangladesh from Food Images
   Nishat Tasnim, Md. Romyull Islam and Shaon Bhatta Shuvo

202 Intelligent System for Weather Prediction
   Vyom Unadkat, Sneh Gajiwala, Prachi Doshi and Mitchell D'Silva

203 A GPU-based jDE Algorithm Applied to Continuous Unconstrained Optimization
   Mateus Boliani, Gabriel Dominico and Rafael Stubs Parpinelli

208 Selection of Optimal Game Engine by Using AHP Approach for Virtual Reality Fire Safety Training
   El Mostafa Bourhim and Abdelghani Cherkaoui

218 An SOA Design Patterns Recommendation System based on Ontology
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>219</td>
<td>Framework for Intelligent Software Defined Networking For Wired and Wireless Networks</td>
<td>Karama Abdelhedi and Nadia Bouassida</td>
</tr>
<tr>
<td>220</td>
<td>Devanagari Character Classification using Capsule Network</td>
<td>Yashi Suba, Jeel Sukhadiya and Mitchell D'Silva</td>
</tr>
<tr>
<td>221</td>
<td>Lightweight Cipher using GRP Bit permutation &amp; Tweak</td>
<td>Aruna Gawade and Narendra Shekokar</td>
</tr>
<tr>
<td>225</td>
<td>Digital Color Documents Authentication using QR Code Based on Digital Watermarking</td>
<td>Zinah Mohsin Arkah and Laith Alzubaidi</td>
</tr>
<tr>
<td>227</td>
<td>Comparative study of Regression Models &amp; Deep Learning models for Insurance cost prediction</td>
<td>Aditya Shinde and Purva Raut</td>
</tr>
<tr>
<td>228</td>
<td>Extending Borda rule under q-rung orthopair fuzzy set for multi-attribute group decision-making</td>
<td>R. Krishankumar, S. Shyam, R. P. Nethra, S. Srivatsa and K.S. Ravichandran</td>
</tr>
<tr>
<td>235</td>
<td>Recognition of Handwritten Meitei Mayek and English Alphabets using Combination of Spatial Features</td>
<td>Sanasam Inunganbi and Prakash Choudhary</td>
</tr>
<tr>
<td>237</td>
<td>A Self-Adaptive Differential Evolution with Local Search Applied to Multimodal Optimization</td>
<td>Gabriel Dominico, Mateus Boiani and Rafael Stubs Parpinelli</td>
</tr>
<tr>
<td>242</td>
<td>Novel Authentication System for Personal and Domestic Network Systems Using Image Feature Comparison and Digital Signatures</td>
<td>Hrishikesh Narayanankutty and Chungath Srinivasan</td>
</tr>
<tr>
<td>243</td>
<td>Detecting Helmet of Bike Riders in Outdoor Video Sequences for Road Traffic Accidental Avoidance</td>
<td>Naresh Kumar and Nagarajan Sukavanam</td>
</tr>
<tr>
<td>244</td>
<td>Strategies and Challenges in Big data: A short review</td>
<td>Santhosh Kumar D K</td>
</tr>
<tr>
<td>247</td>
<td>Autonomous Water Surveillance Rover</td>
<td>Nirav Shah, Chirag Shah and Abhishek Rai</td>
</tr>
<tr>
<td>248</td>
<td>Bidirectional LSTM Joint Model for Intent Classification and Named Entity Recognition in Natural Language Understanding</td>
<td></td>
</tr>
</tbody>
</table>
Akson Varghese, Saleha Sarang, Vipul Yadav, Bharat Karotra and Niketa Gandhi

251  Runtime UML MARTE extensions for the design of adaptive RTE systems
     Nissaf Fredj, Yessine Hadj Kacem and Mohamed Abid

258  Using Severe Convective Weather Information for Flight Planning
     Iuri Souza Ramos Barbosa, Igor da Silva Bonomo, Leonardo L. Cruciol,
     Lucas Borges Monteiro, Vinicius R. P. Borges and Li Weigang

259  Fault Tolerant Control Using Interval Type-2 Takagi-Sugeno Fuzzy Controller for Nonlinear System
     Himanshukumar Patel and Vipul Shah

265  From dynamic UML/MARTE models to early schedulability analysis of RTES with dependent tasks
     Amina Magdich, Yessine Hadj Kacem and Bouthaina Dammak

266  Improving Native Language Identification Model with Syntactic Features: Case of Arabic
     Seifeddine Mechtli, Nabil Khoufi and Lamia Hadrich Belguith

271  An Empirical Assessment of Functional Redundancy Semantic Metric
     Daliia Amara, Ezzeddine Fatnassi and Latifa Ben Arfa Rabai

272  An enhanced plagiarism detection based on syntactico-semantic knowledge
     Wafa Wali, Bilel Gargouri and Abdelmajid Ben Hamadou

274  Emotion Assessment Based on EEG Brain Signals
     Sali Issa, Qinmu Peng, Xinge You and Wahab Ali Shah

284  Predicting Efficiency of Direct Marketing Campaigns for Financial Institutions
     Sneh Gajiwala, Arjav Mehta and Mitchell D'Silva

288  Intelligent Analysis in Question Answering System based on an Arabic Temporal Resource
     Mayssa Mtibaa, Zeineb Neji, Mariem Ellouze and Lamia Hadrich Belguith

289  Towards the evolution of graph oriented databases
     Soumaya Boukettaya, Ahlem Nabli and Faiez Gargouri

291  Arabic Logic Textual Entailment with Feature Extraction and Combination
     Mabrouka Ben-Sghaier, Wided Bakari and Mahmoud Neji

292  Transformation of Data Warehouse Schema To NoSQL Graph Data Base
     Amal Sellami, Ahlem Nabli and Faiez Gargouri

293  Translation of UML models for self-adaptive systems into Event-B specifications
     Marwa Hachicha, Riadh Ben Halima and Ahmed Hadj Kacem

294  Evolutionary Multi-objective Whale Optimization Algorithm
Md. Faisal Ahmed Siddiqi Siddiqi and Chowdhury Mofizur Rahman

295 Comparative Performance Analysis of Different Classification Algorithm for the Purpose of Prediction of Lung Cancer
Subrato Bharati, Prajoy Podder, Rajib Mondal, Md. Raihan Al Masud and Atiq Mahmood

303 Efficient Framework for Detection of Version Number Attack in Internet of Things
Rashmi Sahay, Geethakumari G, Barsha Mitra and Ipsit Sahoo

306 Implementation of Harmonic Oscillator using Xilinx System Generator
Darshana Sankhe, Rajendra Sawant and Y Srinivas Rao

307 Image Classification using Deep Learning and Fuzzy Systems
Chandrasekar Ravi

309 An Evidential Collaborative Filtering Dealing with Sparsity Problem and Data Imperfections
Raoua Abdelkhalek, Imen Boukhris and Zied Elouedi

310 Study of e-learning system based on cloud computing: a survey
Sameh Azouzi, Sonia Ayachi Ghannouchi and Zaki Brahim

311 Trusted friends’ computation method considering social network interactions’ time
Mohamed Frihka, Houcemeddine Turki, Mohamed Mhiri and Faiez Gargouri

316 Delay-Quality of Link aware Routing protocol enhancing video streaming in urban VANET
Emna Bouzid Smida, Sonia Gaied Fantar and Habib Youssef

317 Incremental k-means based on split technique
Chedy Ounali, Fahmi Ben Rejab and Kaouther Nouira Ferchichi

322 Imprecise label aggregation approach under the belief function theory
Lina Abassi and Imen Boukhris

324 Analysis Of Left Main Coronary Bifurcation Angle To Detect Stenosis
Jevitha Sankar, Dhanalakshmi M and Pradeep G Nayar

327 Android Malicious Application Classification Using Clustering
Hemant Rathore, Sanjay K. Sahay, Palash Chaturvedi and Mohit Sewak

337 Understanding learner engagement in a Virtual Learning Environment
Fedia Hlioui, Nadia Aloui and Faiez Gargouri

338 Efficient Personal Identification Intra-Modal System by fusing Left and Right Palms
Raouia Mokni and Monji Kherallah

346 A comparative study of the 3D quality metrics: application to masking Database
Nessrine Elloumi, Habiba Loukil Hadj Kacem and Med Salim Bouhlel
Gender identification: A comparative study of deep learning architectures
Bassem Bsir and Mounir Zrigui

Sizing and placement of DG and UPQC for improving the profitability of distribution system using multi-objective WOA
Hossein Shayeghi, M. Allilo and B. Tousi

Classification of Hyper spectral Remote Sensing Imagery using intrinsic parameter estimation
Boggavarapu L N P and Prabukumar Manoharan

Probabilistic PCA based Hyper spectral image Classification for Remote sensing Applications
Radhesyam Vaddi and Prabukumar Manoharan

NaBIC 2018 - Virtual Presentations
====================================

Performance Analysis of Psychological Disorders for a Clinical Decision Support System
Shivakarthik S, Krishnanjan Bhattacharjee, Swati Mehta, Ajai Kumar, Anil Kamath, Nirav Raje, Saishashank Konduri, Hardik Shah and Varsha Naik

Qualitative Collaborative Sensing In Smart Phone Based Wireless Sensor Networks
Wilson Thomas and E Madhusudhana Reddy

Phylogenetic Tree Construction Using Chemical Reaction Optimization
Avijit Bhattacharjee, Sk Rahad Mannan and Md Rafiqul Islam

Application Of Artificial Neural Networks And Genetic Algorithm For The Prediction Of Forest Fire Danger In Kerala
Maya L Pai, Varsha K S and Arya R

A Hybrid Bat Algorithm for Community Detection in Social Networks
Seema Rani and Monica Mehrotra

Design of effective algorithm for EMG Artifact Removal from Multichannel EEG Data Using ICA and Wavelet Method
Rupal Kashid and Kiransing Paradeshi

Detecting Sarcasm in Text
Sakshi Thakur, Sarbjeet Singh and Makhan Singh

Location-Allocation Problem: A Methodology with VNS metaheuristic
Beatriz Bernábe Loranca, Martin Estrada, Rogelio Gonzalez, Gerardo Martínez Gúzman and Jorge Alberto Ruiz-Vanoye

Artificial Neural Networks: the missing link between curiosity and accuracy
Giorgia Franchini, Paolo Burgio and Luca Zanni

A Cost Optimal Information Dispersal Framework for Cloud Storage System
Sukhwant Kaur, Makhan Singh and Sarbjeet Singh

58  Multiple Sequence Alignment Using Chemical Reaction Optimization Algorithm
    Md. Shams Wadud, Md. Rafiqul Islam, Nittyananda Kundu and Md. Rayhanul Kabir

59  Forensic Approach of Human Identification using Dual Cross Pattern of Hand Radiographs
    Sagar Joshi and Rajendra Kanphade

67  AMGA: An Adaptive and Modular Genetic Algorithm for the Traveling Salesman Problem
    Ryoma Ohira, Md. Saiful Islam, Jun Jo and Bela Stantic