

# Final Technical Program

(Updated December 08, 2023)

23rd International Conference on  
**Intelligent Systems Design and Applications (ISDA'23)**

23rd International Conference on  
**Hybrid Intelligent Systems (HIS'23)**

19th International Conference on  
**Information Assurance and Security (IAS'23)**

15th International Conference on  
**Soft Computing and Pattern Recognition (SoCPaR'23)**

15th World Congress on  
**Nature and Biologically Inspired Computing (NaBIC'23)**

14th International Conference on  
**Innovations in Bio-Inspired Computing and Applications  
(IBICA'23)**

13th World Congress on  
**Information and Communication Technologies (WICT'23)**

Organized by



**5 Venues and Online**

*Olten, Switzerland; Porto, Portugal; Kaunas, Lithuania; Delhi, India and Kochi, India*

# December 11-15, 2023

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## Online Program Overview (All times are listed in GMT)

Event	December	Time
<b>Conference Opening Ceremony</b>	11	08:45 GMT - 09:00 GMT
<b>Plenary Session 1:</b> <i>Stefka Fidanova, Bulgaria</i>	11	09:00 GMT - 10:00 GMT
<b>Plenary Session 2:</b> <i>Sebastian Ventura, Spain</i>	11	10:00 GMT - 11:00 GMT
<b>Plenary Session 3:</b> <i>Diego Oliva, Mexico</i>	11	11:00 GMT - 12:00 GMT
<b>Session 1 (Olten, Switzerland)</b>	11	09:00 GMT - 13:00 GMT
<b>ISDA: Parallel Session 1</b>	11	09:00 GMT - 13:00 GMT
<b>ISDA: Parallel Session 2</b>	11	09:00 GMT - 13:00 GMT
<b>ISDA: Parallel Session 3</b>	11	09:00 GMT - 13:00 GMT
<b>ISDA: Parallel Session 4</b>	11	13:00 GMT - 15:00 GMT
<b>ISDA: Parallel Session 5</b>	11	13:00 GMT - 15:00 GMT
<b>ISDA: Parallel Session 6</b>	11	13:00 GMT - 15:00 GMT
<b>Plenary Session 4:</b> <i>Theresa Schmiedel, Switzerland</i>	12	09:00 GMT - 10:00 GMT
<b>Plenary Session 5:</b> <i>Nuno Bettencourt, Portugal</i>	12	10:00 GMT - 11:00 GMT
<b>Plenary Session 6:</b> <i>João Pedrosa, Portugal</i>	12	11:00 GMT - 12:00 GMT
<b>Plenary Session 7:</b> <i>Christine Zarges, UK</i>	12	12:00 GMT - 13:00 GMT
<b>Session 2 (Porto, Portugal)</b>	12	09:00 GMT - 13:00 GMT
<b>ISDA: Parallel Session 7</b>	12	09:00 GMT - 13:00 GMT
<b>ISDA: Parallel Session 8</b>	12	09:00 GMT - 13:00 GMT
<b>ISDA-HIS: Parallel Session 9</b>	12	09:00 GMT - 13:00 GMT
<b>HIS: Parallel Session 10</b>	12	13:00 GMT - 15:00 GMT
<b>HIS: Parallel Session 11</b>	12	13:00 GMT - 15:00 GMT
<b>HIS: Parallel Session 12</b>	12	13:00 GMT - 15:00 GMT
<b>Session (Kaunas, Lithuania)</b>	13	09:00 GMT - 10:00 GMT
<b>Plenary Session 8:</b> <i>Dalia Kriksciuniene, Lithuania</i>	13	09:00 GMT - 10:00 GMT
<b>Plenary Session 9:</b> <i>Ke Feng, Singapore</i>	13	10:00 GMT - 11:00 GMT
<b>Plenary Session 10:</b> <i>Kusum Deep, India</i>	13	11:00 GMT - 12:00 GMT
<b>Session 3 (Delhi, India)</b>	13	05:00 GMT - 09:00 GMT
<b>HIS-IAS: Parallel Session 13</b>	13	09:00 GMT - 13:00 GMT
<b>IAS-SoCPaR: Parallel Session 14</b>	13	09:00 GMT - 13:00 GMT
<b>SoCPaR: Parallel Session 15</b>	13	13:00 GMT - 15:00 GMT
<b>SoCPaR: Parallel Session 16</b>	13	13:00 GMT - 15:00 GMT
<b>SoCPaR: Parallel Session 17</b>	13	13:00 GMT - 15:00 GMT
<b>Session 4 (Kochi, India)</b>	14	05:00 GMT - 09:00 GMT
<b>Plenary Session 11:</b> <i>Milan Tuba, Serbia</i>	14	09:00 GMT - 10:00 GMT
<b>Plenary Session 12:</b> <i>Aboul Ella Hassaneinen, Egypt</i>	14	10:00 GMT - 11:00 GMT
<b>NaBIC-IBICA: Parallel Session 18</b>	14	09:00 GMT - 13:00 GMT
<b>IBICA-WICT: Parallel Session 19</b>	14	09:00 GMT - 13:00 GMT
<b>WICT: Parallel Session 20</b>	14	09:00 GMT - 13:00 GMT

**Recorded Session (Offline) Program Overview (All times are listed in GMT)**

<b>Event</b>	<b>December</b>	<b>Time</b>
<b>ISDA Recorded Session 1</b>	11	08:00 GMT - 12:00 GMT
<b>ISDA Recorded Session 2</b>	11	12:00 GMT - 16:00 GMT
<b>ISDA Recorded Session 3</b>	12	08:00 GMT - 12:00 GMT
<b>ISDA Recorded Session 4</b>	12	12:00 GMT - 16:00 GMT
<b>HIS Recorded Session 5</b>	13	08:00 GMT - 12:00 GMT
<b>HIS Recorded Session 6</b>	13	12:00 GMT - 16:00 GMT
<b>IAS Recorded Session 7</b>	14	08:00 GMT - 12:00 GMT
<b>SoCPaR Recorded Session 8</b>	14	12:00 GMT - 16:00 GMT
<b>NaBIC Recorded Session 9</b>	15	08:00 GMT - 12:00 GMT
<b>IBICA-WICT Recorded Session 10</b>	15	12:00 GMT - 16:00 GMT

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## December 11, 2023

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**08:45 GMT - 09:00 GMT: Conference Opening Ceremony**

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**09:00 GMT -10:00 GMT**

**Plenary Session 1 (online):** *Stefka Fidanova, Bulgarian Academy of Sciences, Bulgaria*

**Title:** How Ants Can Solve Engineering Problems

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**10:00 GMT -11:00 GMT**

**Plenary Session 2 (online):** *Sebastian Ventura, University of Cordoba, Spain*

**Title:** Advance Machine Learning to Improve Predictive Maintenance

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**11:00 GMT -12:00 GMT**

**Plenary Session 3 (online):** *Diego Oliva, Universidad de Guadalajara, Mexico*

**Title:** Metaheuristic Algorithms: Open Challenges in Engineering

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**Venue: Olten, Switzerland**

**Technical Session 1 - December 11, 2023 09:00 GMT - 12:00 GMT**

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- 44 Josua Käser; Thomas Hanne; Rolf Dornberger  
Large Language Models for Named Entity Recognition (NER) of Skills in Job Postings in German
- 193 Barrion, Marck Herzon C.; Bandala, Argel A.; Maningo, Jose Martin Z; Dadios, Elmer P.; Naguib, Raouf; Jose, John Anthony C  
Hybrid Artificial Bee Colony and Spherical Vector-based Particle Swarm Optimization Algorithm for UAV Path Planning
- 233 Kaufmann, Carla; Schmiedel, Theresa; Christen, Patrik  
Using Generative Artificial Intelligence in University Teaching
- 338 Drias, Yassine; Drias, Habiba; Tiloult, Aya; Çakar, Tuna  
Secure Information Foraging using Fully Homomorphic Encryption and AGNES Clustering

### HIS 2023

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A New Hybrid Computational Intelligence Approach for Heart Disease Prediction

## NaBIC 2023

- 21 Julia Huilla; Rolf Dornberger; Thomas Hanne  
Exploring the Effects of Weight Initialization Methods Combined with Different Activation Functions in Feedforward Neural Networks
- 27 Böhnhof, Berenice N.; Hanne, Thomas; Dornberger, Rolf; Gachnang, Phillip; Böhnhof, Gidon J.  
Optimizing CNN Architecture for Quality Control of Corneal Confocal Microscopy Images Using a Genetic Algorithm
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## **ISDA 2023: Parallel Session 1 (Online)**

December 11, 2023

09:00 GMT - 13:00 GMT

**Chairs:** Catarina I. Reis, Geetanjali Surange, Prabhakar Rao

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- 3 Sardana, Anita; Monga, Chetna  
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- 21 Phour, Himanshi; Sharma, Disha; Singh, Navjot  
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- 35 M, Vadivel S; A, Asuvaitha; R, Veeraraghavan; R S, Crdelinrea Rea; S, Aloysius Henry  
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- 37 Shyamalan, Raj; Deepak, Gerard; Vijayan, A. Santhana  
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- 40 Adapa, Sai Kumar; Panapana, Pooja; Boddu, Jagadeesh Sai; Gathram, Rushivardhan Babu; Atyam, Manikanta  
A Survey on Human-Computer Interaction: Gaming Application using Open-CV
- 45 Mehta, Sakshi; Shukla, Rishi Prakash; Shrivastav, Ashish; Jain, Sanjeev  
Machine Learning Approaches for Investing Strategies in Stock Market
- 48 Shukla, Rishi Prakash; Jain, Sanjeev; Mehta, Sakshi; Shrivastav, Ashish  
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- 51 Kaur, Sawinder; Nancy; Kumar, Parteek  
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- 54 Dhawan, Pooja; Grewal, Akshu  
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- 55 Durga Prasad, Polaki; Yelleti, Vivek; Ravi, Vadlamani  
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- 86 Faik, Ayoub; souheir, yassmine; Faik, Larbi; Belmadani, Mohamed-Oussama; Bettachi, Khawla; Faik, Rayan; Sehbani, Misk; labti, oumayma; Bourhim, El mostafa  
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December 11, 2023

09:00 GMT - 13:00 GMT

Chairs: Robertas Damaševičius, Nguyen Thi Thuy Loan, Nilesh Bhaskarrao Bahadure

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### **ISDA 2023: Parallel Session 3 (Online)**

December 11, 2023

09:00 GMT - 13:00 GMT

Chairs: João Carlos Ferreira, Sujata Dash, Elif Cesur

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- 151 Hazel, Khoulood  
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- 196 Ksiksi, Amira; Hamdani, Tarek M.; Ltifi, Hela; Alimi, Adel M.  
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- 207 Krishnamoorthy, Ramkumar; S, Nagaraj; Robert, Nismon Rio; Arockia Arul Raj, Cecil Donald; K, Suresh; T, Cynthia  
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- 208 Mukku, Lalasa K; Thomas, Joythi  
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**ISDA 2023: Parallel Session 4 (Online)**

December 11, 2023

13:00 GMT - 15:00 GMT

Chairs: Mourad Ellouze, Pranaba Kumar Mishro, Rasit Cesur

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- 150 H.Abood, Layla; Ibrahim, inaam; H. Abood, May  
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- 210 R, Sujitha; N, Mukhilan; D, Prasanth; S, Aanandhamurugan  
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- 212 Saraswathi, E; J, Faritha Banu  
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- 214 Shubham Gupta, Swetta Kukreja, Deepa Parasar, and Naufil Kazi  
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- 218 M, Archana; Thambusamy, Velmurugan  
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- 220 R, Aarthi; P, Vanitha; P, Rajalakshmi; Thomas, Shanen; V, Maadhesh,  
Brain Stroke Prediction Using Machine Learning
- 222 B N, Daivarath; Kulkarni, Srinidhi; Kokatnur, Kushal; Hegde, Vinay; Nissimagoudar, Prabha C.; H M, Gireesha; Shet, Raghavendra M; Iyer, Nalini  
Performance Analysis of Anti-lock Braking System (ABS) for different Road Surfaces
- 229 Nabajja, Subhashish; Kanojia, Mahendra G; Yadav, Tapasya Manoj  
Choledochal cancer region detection in hyperspectral tissue images using U-Net
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- 319 Ascher, Dominik; Hackenberg, Georg  
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## **ISDA 2023: Parallel Session 5 (Online)**

December 11, 2023

13:00 GMT - 15:00 GMT

Chairs: Victor Fedoseev, Anjula Mehto, Sangeetha R G

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- 246 ShanthaKumari R, Roopa Devi E M, Vinothkumar S, Asifaa Sulthana N, Fahima Begum B, Kaushik G  
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- 267 A R, Sathyabama  
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- 278 M, Krishnaveni; Parthasarathy, Subashini; R, Janani; N, Jeeva  
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- 280 Bhatt, Priya; Walambe, Rahee; Gupta, Shubhashi; Jain, Priyanka; Kotecha, Ketan V; Jain, N K  
Multimodal Emotion Classification: Implications for Cognitive Science and Human Behavior
- 288 Subbiah, Priyanga; Tyagi, Amit Kumar; N, Krishnaraj  
Chicken Swarm Algorithm with Deep Learning for Plant Leaf Disease Detection and Classification

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## **ISDA 2023: Parallel Session 6 (Online)**

December 11, 2023

13:00 GMT - 15:00 GMT

Chairs: Fátima Rodrigues, Sirine Marrakchi, Tapas Badal

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- 289 M, Maranco; Tyagi, Amit Kumar; M., Sivakumar  
Improved Wild Horse Optimizer with Deep Learning Model for Skin Lesion Detection and Classification on Dermoscopic Images
- 290 Thandapani, Preethiya; Tyagi, Amit Kumar; T, Pandiarajan  
Comparative Analysis of Machine Learning Algorithms in Thyroid Disease Prediction
- 294 Sharma, Ojasvi; Savarn, Shivam; Deepak, Gerard  
OGGPS: An Automatic Intelligence Driven Approach for Ontology Generation on Gandhian Philosophy and Peace Studies
- 296 PC, Sridevi; Thambusamy, Velmurugan  
Enhancing Sentiment Analysis of User Response for COVID-19 Vaccinations tweets Using SentiWordNet-Adjusted VADER Sentiment Analysis (SAVSA): A Hybrid Approach
- 297 Selem, Mehdi; Jemili, Farah  
A Comparative Study of CNNs and DNNs Deep Learning Algorithms for Enhancing IoT Attack Detection
- 298 Ali Braheemi, Zainab; Al-Janabi, Samaher  
Uniting Optimization and Deep Learning for Complex Problem Solving: A Comprehensive Review
- 300 Ben Jmaa, Yomna  
A review of path planning algorithms
- 301 Thakur, Ayush; Maheshwari, Alka; Ahuja, Laxmi  
VR Tourism: A Comprehensive Solution with Blockchain Technology, AI-Powered Agents, and Multi-User Features
- 304 Verma, Manisha; Singh, Jagendra; Kumari, Sangeeta  
Revolutionizing Heart Disease Prediction and Identification with Machine Learning and FFTBased Recommender System
- 305 K. G, Preetha; S, Saritha; Tony, Raphael; C J, Joel Manual; Dinny, Reuben  
Interactive Chatbot with AI Support for Universities: Enhancing Student Engagement and Administrative Efficiency
- 306 M, Vadivel S; Jayakrishnan, Balaji; K, Sivakumar; C, Buvanesh; A, Bhinav  
Application of WASPAS method on Selecting Best Deemed University in India
- 307 Chaudhary, Aryan; Chadha, Raman  
Advancing Patient Care and Monitoring through the Fusion of Artificial Intelligence and the Internet of Things in Healthcare

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**December 12, 2023**

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**09:00 GMT -10:00 GMT**

**Plenary Session 4 (online):** *Theresa Schmiedel, University of Applied Sciences and Arts Northwestern Switzerland, Basel, Switzerland*

**Title:** Value-Sensitive Design of Socially Intelligent Agents

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**10:00 GMT -11:00 GMT**

**Plenary Session 5 (online):** *Nuno Bettencourt, Instituto Superior de Engenharia do Porto, Portugal*

**Title:** Blockchain and DLT: Where Does It Stand

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**11:00 GMT -12:00 GMT**

**Plenary Session 6 (online):** *João Pedrosa, INESC TEC, Portugal*

**Title:** AI in Medical Imaging: Growing Pains and How to Dig Deeper

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**12:00 GMT -13:00 GMT**

**Plenary Session 7 (online):** *Christine Zarges, Aberystwyth University, UK*

**Title:** Mathematical Foundations of Randomised Optimisation Algorithms

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**Venue: Porto, Portugal**

**Technical Session 2 - December 12, 2023 09:00 GMT - 12:00 GMT**

**NaBIC 2023**

35 Gutiérrez, Juan Manuel; Jiménez López, Irari; Molina Quiroga, Jeniffer; Valdez Garduño, Luis Fernando  
Classification of teas using Machine and Deep Learning methods on a custom e-nose platform

**SoCPaR 2023**

89 Branco, Beatriz; Barbosa, Ramiro  
Deep Learning in Automated Tests for the Automotive Industry

**IBICA 2023**

9 Barranha Rodrigues dos Santos, Nuno M; Curado Silveirinha, Joel; ferreira, joao carlos A  
Blockchain's Potential in International Criminal Justice: A Blue Ocean Analysis and Literature Review

13 Ferreira, Joao carlos A; Elvas, Luis; Helgheim, Berit Irene  
Hospital Remote Care Assistance AI to Reduce Workload

- 19 Bista, Rabindra; Sharma, Binay; Sanjog, Sigdel; Khanal, Santosh; ferreira, joao carlos A  
Improving Evaluation Measures Using Ensemble Technique in Diabetes Dataset
- 20 Bista, Rabindra; Sanjog, Sidgel; Ferreira, Joao Carlos A  
Gait Analysis for Early Detection of Cardiovascular Diseases Using MPU-6050 Sensor: An  
Analytical Framework with Data Augmentation Algorithm
- 21 Phuyal, Sudip; Elvas, Luís B.; Ferreira, Joao Carlos A; Bista, Rabindra  
Wearable Devices for Long-Term Care – Survey and Opportunities
- 26 Khanal, Santosh; Bista, Rabindra; Ferreira, Joao Carlos A  
Doctors' Handwriting Recognition Using CNN and BLSTM Models
- 39 Ferreira, Joao Carlos A; Tomaz, Carlos; Curado Silveirinha, Joel  
Application of Blockchain Technology in the Context of A Security Operations Centre (SOC)  
Log Management
- 40 Barranha Rodrigues dos Santos, Nuno M; Ferreira, Joao Carlos A; Curado Silveirinha, Joel  
Multiparty Trust Levels in Evidence Management: Ensuring Tamper-Proof Chain of Custody  
in Blockchain
- 63 Phuyal, Sudip; ferreira, joao carlos A; Bista, Rabindra  
Blockchain Technology in Healthcare: Centralizing Patient Medical Records - A Survey

### **HIS 2023**

- 105 César, Inês, Pereira, Ivo; Rodrigues, Fátima, Miguéis, Vera, Nicola, Susana, Madureira, Ana  
M  
Multimodal Learning Applications on Digital Marketing: A Review
- 108 Mações, José, Cunha, Bruno, Amorim, Ivone, Madureira, Ana M  
Computer Vision for Accessible Intelligent Rehabilitation: An Overview
- 112 Azevedo, Vasco, Madureira, Ana M, Pereira, Ivo, Coelho, Duarte, Rebelo, M Miguel; Oliveira,  
Daniel  
SMS Send Frequency Prediction: Case Study

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### **ISDA 2023: Parallel Session 7 (Online)**

December 12, 2023

09:00 GMT - 13:00 GMT

Chairs: Devi Priya, Priyanka Jangra, J Faritha Banu

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- 311 M, Vadivel S; A, Eswaran; I, Praveena; Shetty, Deeksha Sanjay; A, Abhinav  
Valuation of Trash Management in Railway Compartment using ENTROPY – a MCDM  
method
- 315 Abe, Ryotaro; Cai, Jinyu; Wang, Tianchen; Li, Jialong; Honiden, Shinichi; Tei, Kenji  
Towards Enhancing Driver's Perceived Safety in Autonomous Driving: a Shield-based  
Approach
- 317 B, Aruna Devi; N, Karthik  
Data Imputation using Correlation-based Machine Learning Algorithms

- 321 Gupta, Rohan  
Secure Quick response using Python with GUI
- 324 Gupta, Rohan  
License Plate Recognition System using Computer Vision
- 326 Meriem, Naji; Hicham, Zougagh; Youssef, Saadi; Hamid, Garmani; Youssef, Oukissou  
Attack and anomaly detection in IoT sensors using machine learning approaches
- 327 Khoi, Bui Huy  
Algorithm for Boycotting Behavior for Fake Goods: Evidence from Vietnam
- 329 M, Vadivel S; k, loganathan; I, Praveena; S, Aloysius Henry; A, Abhinav  
Assessing for online teaching effectiveness using VIKOR method during Covid Pandemic times
- 331 Hooda, Nisha; Kumar, Rakesh  
Comparison Between Feature Extraction Algorithms for Sentiment Recognition from Text
- 333 Zmezm, Hareth Fareed; Luna, Christian; Luna, Jose Maria; Ventura Soto, Sebastián  
ChronoEdgeMiner: A Novel Algorithm for Extracting Frequent Temporal Graphs from Data
- 335 Ben Aoun, Najib  
Deep Learning-Based Pain Intensity Estimation from Facial Expressions
- 336 Rahali, Mourad  
Comparative Study of Image Compression Methods using Artificial Neural Networks based on Semi-Log Quantization
- 337 Aliberti, Luca; D'Aniello, Giuseppe; Gaeta, Matteo; Sorrentino, Emilio  
Granular Clustering for Maritime Situation Awareness
- 340 Divate, Manisha S  
Hybrid Morph-Analysis Model for Marathi
- 341 P, Kanishkar  
Telecom Churn Movement Prediction Using Machine Learning
- 342 Singh, Sandeep; Alkhayyat, Ahmed; Yadav, Kanchan; misra, neeti; Singh, Indrasen; Dogra, Ayush  
Web Server Solution for Community-Centric Market Listing Network with Category Filters
- 343 Dogra, Ayush; Alkhayyat, Ahmed; Saxena, Archana; Dixit, Krishna Kant; Singh, Indrasen; Singh, Sandeep  
Enhancing Data Privacy and Security in Healthcare IoT Applications through Edge Data Filtering and Encryption for Secure and Compliant Cloud Transmission
- 344 M, Nancy; Joshi, Hemlata  
Tracking Sigmoid Regression with Multicollinearity in Phase I: An Approach Incorporating Control Charts
- 345 Kumar, Raman; kumar, yogendra; Alkhayyat, Ahmed; Sharma, Lovneesh; joshi, ankita; Dogra, Ayush  
Vision-Based Safety Identification and Monitoring System Using TensorFlow
- 354 Preeti  
Security Challenges and Privacy Issues in IoT Environment: A Systematic Review and Research Directions

- 355 Fetisov, Aleksandr; Litovchenko, Maksim; Shutin, Denis  
Application of evolutionary algorithms to the optimal design of non-circular actively lubricated bearings
- 357 C, Yamini; N, Priya  
Security Features on and with Documents: A Survey
- 359 M, Vadivel S; sankaran, meenakshi; a, thangaraja; RS, Mekhala  
A defendable body ornaments product design selection using CRITIC method
- 363 Wu, Mu-En; Chiang, Yu-Hung; Huang, Jun-Lin; Wu, Jimmy Ming-Tai  
Construct Alpha Factors in Cryptocurrency Market
- 
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### **ISDA 2023: Parallel Session 8 (Online)**

December 12, 2023

09:00 GMT - 13:00 GMT

Chairs: Mourad Ellouze, S. Radha, Deepti Chaudhary

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- 365 Jellali, Nesrine; soltani, rebh; Ltifi, Hela  
An Improved Eulerian Echo State Network for Static Temporal Graphs
- 367 Chawla, Vidhi; Kharmale, Preeti; Kanbargi, Sanskruti V; Dalvi, Sakshi; Gutte, Vitthal Sadashiv  
Classification of Cardiac Arrhythmia using Machine Learning Algorithms
- 369 Zear, Aditi; Gola, Kamal Kumar; Gupta, Himanshu  
Network Partition Detection and Recovery with the Integration of UAVs: A Systematic Review
- 370 E, Punithavathy; N, Priya  
Static configurations pose challenges to Resiliency patterns
- 371 M, Vadivel S; P, Alli; N, vinothbabu; Kumar, Vimal; A, Abhinav  
A dog harness product design assessment using EDAS method
- 372 M, Vadivel S; P, Suganya; C, Devanathan; S, Aloysius Henry; A, Abhinav  
Modular kitchen layout design using AHP Method - An Indian case perspective
- 375 Jana, Angshuman; Kar, Arunava  
Evaluating YouTube Videos via Sentiment Analysis: A Case Study in Code-Mixed Bangla-English Context
- 376 Purohit, Atharv v; Shet, Raghavendra M; Iyer, Nalini; Nissimagoudar, Prabha C.  
Comparative Study of PID and MPC Controller
- 378 Sara, Tasfia Akter; Nazifa, Sadia Nur; Tasneem, Shadmanee; Shakib, Tasnim Ullah; Islam, Muhammad Nazrul  
PPDHero: Requirements Elicitation and Development of a System to Empower New Mothers on Postpartum Depression
- 382 Teslya, Nikolay N; Shutiuk, Vsevolod  
Method for Linking Named Entities to Wikidata Concepts for Russian Texts
- 383 Patel, Mohit D; Deepak, Gerard  
SCRF: Strategic Course Recommendation Framework
- 385 L, Agilandeewari; Prashant Prabhavalkar, Sushant

Convolutional Neural Network (CNN) classifiers used in Land Use/Land Cover Monitoring and Classification: A review

- 386 S, Veena Madhuri; Alamanda, Sirisha; T, Prathima  
AI-Infused Finance: Predicting Stock Prices through News and Market Data Analysis
- 392 Soares, Hécio Abreu; Veras, Rodrigo; Paiva, Anselmo; Santos Moura, Raimundo  
Using Explainability to find Spurious Patterns in Textual Datasets
- 398 Marrakchi, Sirine; Kaaniche, Heni  
Solving Sparse Triangular Linear Systems: A Review of Parallel and Distributed Solutions
- 400 Nhidi, Wiem; Ben Aoun, Najib; Ejbali, Ridha  
Brood Parasitism Identification Using a Deep Learning Model with Mish Activation Function
- 401 Borges, Rodrigo N; Santos, Elineide; Machado, Vinicius Ponte; Ito, Marcia; Veras, Rodrigo  
Mobile Application for Diabetic Foot Ulcer Detection
- 407 Shukla, Rishi Prakash; Kumar, Divya  
Bridging the Mind-Machine Gap: Harnessing AI and ML for EEG Signal Processing and Brainwave Decoding
- 408 Fernandes, Lucas S.; da Silva Lima, Francisco Igor; Ferreira da Costa, Leonardo;  
Andrade, Joao P B; Rodrigues Maia, José Gilvan; Leal Rego, Paulo Antonio  
BRIDP: Dataset and Validation Method for BRazilian Identity Document Parsing
- 409 Shukla, Rishi Prakash; Khokhar, Julee; Kohli, Sahil; Kohli, Rajnish  
Leveraging Artificial Intelligence for Enhanced Operational Efficiency: A Study on Speed Reduction's Impact on Merchant Vessel Performance
- 410 Shukla, Rishi Prakash; Kumar, Divya  
Neuromorphic Computing and AI-Enhanced Modeling of Time Series Counts for Real-Life Data Analysis
- 413 Sindhvani, Nidhi  
Analysis of Indian News Headlines using Text Clustering
- 414 Sindhvani, Nidhi  
Unlocking the Potential of Big Data Analytics in Supply Chain Management
- 417 Sindhvani, Nidhi  
Crop Recommendation System

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**ISDA – HIS 2023: Parallel Session 9 (Online)**

December 12, 2023

09:00 GMT - 13:00 GMT

Chairs: Tzung-Pei Hong, U. Snehalatha, T. Preethiya

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**ISDA 2023**

- 316 Let G, Shine; G, Yaswanthi; S, Rekha; Pratap, C Benin; Radha, S  
A Uniplanar Asymmetric Circular Slotted Patch Antenna for 5.8 GHz Applications

- 423 Kumari, J Jesy Janet; Kumari, J Jesy Janet; S, Thangam; Raja, A Saleem  
An adaptive on demand Modified Ant Colony Optimization Routing for VANETs
- 431 Chaudhary, Alka  
Understanding Deep Learning Using Explainable Machine Learning with LIME and H2O AutoML
- 432 Cesur, Elif; Karabulut, Mustafa Tolga; Abraham, Ajith  
A Comparative Analysis of Metaheuristic Methods for Optimizing Facility Layouts
- 435 R G, Hamsika; Radha, S; Sandesh, Sangishetti; Damara, Samanth; Kola, Sai Ganesh; Perattur, Nagabushanam  
Survey on antennas for different cancers and tumor detection
- 437 Sureddy, Niharika; Radha, S; S, Rekha; Let G, Shine; Perattur, Nagabushanam  
Bulk Isolation technique for LNA using 45nm CMOS Technology
- 441 Turaka, Rajasekhar; Debbat, Sahiti; Chennupati, Chaitanya; Gangadi, Chandra Vardhan Reddy; S, Rekha  
Design and Implementation of Energy Efficient Approximate Three Operand Binary Adders
- 446 Sunitha, Lingam; B, Sunil Srinivas; Ramasahayam, Shravya  
Automatic Anomaly Detection from IoT- Time Series Dataset and Evaluation of Performance Metrics
- 451 kumar, ravindra; Singh, Jagendra; Sayeed, Mohd. Abuzar  
Improving Health Outcomes through transfer learning and LSTM-Driven Air Quality Prediction
- 452 J, Premalatha; G, Vigneswaran; M S, Saran; K, Narendranath; D, Kayethri  
Cirrhosis Disease Prediction Using Machine Learning
- 454 S, Anandamurugan; V, Aparna; D, Vijay Anand; K P, Gokul Shankar; R, Abishek Raja  
Unraveling the Complexity: Exploring Machine Learning Algorithms for DDoS Attack Analysis
- 457 Charan Reddy, K Y Nisheeth; Radha, S; K, Vasanth; Let G, Shine; Perattur, Nagabushanam  
UAV and SAT images to monitor climate conditions and crop yielding – A survey

### **HIS 2023**

- 4 Hariharan, Nitin; Deepak, Gerard  
SPSI: Strategic Approach for Web Video Recommendation using Partial Learning and Semantic Inferencing
- 6 Siqueiros, Miguel A; Melin, Patricia; Sanchez, Daniela  
Ensemble model for short-term glucose prediction of type-1 diabetes patients
- 8 Roy, Abhijith; Deepak, Gerard; Vijayan, A. Santhana  
Ontology Synthesis & Generation Using AI Orientated Hybrid Learning for Microeconomics
- 15 R S, Vindan; M, Gobi; Mohan, Karthik; T, Suriya Prabha; V, Meena  
Reinforcement Learning Based Heterogeneous Resource Management in Cloud–Fog Environment
- 19 Ben Hassen, Mariam  
Sensitive Business Process Modeling Dimensions and Requirements
- 16 Desai, Shrinivas  
Predicting Methylation Status in Glioblastoma Patients Using MRI Images

- 21 Mahjoub, Chahira; Chaibi, Sahbi; Benfradj Guiloufi, Awatef; Ejbali, Ridha; Kachouri, Abdennaceur  
Sparse Stacked Autoencoders for Epileptic Seizure Prediction using ECG Signals
- 23 Ehtesham, Syed; Bedi, Harpreet Singh; Bhardwaj, Ravindra G  
Performance Evaluation of ChatGPT on BITSAT – Engineering Entrance Examination
- 26 da Silva, Thayanne F; Maia, José Everardo B  
Detecting Evidence of Organization in Groups of Living Beings Based on Trajectories
- 27 Kumar, Mohit; Saroya, Vinay; Gola, Kamal Kumar; Kumar, Sumit  
A Review on Weather Prediction Based on Deep Learning Model
- 33 Trung, Ha Duyen; Nguyen Xuan, Dung  
LSTM and ARIMA Comparison for Predicting Monitored Data from IoT Networks
- 36 Yahia, Samah; Ben Salem, Yassine; Abdelkrim, Mohamed Naceur  
Lesion Detection in Multiple Sclerosis using the Decimal Descriptor Pattern
- 
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### **HIS 2023: Parallel Session 10 (Online)**

December 12, 2023

13:00 GMT - 15:00 GMT

Chairs: João Carlos Ferreira, Pranaba Kumar Mishro, Anita Sardana

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- 39 Singh, Jaspreet; Ghai, Karuna; Sharma, Dhruv; Singla, Radhika  
Blockchain & Federated Learning Technologies for Protecting Sensitive Personal Healthcare Information
- 40 Rana, Bishwamitra  
Hybrid EEG Data analysis for Diagnosis of Stress-related Neurological disorder: SKY as an alternative Therapy
- 42 Cordero-Martínez, Rodrigo; Sanchez, Daniela; Castillo, Oscar; Melin, Patricia  
Estimation of Filter Number for Convolutional Neural Networks with Fuzzy Logic for Diabetic Retinopathy Classification
- 47 Damasceno, André; de Souza, Luciano A; Neto, Floriano; Gomes Costa, Helder G.  
Adapting Project Management Offices to the Era of Hybrid Work, Agile Methodologies, and Industry 4.0
- 51 Divecha, Charmi K; Panjwani, Sanskriti; Kothari, Yashvi; Jadhav, Utkarsh; Jain, Kavita  
AI News Summarization, Headline Generation, and Classification
- 54 Singh, Shikha; Badotra, Sumit; Shelke, Nitin A  
IoMT based Smart Healthcare System using Machine Learning.
- 56 Gawande, Rupali; Badotra, Sumit; Verma, Amit  
Eye Blink Detection using Enhanced Viola Jones Algorithm
- 57 Elkhalil, Najet; Ejbali, Ridha  
IoT communication encryption based on two dimensional Beta chaotic map
- 60 Omri, Asma  
A Possibilistic Approach: Syntactic Indexing Of Big Data In The Presence Of Uncertainty

- 64 Ganguli, Isha; Paul, Ananya  
Promoting Brand Loyalty Using Content Marketing: A Comprehensive Study of Creating a Brand's Identity via Storytelling
- 66 Ganguli, Isha; Atreja, Satyam; Bhasin, Sanya  
Performance Analysis of ChatGPT in Erroneous Python Code Correction and Evaluation
- 68 Mohapatra, Srikanta K; Babu, Md. Ashraful; Mohanty, Jayashree; Guharoy, Rabel; Sahu, Premananda; Sarangi, Prakash Kumar  
Applications of Block chain: Usefulness, issues, & Challenges
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### **HIS 2023: Parallel Session 11 (Online)**

December 12, 2023

13:00 GMT - 15:00 GMT

Chairs: Fátima Rodrigues, Laxman P Thakre, Tapas Badal

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- 70 Ribeiro, Tiago B.; Pereira, Ana I.  
2D Packing in Woodwork Industry
- 73 Sai Chatadi, Shanmukha srinivas; Paturu, Tejus; Surendiran, B.; J, Dhakshayani  
Potato Disease Classification Using Diverse Feature Extraction Methods and Machine Learning Models
- 75 Varaliya, Mohammed Ashraf; Kanojia, Mahendra G; Nabajja, Subhashish  
Revolutionizing higher education institute query system by linking custom knowledge base with large language models
- 78 Guelib, Bouchra; bounab, rayene; khlifa, nawres  
Enhancing Alzheimer's Disease Classification with Embedded RidgeClassifier MRI Regions of Interest Selection
- 87 Saravanan, Krithikha Sanju; B.L., Velammal  
An Agricultural Domain based Question Answering System Using Natural Language processing and Deep Learning Methodologies
- 96 B, Nagajayanthi; A, Kaushal Kanna; Kommuri, Usha Kiran; R, Ramesh; T, Vigneswaran  
Secured Strategic Workspace Ambience during Global Pandemic Crisis
- 98 Bechinia, Hadjer; Benmerzoug, Djamel; Khalifa, Nawres  
A Bilinear Convolutional Neural Network for Arrhythmia Classification on ECG signals
- 101 Rahman, Atta; Saraireh, Linah; Youldash, Mustafa; Hantom, Wafa; Alkhulaifi, Dania; Nabil, Majed; Saadeldeen, Ashraf; Mahmud, Maqsood; Abdus Salam, Asiya; Ahmed, Mohammed Salih; Gollapalli, Mohammed  
Email Spam Classification: A Machine Learning Approach
- 106 RG, Sangeetha; C, Hemanth; K T, Ankitha; Tiwari, Anjali  
Performance Analysis of OFDMA and MU-MIMO in IEEE 802.11BE Networks
- 107 RG, Sangeetha; C, Hemanth; V S, Akshaya; S, Amirdha; Vijayaraghavan, Bhargavi  
Performance Analysis of Uplink MU-OFDMA and MU-MIMO in IEEE 802.11ax WLANs
- 110 Mahmud, Imon; Al Islam, Ferdib; Islam, Md. Rahatul; Israk, Md Araf; Ur Rahman, Md Shoab; Ahuja, Sakshi  
IoT-based Smart Poultry and Hatchery Farm: An Integrated Solution with Anti-Theft and Fire Alarm System

- 115 C, Hemanth; RG, Sangeetha; Dutta, Amit  
Mitigation of Four-wave-mixing effects using SSP compensation in Radio Over Fiber System
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**HIS 2023: Parallel Session 12 (Online)**

December 12, 2023

13:00 GMT - 15:00 GMT

Chairs: Nuno Bettencourt, Manisha Divate, K. Harisudha

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- 117 Sai Srushik, Govindgari; Naseeba, Beebi; Challa, Nagendra Panini; annepu, Visalakshi; Gouri, Chandana  
Pneumonia Disease Prediction UsingVGG19 Architecture
- 119 R, Ramesh; P, Vijay; M, Shravan; B, sneha; SL, Abdul Haleem  
Performance Analysis of Beamforming Technique in Multi-RIS for 6G based Vehicular Communication
- 121 C, Hemanth; RG, Sangeetha; Ashok, Ashwin; Hari, Siva; Vikram, Charan; P, Kishore; Kannan, Aieswarya  
Bio-Mimetic Emulation of Swarm Robots
- 122 RG, Sangeetha; C, Hemanth; Lakshmi, Vidya; R, Meghana; Sivakumar, Sreemathi  
Hardware Implementation of Digital Modulation Schemes for Fiber Optic Communication System and its Performance Analysis
- 125 RG, Sangeetha; C, Hemanth; Udayasuryan, Kavin; Shine, Diya; S, Bhumika  
Simulation and Analysis of Downlink Multi-user Modes and Channel Bonding in IEEE 802.11ax
- 130 Shah, Jay K; Deepak, Gerard  
HSIB: Hybrid Semantic Intelligence Model for Book Recommendation
- 133 Batita, Safa; Makni, Achraf; Amous, Ikram  
Towards an efficient and intelligent Graph model-based Cooperative Intersection Collision Avoidance Systems
- 134 Deepak, Gerard; Mandappa T S, Amruth  
ABRHI: An Approach for Blog Recommendation Integrating Dual Classification and Hybrid Intelligence
- 135 Neji, Ines; Ben Aoun, Najib; Boujnah, Nourddine; Hamza, Hammadi; Ejbali, Ridha  
Date Varieties Identification Using DenseNet Model with GAN-Based Data Augmentation
- 136 Santana Dezingrini, Paulo Henrique; Claudio Arroyo, Jose Elias; Araujo, Matheus F  
A GRASP Heuristic for The Open Sub-Route Traveling Salesman Problem
- 141 Araujo, Matheus F; Nogueira, Thiago Henrique; Claudio Arroyo, Jose Elias; Alves, Julio César  
A Reinforcement Learning Method for Integrated Production Scheduling and Distribution
- 145 Kumar, Mohit; Singh, Khundrakpam Johnson; Gola, Kamal Kumar; Saroya, Vinay  
Human Activity Recognition based on Hybrid Deep Learning Model

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**December 13, 2023**

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**09:00 GMT -10:00 GMT**

**Plenary Session 8 (Kaunas, Lithuania):** *Dalia Kriksciuniene, Vilnius University / Kaunas University of Applied Sciences, Lithuania*

**Title:** TBA

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**10:00 GMT -11:00 GMT**

**Plenary Session 9 (Online):** *Ke Feng, Singapore-ETH Centre, The National University of Singapore, Singapore*

**Title:** Digital Twin-Driven Health Management and Remaining Useful Life Prediction of the Gearbox Transmission System

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**11:00 GMT -12:00 GMT**

**Plenary Session 10 (online):** *Kusum Deep, Indian Institute of Technology Roorkee, India*

**Title:** Use of Nature Inspired Optimization Techniques to Solve Real Life Problems

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**Venue: Delhi, India (Bennett University, Greater Noida)**

**Technical Session 3: December 13, 2023 05:00 GMT – 09:00 GMT**

**ISDA 2023**

- 39 Dixit, Prakhar; Roy, Bhola Nath; Rout, Dillip  
Deep Learning Approach for Flood Mapping Using Satellite Images Dataset
- 259 Verma, Satya Bhushan; Gupta, Bineet Kumar; Pandey, Brijesh  
Uses of Blockchain in Internet of Medical Things: A Systematic Review
- 384 Miriyala, Sai Dheeraj; Daram, Anand Steven Chris; Halavar, Bheemappa H  
Analysis of Parallel K-Limit Selection Sort Based K Nearest Neighbors for Image Classification
- 394 Munnee, Ramraj; Armoogum, Vinaye; Armoogum, Sandhya  
Analysis of Deepfake Attacks and Detection Techniques in Smart City Applications
- 445 Nguyen, Tu; Nguyen, Dieu; Pham, Phu; Nguyen, Loan  
Enhancing machine learning approaches for early detection of depression levels for Vietnamese students
- 458 Yana Gaur, Abhay Chaudhary, Ajith Abraham  
Analysing Polycystic Ovary Syndrome Using Machine Learning Models

## NaBIC 2023

- 23 Saravanan, T  
Approximated ensemble learning driven boosting method for breast cancer prediction on multi-modal clinical datasets
- 24 Saravanan, T  
Enhancing Concealment in 3D Mesh Models using Chaotic based Steganography Algorithm with Minimal Perceptual Distortion

## IBICA 2023

- 77 Yajnaseni Dash, Ajith Abraham, Manish Raj  
Reshaping Security: Adversarial Defense in Machine Learning Application
- 78 Yajnaseni Dash, Prateek Yadav, Ajith Abraham  
Service Migration in Edge Computing: Techniques, Challenges, and Future Directions
- 79 Jeevika Rajput, Yajnaseni Dash, Ajith Abraham  
Analyzing Rainfall Patterns in North Indian States: A Long Short-Term Memory (LSTM) Approach
- 82 Manav Gupta, Vaibhav Pushpad, Yajnaseni Dash, Ajith Abraham  
Skin-Deep AI: Convolutional Neural Networks for Predicting Dermatological Conditions
- 83 Vijay Bhargav Bhamidi, Yash Kanani, Yajnaseni Dash, Ajith Abraham  
HealthTech Horizons: Promoting Sustainable Healthcare in Developing Nations
- 85 Megha Dhaka, Jeevika Rajput, Yajnaseni Dash, Ajith Abraham  
A Deep Dive into Southern India's Rainfall: LSTM Perspectives
- 86 Abhay Chaudhary, Yana Gaur and Ajith Abraham  
Improving Healthcare Decision Support Systems

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## **HIS - IAS 2023: Parallel Session 13 (Online)**

December 13, 2023

09:00 GMT - 13:00 GMT

Chairs: João Carlos Ferreira, Deepti Chaudhary, BK Gupta

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## HIS 2023

- 113 Muduli, Debendra; Rahul, K; Durga, Kondepudi Venkata; Naidu, Amballa Vijay Sai Charan; Kumar, Majji Jayanth; Sharma, Santosh Kumar  
Enhancing Glaucoma Detection: A Customized CNN Model Combining InceptionV3 and VGG-16 for Fundus Image Classification
- 118 Muduli, Debendra, Zargar, Ahmad Ashraf, Rath, Adyasha, Priyadarshini, Rojalina, Nanda, Surendra, Panda, Ganpati  
Advanced Fusion of Deep Learning and SVM for Robust Monkeypox Disease Detection: A Promising Hybrid Model

- 146 Mali, Yogesh K; Rathod, Vijay U; Mali, Nilesh D; Mahajan, Harshal C; Nandgave, Sunita Santosh; Ingale, Shubhangie  
Role of Block-chain in Medical Health Applications with the help of Block-chain Sharding
- 150 Conrado, Luiz Felipe; Huther, Cristina; Silva Machado, Flávio; Calado, Robisom Damasceno; Gomes Costa, Helder G.  
Analysing metadata of articles connecting IOT to Agriculture and Climate Change
- 154 Krishnan A, Aravind; Deepak, Gerard; Vijayan, A. Santhana  
IQOK: Intelligent Querying using Ontology Prompting for Ontology-Knowledge Integration
- 157 Fernandes Costa, Leonardo; de Souza, Luciano A; Costa Roboredo, Marcos; Gomes Costa, Helder G.  
A guide for using MRLib: a web-based app for bibliographical data files merging

### IAS 2023

- 1 R, Manoranjitham; Bala Rajesh, Yetukuri; Kovuru, Victoria; E, Yuvaraajan; Bala Srikanth, Nagothu  
Analog Clock-Based User Authentication Method for Smartphone Users
- 2 Devineni, Vaishnavi; Movva, Vaishnavi Ratnam; Medisetty, Gopichand; Tokala, Srilatha; Enduri, Murali Krishna; Satish, Anamalamudi  
Evaluating the Efficacy of Machine Learning Algorithms in Heart Disease Prediction
- 4 Sathvika, Kurmala Lakshmi; Srujitha, Devineni; Tanya, Kavuru; Tokala, Srilatha; Enduri, Murali Krishna; Satish, Anamalamudi  
Predicting User Sentiments in Social Media with Machine Learning and Natural Language Processing techniques
- 5 Sujana, Jessy  
Water Contamination Event Detection using Edge Forcing Sets in Nanosheets - A novel approach
- 6 Chandrabanshi, Vishnu; S, Domic  
Binary Authentication Protocol: A Method for Robust Facial Biometric Security using Visual Speech Recognition
- 17 Achimugu, Philip  
A Modified Gender Classification Approach using Capsule Network
- 23 Mohamed, Safa; Mahjoub, Chahira; Ejbali, Ridha  
An Efficient Network Anomaly Detection Approach Based on Autoencoder
- 24 Achimugu, Philip  
Swarm Optimized Kernel Linear Discriminant Model for Human Facial Recognition
- 25 Prabhaker, Nilin; Bopche, Ghanshyam S; Gupta, Dvarkesh; Arock, Michael  
Generation of Honeytokens for Relational Database using Conditional Tabular Generative Adversarial Network (CTGAN)
- 29 Scarfò, Antonio; Palmieri, Francesco; Mastroianni, Michele  
On Cyber Security Risk of Medical Devices
- 30 Kolling, Alisson H; Soares Gonçalves, Marcos Vinicius MV; Cukla, Anselmo Rafael; Tello Gamarra, Daniel Fernando; Glass, Gustavo; Silva de Castro, Bruno; Ferreira Pereira, Leonardo; Schmitt, Natã Ismael; Lik Santos, Vitoria; Bevilacqua, Solon; Gomes Silva, Thassio; Pinto Mota, Fernanda  
Simulation-Based Approaches for Autonomous Security and Monitoring using Drones

- 31 Raja, Manjula; Jadon, Parsh; Sharma, Krishna; Sharma, Venkatesh; Abdul, Ashu  
Path Loss Prediction Using Machine Learning Models for in-vivo Wireless Nanosensor  
Networks in Cardiac Health Monitoring
- 34 ES, Sreekanth; E, Govindraj; Shana, Fathima  
A review of Recent Advancements in Hybrid Reversible Watermarking techniques for Medical  
Image Transmission
- 39 Agrawal, Anamika; Verma, Satya Bhushan; Gupta, Bineet Kumar  
Ransomware Anatomy, Impact, and Mitigation Strategies
- 44 Khoi, Bui Huy  
Bayesian Model Algorithm for Selection and Classification of Product
- 45 Chinnadurai, Sunil; Kothamasu, Kesava Sriram; Golla, Lekhana; Kilaru, Priyusha  
Spectral and Spatial Feature Extraction Techniques for Advanced Hyperspectral Image  
Classification
- 46 Chinnadurai, Sunil; Muddana, Venkata Krishna Saadhvik; Vadapalli, Pujitha; Kari, Dimple  
Hyperspectral Image Classification with Deep Learning: Unleashed by Feature Selection and  
Extraction

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### **IAS – SocPaR 2023: Parallel Session 14 (Online)**

December 13, 2023

09:00 GMT - 13:00 GMT

Chairs: L. Agilandeewari, Gerard Deepak, Rohit Anand

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- 55 Scarfò, Antonio  
Deep Learning Techniques for Botnet Detection
- 56 Chetouane, Ameni; karoui, Kamel  
Sequential Images Classification for Intrusion Scenario Detection in the SDN Environment  
based on Deep Learning
- 57 Bratan, Costin A  
Emotion recognition in screaming audio files with convolutional neural network (CNN)
- 58 Eliganti, Ramalakshmi; Puni, Sai Krishna; Embadi, Srikanth; Karagalla, Sai teja; Jyothi, B  
Veera  
Review on Cervical Spine Fracture Detection Using Deep Neural Networks
- 63 Gulati, Aditi; Gulati, Akriti; Tomar, Aditi; Choudhary, Aanchal; Gola, Kamal Kumar; Das, Puja  
Comparative analysis of security algorithms

## SoCPaR 2023

- 2 Hariharan, Nitin; Deepak, Gerard  
SARDG: A Strategic Approach for Recipe Recommendation encompassing Dynamic Knowledge Stack Generation and Semantics
- 4 Mundada, Krishna; Kumbhare, Esha; Awachat, Snehal; Giradkar, Harsh; Zanwar, Harsh  
X-Net The AI Radiologist Assistant
- 9 Das, Deepa; Ghosh, Manthan; Raut, Manisha; Thakare, Laxman P; Jichkar, Rucha  
Enhancing Ophthalmologic Infrastructure: Seamless Integration of Deep Convolutional Neural Networks for Real-Time Ocular Disease Detection
- 10 Chopra, Shreya; Sambyal, Nitigya; Bajaj, Anu  
Deep Learning Approach for Arrhythmia Detection using STFT based Spectrogram
- 11 Gontier, Camille; Jordan, Jakob; Petrovici, Mihai  
Delaunay: a dataset of abstract art for psychophysical and machine learning research
- 12 V, Uma Maheswari; Aluvalu, Rajanikanth; Guduri, Manisha; Kantipudi, MVV Prasad  
An Effective Deep Learning Technique for Analyzing COVID - 19 Using X-Ray Images
- 14 Singh, Manu; Singh, Tanu; Dixit, Prashant  
Identification of Brain Tumor using Segmentation and Classification Techniques: A Systematic Review
- 15 Srivastava, Shefali; Dwivedi, Ashish; Maheshwari, Abhishek; Bharti, Krishna Kant  
Advancing Healthcare Decision Support: Leveraging Fuzzy DEMATEL for Delivering Quality Care
- 18 Singh, Shashank; Tyagi, Priyanka; Manish, Manish  
Harnessing the Power of IOT and AI for Next-Gen Intelligent Traffic System
- 20 Pendhari, Amjad; Pendhari, Nazneen; Singh, Santosh  
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- 25 Thomas, Ansu Liz; Judith, J.E  
A Review of Deep Learning Based Human Activity Recognition System
- 33 Gangaramani, Drishti J; Londhe, Renuka  
Discovering Frequent and Infrequent Item sets using Various Evaluation Metrics
- 34 Kashyap, Seema; Shukla, Arvind Kumar; Naim, Iram  
PulmoSage Insight: An Integrated Deep Learning and Support Vector Machine (SVM) Framework for Precise Lung Cancer Histopathological Image Classification and Prognosis
- 37 Saini, Vaibhav; Jain, Ayushi; Kumar, Anurag; Kantipudi, MVV Prasad  
An Efficient Approach for Improving the performance of Autonomous Vehicle using Advanced Computer Vision
- 39 L, Agilandeeswari; Singh, Abhimanyu  
Covid-19 Detection Using Convolutional Neural Networks and Ensemble Approaches – A review
- 46 Rehal, Jaijit Singh; Jude, Praneet Maria; Chauhan, Ishika Singh; Deshpande, Shripad V; Kantipudi, MVV Prasad  
A Comprehensive Review of Blockchain with IoT in Agriculture

- 48 Agilandeewari; A, Akshat; Dubey, Dhruv; Mutyalabhuvan, Saieesh  
Brain Tumor Detection: A review on Pre-Deep Learning and Deep Learning Era
- 50 Pardeshi, Aarti S; Kanojia, Mahendra G  
Comparative study on computer vision-based pose-estimation models for detecting martial art moves
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### **SocPaR 2023: Parallel Session 15 (Online)**

December 13, 2023

13:00 GMT - 15:00 GMT

Chairs: Virgilijus Sakalauskas, Ritika Wason, Raman Chadha

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- 60 Behele, Saanvi A; Advani, Pranav D; Pandya, Mann; Atal, Keshav; Gutte, Vitthal Sadashiv  
Optimization of Non-Convex Loss Functions in Neural Network Training
- 63 Kumar H S, Manoj; Deepak, Gerard; Vijayan, A. Santhana  
VQARS: Visual Question Answering for Remote Sensing as a Domain of Choice incorporating Semantic Intelligence
- 67 Leon, Marcelo; Echeverria, Fabricio; Huacon, Veronica; Sares, Darlys  
Machine Learning using Auto Regressive Vectors to predict Ecuador's percentage growth
- 68 Jayanth, MKV; Deepak, Gerard; Vijayan, A. Santhana  
WPIML: Web Page Indexing using Heterogeneous Multi-Source Knowledge and Reasoning by Fact Driven Learning
- 70 Doddapaneni, Pavitra; Sudhakar, Suba Sree; Kumaran, Vimala  
Harmonizing Data Analysis and Model Selection for Superior IT Fraud Detection
- 71 Kolhar, Shrikrishna; Jagtap, Jayant; Ramesh, Dhaniksha; Lahane, Onkar; Gupta, Aditya; T, Christina; Tripathy, Rushali  
AgriEasy: Digitizing Agriculture for Farmer Welfare
- 74 Kumar, Naveen; Judith, J.E  
License Plate Recognition of Motorcycle Riders without Helmet using Deep Learning
- 76 Kala.M, Kumari; M, Priya.  
Block chain-based Smart IoT Sensitive Data Hashing for Healthcare Environment Security
- 77 Jones, Jasmine Shirley; M, Priya  
IoT Intrusion Detection: A Classifier Performance Analysis
- 78 Anwesh, Ramineni; Morla, Ramya; Vihnesh, Karanam; Uday, CH; Nellutla, Ravinder  
Gender Detection Using Machine Learning
- 82 Guttikonda, Prashanti; Tulasi Krishna, Sajja; Pacha, Supriya; Popuri, Ashok Kumar  
Audio Secret Sharing Scheme with Neural Cryptography for Cheating Detection
- 92 V, Uma Maheswari; Ehdeen Ali, Syed Mohammed  
Students Performance Analysis Using Cumulative Predictor -XgBoost Algorithm

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## **SocPaR 2023: Parallel Session 16 (Online)**

December 13, 2023

13:00 GMT - 15:00 GMT

Chairs: Dalia Kriksciuniene, Subramaniaswamy V, Bhawna Goyal

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- 96 R, Shanthakumari  
Pneumonia Detection Using Extended Vgg19 Architecture
- 100 T, shanmugapriya  
Effective Heart Disease Prediction Using Machine Learning Algorithm with Cardiovascular Health Monitoring System
- 112 Elaissaoui, Khadija; Jalal Rabbah, Jalal; Ridouani, Mohammed  
Multi-class Brain Tumor Classification Using MR Imaging Data and Deep CNN
- 133 Sai Prashanth, Mallellu Malellu; V, Uma Maheshwari; Aluvalu, RajaniKanth; Kantipudi, MVV Prasad  
Blockchain-based Digital Identity Management System for Cybersecurity
- 134 Kumar, Raj; J Bose, Roshin; N V, Sobhana  
User Behavior Analysis and threat detection using Machine Learning
- 135 Sai Prashanth, Mallellu Malellu; V, Uma Maheswari; Aluvalu, RajaniKanth; Kantipudi, MVV Prasad  
Student Performance Prediction Analysis using Neural Networks
- 138 R, Devi Priya; L, Tharunika; S, Shreya; T, Rajasekaran; T, shanmugapriya; M, Siva Sangari; R, Sivaraj  
Large Language Models based framework for finding Cloth Quality
- 139 Panda, Pinky Sushant  
Sign Language Interpreter using Machine Learning Model for Mobile Devices.
- 145 Dsouza, Jeshma Nishitha; Ramesh, Niveditha; Polin, Mareena  
Detection of scoliosis on spinal X-ray images using Transfer Learning
- 146 Hebbar, Abhinav; Deepak, Gerard  
SOVQA: Semantics Oriented Framework for Visual Question Answering Aggregating Regulated Knowledge and Partial Learning
- 147 Patel, Vaibhav Anil; Kanojia, Mahendra G; Nair, Vainavi V  
An approach to breast cancer detection with histopathological images using transfer learning

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## **SocPaR 2023: Parallel Session 17 (Online)**

December 13, 2023

13:00 GMT - 15:00 GMT

Chairs: Anjula Mehto, Mandeep Mittal, L. Godlin Atlas

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- 148 Tank, Dharmesh R; Patel, Sanjay; Pandya, Devang S  
The State of the Art in Deep Learning-Based Anomaly Detection for Crowded Videos
- 149 Deepak, Gerard; Hariharan, Nitin  
SSIAO: Strategic Semantic Incremental Approach for Domain Centric Open Linked Data Generation
- 151 Bykova, Daria; Denisova, Anna; Fedoseev, Victor; Korchikov, Evgeny  
Methods for updating forest inventory data through multi-temporal Sentinel-2 image analysis
- 152 B, Hemalatha; B, Karthik  
Implementation of Multilevel Monitoring and Control System for Mission Smart Villages
- 155 Salmi, Mabrouka; Atif, Dalia; Abraham, Ajith; Ventura Soto, Sebastián  
Proposing a Genetic Algorithms-based Data Selection Method for Imbalanced Medical Datasets
- 159 S, Sathyanarayanan; Murthy, Srikanta; Mallappa, Satishkumar; Gudada, Chandrashekar V  
Machine Learning Approach Using HOG and LBP Features of Spectrograms-based Heart Sounds Analysis for the Detection of Heart Diseases
- 160 Afyouni, Imad; Al Aghbari, Zaher; Sikaiti, Iman  
Unveiling GeoX Posts: Advancing Spatial and Temporal Inference from Social Media Narratives
- 162 Arekar, Vedanti; Vaishampayan, Devashree; Abraham, Ajith  
Medicinal Plant Recognition Using Image Processing

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**December 14, 2023**

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**09:00 GMT -10:00 GMT**

**Plenary Session 11 (online):** *Milan Tuba, Singidunum University, Serbia*

**Title:** Application of Bio-inspired Optimization Algorithms to Problems in Artificial Intelligence

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**10:00 GMT -11:00 GMT**

**Plenary Session 12 (online):** *Aboul Ella Hassaneinen, Cairo University, Egypt*

**Title:** Innovations for Intelligent Systems: Basics, Trends and Open Problems

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**Venue: Kochi, India**

**Technical Session 4 - December 14, 2023 05:00 GMT – 09:00 GMT**

**ISDA 2023**

- 83 Manoharan, S; Ye, Xinfeng  
Teaching Service-Oriented Architectures using a Two-Player Online Game
- 84 M, Aparna; S, Lilly Sheeba  
Study on Health Issue Identification Using Deep Learning and Convolutional Neural Networks
- 91 Soundara Pandian, Asha Pon S; M, Barath; V, Jeyalakshmi  
A Graph Partitioning Approach to Optimize Test Patterns
- 169 Patil, Anita R.; Jadhav, Poonam; Borkar, Gautam Murlidhar  
Analysis of Privacy Preservation on Mobile Ad-Hoc Networks
- 422 Dhaku, Chavan Rajkumar; S, Durgashree; Arumugam, Senthil Kumar; V R, Uma  
Analysing Crypto Trends: Unveiling Ethereum and Bitcoin Price Forecasts through Analytics-Driven Weighted Moving Averages

**NaBIC 2023**

- 33 Misra, Rajesh; Ray, Kumar S  
Particle Swarm Optimization based on Novelty Search

**SoCPaR 2023**

- 90 Movi, Mintu, Jabbar P, Abdul  
Unveiling Rare Patterns: A Comparative Study on Anomaly Detection Algorithms in CCTV Footage for Safeguarding Home Premises
- 111 Shahul, Mehanas K P, Pushpalatha  
Patient Classification in Emergency Department Triage using Ensemble Techniques

106 L, Thushara; Jabbar P, Abdul  
Yoga Posture Prediction using Invariant Moments and Machine Learning Techniques

### **WICT 2023**

- 24 Devi, Nisha; Gupta, Shilpa  
Transforming Agriculture with AI and Machine Learning: A Review of Agri-Health and Crop Protection in the Agri 5.0 Era
- 112 Hassan, Hashmy; Elayidom, M.Sudheep  
GoKnowGraph: A Multilingual Semantic Search System for Government of Kerala System Documents

### **IBICA 2023**

- 52 Rominus, Ancy; John, Chinju; Sahoo, Jayakrushna  
Sentiment Analysis of Online Product Reviews Using CNN-LSTM Cascaded Deep Learning Architecture
- 66 Giri, Sourav Kumar; Dash, Sujata  
Prediction of Epileptic Seizures based on EEG dataset Using an Enhanced Extreme Learning Algorithms

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- 89 Dash, Deba P; H.Kolekar, Maheshkumar; Mishra, Eva  
Eeg Based Epileptic Seizure Detection using Deep Learning and Machine Learning Model.

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### **NaBIC-IBICA 2023: Parallel Session 18 (Online)**

December 14, 2023

09:00 GMT - 13:00 GMT

Chairs: Priyanka Jangra, Lotfi Ben Romdhane, Ramesh Chandra Poonia

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### **NaBIC 2023**

- 1 Musa, Aminu; Hassan, Mohammed; Hamada, Mohamed; Aaron, Alex; Umar, Usman; Mahendran, Anand  
A Hybrid Lightweight Deep Learning Model for Edge Devices: Combining Knowledge Distillation, Pruning, and Quantization
- 17 Madan, Suman  
Metaheuristic Intelligence Approach for Sentimental Analysis
- 29 Agarwal, Vedant; Budhiraja, Samiksha; Sasi, Ashwin; S P, Jeno Lovesum  
Enhanced Approach for Precision Agriculture using AI/ML Techniques
- 30 J, Jackson; R, Perumal  
A Medical Image Encryption Technique using Tropical Semiring
- 31 A, Ponmaheshkumar; R, Perumal  
A robust key exchange scheme for the Internet of Medical Things

- 34 Sundaramurthy, Vasudevan; V, Govindan  
Gold Rate Historical Data Analysis
- 40 B A, Nagashree; Sampath, Satheesh Kumar S; V, Muthukumaran; Joseph, Rose  
Analysis of Viral and Non-Viral Categories of Video Through Social Media Using Machine Learning Techniques
- 41 Muthukumaran, V; B. A, Nagashree; Sampath, Satheesh Kumar S; Munrathnam, Meram; Angeline Kavitha, M.A  
Comparative Analysis of IoT Data Using Machine Learning Algorithms
- 59 Narayanan, Neethu  
Early Detection of Autism Spectrum Disorder through Machine Learning: A Multidisciplinary Approach
- 61 Muthukumaran, V; Sampath, Satheesh Kumar S; E.K, Radhika; G K, Arpana; R, Nalini  
Face identification with feature learning using quasilinear partial differential equation
- 64 N, Bharanidharan; S R, Sannasi Chakravarthy; V, Vinothkumar; B, Kavya; G, Meghana; Rajaguru, Harikumar  
Breast Cancer Diagnosis Using Elephant Herding Optimization and Sparse Autoencoder Through Gene Expression Analysis
- 65 Balakrishnan, Roshni M; N, Bharanidharan; S R, Sannasi Chakravarthy; V, Vinothkumar; Patil, Swetha; Rajaguru, Harikumar  
Oral Squamous Cell Carcinoma Diagnosis Using Spotted Hyena Optimizer Combined with Transfer Learning Approaches
- 66 K R, Krishnaprasad; Sebastian, Indu; Joseph, Sijo K  
Optical Vortex Beam Generation and Interferometric Verification of Parameters
- 69 Roy, Abhijith; Deepak, Gerard  
A Semantically Driven Model for Web Image Tagging Using Diverse Tag Selection
- 71 Deepak, Gerard; Hariharan, Nitin  
DRCS: Document Recommendation Framework for Cultural Studies as a Prospective Domain
- 73 Surendran, Arya; R, Tintu  
Annealing temperature dependent Structural and optical tunability in Green synthesized ZnS Quantumdots

### **IBICA 2023**

- 3 Hariharan, Nitin; Deepak, Gerard  
OSPC: Ontology Synthesis on Peace and Conflict Studies as a Domain of Choice
- 6 Sasaki, Hideyasu  
Ant Collective Behavior Inspires Robotics for Finding Proper Size of Swarm Involving Functional Heterogeneity
- 7 Cherrat, Khaoula; Riffi, Mohammed Essaid  
Combinatorial Optimization: Application and Comparison of Metaheuristic on Continuous Optimization Problem TSP
- 10 Vyas, Annamaya; Deepak, Gerard  
InCVQA: Incremental Knowledge Derivation Scheme for Visual Question Answering Using Gated Recurrent Units
-

## **IBICA - WICT 2023: Parallel Session 19 (Online)**

December 14, 2023

09:00 GMT - 13:00 GMT

Chairs: André Serra e Santos, Rabindra Bista, Bassem Bsir

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- 11 M, Prathibha; Deepak, Gerard  
StrategicVideoRec: A Strategic Approach for Scientific Video Recommendation integrating BERT and Fact Driven Semantics
- 12 Anavkar, Harshada; Deepak, Gerard  
OSMA: Ontology Generation and Synthesis for Sports Medicine and Athletics
- 18 Ganeshna, Bharath Kalyan; G, Maheshwari; Nandanwar, Swapnil; Biswal, Sumitra  
ACO Bio-Inspired Artificial Intelligence in Automotive Technology: Bridging Natural Systems and Machine Learning for Sustainable Mobility
- 29 L, Divya P; B, Soniya; J S, Jayasudha J S  
A Comprehensive Review on Integration of Blockchain and IoT
- 32 Hamodi, Yaser; Abdelkareem, Ammar E.; Fakhrudeen, Ahmed M.  
Predicting Public Perceptions of Electric and Hybrid Vehicles with ML Algorithms in Response to Oil Price Changes
- 34 Karki, Praynita  
Enhancing Fault Tolerance Level in E-Health Monitoring System Using Proactive Approach
- 45 M, Vadivel S; Shetty, Deeksha Sanjay; A, Eswaran; k, loganathan; a, abhinav  
Sustainable and green supplier's evaluation using TOPSIS and fuzzy TOPSIS methods
- 48 Sayed, Amaan; Kanojia, Mahendra G; Nabajja, Subhashish  
Subjective Question Bank Generation Using Large Language Models with Custom Knowledge Base
- 51 Dasgupta, Tiasha; Abraham, Ajith  
Wine Quality Assessment Using Machine Learning
- 53 M, Vadivel S; shankaran, meenakshi; C, Devanathan; Sequeira, Aloysius Henry; a, abhinav  
Chennai Apartment's (BHK) Facility Layout Design and Evaluation Using Genetic Algorithm
- 54 M, Vadivel S; Khosla, Sunil; C, Devanathan; Sequeira, Aloysius Henry; A, Abhinav  
An ANN Approach for Lean Service Implications in India Post Service For The Enhancement of Operational Performance
- 61 Kumar, Raj; M C, Aswathy; N V, Sobhana  
A Novel Signature based Reconnaissance Attack Detection and Threat Identification System
- 64 Gupta, Isha; Bajaj, Anu; Sharma, Vikas  
Review of Machine Learning Algorithms for Heart Disease Prediction
- 65 Modi, Akshita; Bajaj, Anu; Sharma, Vikas  
Review of Machine Learning Techniques for Epileptic Seizure Prediction
- 68 Shetty, Deeksha Sanjay; K R, Suprabha  
Impact of Contextual Factors on Adaptive Performance: A study on Indian PSBs using ANN analysis

## WICT 2023

- 4 Krishnan A, Aravind; Deepak, Gerard; Vijayan, A. Santhana  
OFSI: A Strategic Approach for Ontology Focused Storyboarding Integrating Semantics Oriented Reasoning with Finance and Economics as the Domain of Study
- 5 Vyas, Anamaya; Deepak, Gerard  
SportsKBGen: A Framework for Knowledge Base Generation for Sports as a Prospective Domain
- 6 K, Logeswaran; S, Savitha; P, Suresh; K R, Prasanna Kumar; M, Gunasekar; M, Vasugi; J, Ruthranayaki; C, Harish; T, Akilesh  
Pre-Owned Automotive Price Prediction Using Machine Learning Technique
- 7 Sriramineni, Shreya; Deepak, Gerard  
MGLI: Metadata driven Generation and Formalization of Large-Scale Ontologies for Island Studies as a Domain of Choice.
- 10 Deepak, Gerard; Hariharan, Nitin; Vijayan, A. Santhana  
SIIWL: Strategic Integrative Intelligence based models for Web Page Recommendation Encompassing Inferential Hybrid Knowledge Centered Learning
- 12 Munjal, Meenakshi  
User-Oriented Approach for Network Selection in Heterogeneous Environments
- 13 Morillo, Giovanna  
Business Intelligence in the COVID-19 Era
- 15 Narayan, Yogendra  
AI-Enabled Drone Technology for Disaster Management: A Review
- 18 Munjal, Meenakshi  
QoS and QoE-based Network Selection in Heterogenous Wireless Network

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## **WICT 2023: Parallel Session 20 (Online)**

December 14, 2023

09:00 GMT - 13:00 GMT

Chairs: Ana Maria Madureira, Prashant Dixit, Pranaba Kumar Mishro

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- 19 Bishnoi, Neha; Munjal, Meenakshi  
A Comparison of Machine Learning Algorithms on Handwritten Digit Recognition
- 23 Rout, Dillip; Roy, Bhola Nath; bee, Ayesha; Routray, Deepshikha  
A Comparative Study of Mapping Names for Automating Attendance of Online Classes using Machine Learning Models
- 25 Somvanshi, Vinayak; Walavekar, Gandharvi; Thakkar, Kevin; Kumbhar, Yogesh; Deshmukh, Neha; Deshpande, Kiran  
Comprehensive Blockchain-Based Cross-Platform Application for Roadside Assistance
- 27 P, Sundharesalingam; M, Dr Mohanasundari; P, Vidhya Priya; M, Dhilip Kumar  
Effectiveness on Implementation of Integrated Management System in Furniture Manufacturing Industry

- 30 Deshmukh, Neha  
Study of Research Challenges for Electric Vehicle Charging System
- 33 N, Sudarssan; S, Sumathi; V, Naveen; K V, Vishnupriya; K, Dhaanus; G, Hariharan  
Frames of Understanding: Exploring Video Metadata Generation
- 44 M, Meianbu; S R, Naveen; R, Nidhish Krishna; Kanakachalam, Sruthi  
Handwritten Digit and Roman string recognition using Gated CNN
- 47 M, Sharmitha; M P, Theeraj; P V, Ranjith; S, Anitha  
Enhancing Urban Mobility with Predictive Parking Occupancy Analysis
- 60 Garima Chandel, Sachin Yadav, Gauri Katiyar, Saweta Verma, Setu Garg  
A Personal Health Assistant: Chatbot Design for Exercise and Nutrition Support
- 62 Bangare, Pallavi Sunil; Patil, Kishor  
IOT Based MQTT Protocol in Wi-Fi Module ESP8266
- 68 Narayan, Yogendra; Pandey, Asheesh; Pasupulla, Ajay Prakash; Kaur, Mandeep; Gupta, Sandeep  
Skin Cancer detection and Classification using Convolutional Neural Network
- 75 Rahman, Md Sazedur; Hassan, Md Zahim Z; Ibtisum, Sifat  
Vehicle-BD: A Benchmark Dataset of Bangladeshi Local Vehicles
- 76 Kumar, Manish; Kulshrestha, Pradeep Kumar  
Cybercrime Legislation in India: Bridging The Gaps for Effective Cybersecurity
- 90 Chhabra, Parul  
Machine Learning Based Clinical Decision Support System for the Diagnosis of Knee Injuries
- 91 Mitra, Samuel; Arockiam, Peter; Banerjee, Chandrima; Ghosal, Santa; Hembrom, Aparajita; Sharma, Payal  
Digital Learning in the post COVID era: Uncovering the Attitudes and Behaviour of Undergraduates towards MOOC – A TPACK Approach
- 92 Sinha, Raj; Kaur, Navpreet; Gupta, Sandeep; Thakur, Padmanabh  
N-Queen Problem Solution using Modified Genetic Algorithm
- 93 Sinha, Raj; Gupta, Sandeep  
A Questionnaire based Survey Analysis of Cyber Crime in Rural and Urban Areas
- 100 R, Devi Priya; R, Sivaraj; T, Rajasekaran; M, Sivasangari; T, shanmugapriya  
Deep Learning Based Early Diagnosis of Adversarial Impact of Malnutrition Among Pregnant Women In Tribal Areas of India
- 103 Ranjan, Rajeev; NARAYAN, YOGENDRA; mishra, sudhir kumar  
Isolated Word Recognition and Feature Extraction Using Machine Learning
- 116 Narayan, Yogendra  
EEG signals classification for motor imagery task using different KNN algorithms
- 117 Munjal, Meenakshi  
Performance Analysis of DS-CDMA using GIG orthogonal codes under AWGN and Rayleigh Fading Channel
- 118 Narayan, Yogendra  
Exploring the performance of Brain-Computer Interfaces in Assistive Technology

- 122 S M, Nandha Gopal  
Brain-Computer Interface with Improved information of EEG signal
- 124 K, Karthika K; R, Devi Priya; S, Sathishkumar; R, Raghu; k, Radhika  
Long Short-Term Memory Models and Mediapipe Based Framework for Indian Sign  
Language Translator

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## Recorded Presentations (Offline)

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**December 11, 2023**

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### **ISDA 2023: Offline Session 1**

December 11, 2023

08:00 GMT - 12:00 GMT

Chairs: Prafulla B. Bafna, Sangeeta Kumari, S Rekha

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- 2 Vineeta; Kumar, Anubhav; S Manek, Asha; Christa, Sharon; Mishra, Pranay Kumar  
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- 19 Nguyen, Dung Ha; Nguyen, Anh Thi-Hoang; Ho Thanh, Duy Khanh; Nguyen, Nguyet Thi;  
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- 20 Gunasheelan, Akshith; Deepak, Gerard  
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- 26 Sharma, Swedika  
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- 93 Tyagi, Amit Kumar; Singh, Rabindra Kumar; Tiwari, Shrikant  
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- 94 Hong, Tzung-Pei; Hong, Ching-Shan; Su, Ja-Hwung; Chen, Chun-Hao  
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- 137 Teixeira, Inês; Baptista, José; Pinto, Tiago  
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- 140 Júnio Calsavara Andrade, Lucas; dos Santos, Edimilson Batista; Figueredo de Barros, Charles  
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- 144 C, Nalini; Y, Agashia Maria; T, Janarthanan; M, Manibharathi  
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- 145 Pradhan, Jitesh; Kumar Pal, Arup; Islam, SK Hafizul; Samanta, Debabrata  
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December 11, 2023

08:00 GMT - 12:00 GMT

Chairs: L. Agilandeewari, Abhishek Roy, Farah Jemili

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- 152 Bentounsi, Oussama; Mouatassim Lahmini, Hajar  
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- 159 A P, Ponselvakumar; V P, Girishankar; G, Iniyan; B, Logesh  
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- 160 Sahay, Rashmi; S, Kaushik  
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- 166 Singh, Nripendra Kumar; Faisal, Mohammad; Hasan, Shamimul; Goswami, Gaurav; Raza, Khalid  
A Single-Stage Deep Learning Approach for Multiple Treatment and Diagnosis in Panoramic X-ray
- 175 R, Bharathi; A P, Ponselvakumar; B, Harish Ragavendran; M, Arul Prakasham  
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- 178 S, Vinothkumar; S., Varadhaganapathy; R, Shanthakumari; E, Dhivya; K B, Jayaharitha; J, Livithasri  
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- 183 Anbarasu, Midhuna; V P, Gayathri; K A, Thamizhini; M, Priyadharshini; R, Preethi  
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- 185 Gasmi, Salwa; Mezghani, Anis; Kherallah, Monji  
Arabic Hate Speech Detection On Social Media using Machine Learning
- 189 S, Lilly Sheeba; Srinivasan, Jayanth; M, Niranjane; C, Nandhana  
EDULE: An AI-Enhanced Collaborative Learning Platform for Students
- 191 Serrano, Kanny Krizzy; Bandala, Argel A.; Vicerra, Ryan Rhay P; Dadios, Elmer P.  
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- 201 S, Akila Agnes; Bhargavi, Pedada; Sambangi, Raju; Dasari, Mohitha; Penugonda, Vijay Prakash; Pati, Sai Ram  
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- 205 G K, Kamalam; G, Subiga; S, Naveen Kumar; R, Yadhuvarshini  
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- 209 Rahmath P, Haseena; Chaurasia, Kuldeep  
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- 221 Hasanujjaman, MD.; Goswami, Partha Sarathi; Banerjee, Sandip; Zaman, J K M Sadique Uz  
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- 224 S, Srividhya; V, Brindha; S S, Sudeekshaa  
Blind Assistance System for Easy Access of Home Appliances
- 226 Adelino Rodrigues, Yasmim Osório; José, Nascimento JDC; Junior, Osvaldo S L; Gomes, Adriell; Brilhante, Guilherme Freire; aborandy de Mattos Dourado Junior, Carlos Maurício; Souza, Luis Fabrício Freitas  
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- 232 Nespolo, Renan G; Valejo, Alan; Lopes, Alneu A.  
A Study of Transductive Graph-Based Regression
- 234 Nespolo, Renan G; Valejo, Alan; Lopes, Alneu A.  
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- 235 Ben kraiem, Maha; Feki, Jamel  
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- 238 MILI, Rahma; khaskhoussy, rania; Bouaziz, Bassem; Maalel, Ahmed; Gargouri, Faiez  
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- 250 Souza, Elian; Monteiro, Edwin E; Barreto, Raimundo da Silva; de Freitas, Rosiane  
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- 253 Baskaran, Ramesh; Sankaranarayanan, Bathrinath; Karuppiah, Koppiahraj  
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- 254 Mourad, Ellouze; Hadrich Belguith, LAmia  
A Data Warehouse Model for Analyzing the Behavior and Writing Style of People With Personality Disorders On Social Media
- 262 R, Thangarajan; K R, Balasurya; V K, Bharath; R, Karthikeyan  
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**December 12, 2023**

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**ISDA 2023: Offline Session 3**

December 12, 2023

08:00 GMT - 12:00 GMT

Chairs: Mourad Ellouze, P. Suresh, Jessy Sujana G

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- 274 Mallek, Hana; Ghozzi, Faiza; Gargouri, Faiez  
Real-Time ETL for multimedia sources: A Systematic Literature Review
- 279 K, Dhanush; A, Jeevanantham  
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- 286 Ramanujam, Srivaramangai; Karkera, Prateek  
Optimization Techniques of Quantum Neural Network for Image Classification
- 292 S, Lilly Sheeba; Madhu Sudhana Vamsi, Vutukuri; Sonti, Hemanth; Ramana, Polakattu Venkata  
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- 293 Sharma, Yogesh Kumar; Arya, Leena; Kumar, Ramakrishna  
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- 299 Pandiyarajan, Pandiselvam P  
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- 302 Hossain, Md Zahid; Zaman, Syed Rohit; Islam, Muhammad Nazrul  
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- 303 Abimouloud, Mouhamed Laid; Bensid, Khaled; Elleuch, Mohamed; Aiadi, Oussama; Kherallah, Monji  
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- 310 El Amrani, Lobna; Moughit, Mohamed  
Cultivating Knowledge: Exploring the Impact of Virtual and Augmented Reality on Education
- 313 Bahar, Maryam Hussein; Noori, Hadeel  
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- 318 Sakib, Md Nazmus  
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- 320 Parida, Prasanta kumar; Dora, Lingraj; Panda, Rutuparna; Agrawal, Sanjay  
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- 322 Aakaou, Aboubakr; Dominguez, Enrique  
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- 325 Huynh, Phu Gia; Pham, Khanh Duc; Nguyen, Thu; Tan-Vo, Khoa; Nguyen-Hoang, Tu-Anh; Nguyen, Tri; Dinh, Ngoc-Thanh  
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- 328 Hua, Phu Thien; Hoang, Ngoc Cu; Nguyen, Thu; Tan-Vo, Khoa; Nguyen-Hoang, Tu-Anh; Nguyen, Tri; Dinh, Ngoc-Thanh  
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- 348 Krishna, Aayush; V, Brindha; Mishra, Aditya; Uthaman, Karthik  
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- 349 Bouabdallah, Raouia; fakhfakh, fairouz; fakhfakh, faten  
Overview of vehicular resource allocation: review and future directions
- 350 Abdallah, Ahmed Wajdi; Ben Hmida, Alaa Eddinne Ben Hmida; Azizi, Ridha; Sakly, Houneida; Ben Ftima, Fakher; Bouhleb, Med Salim  
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- 352 Ramesh, Yukta; Deepak, Gerard  
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- 353 Ben Hmida, Alaa Eddinne; Abdallah, Ahmed Wajdi; Azizi, Ridha; Sakly, Houneida; Ben Ftima, Fakher; Bouhleb, Med Salim  
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- 356 S, Revathi; V., MuthuPriya; Ismail, Fathima; Akila, R  
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- 361 S, Subhashini; S, Shanthini  
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- 362 Marzougui, Fatma; Elleuch, Mohamed; Kherallah, Monji  
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- 379 Prama, Tabia Tanzin; Biswas, Al Amin; Anwar, Md. Musfique  
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- 380 Chakraborty, Debjani MRS; Maitra, Sujaan; Saha, Sourav; Halder, Biswajit  
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### **ISDA 2023: Offline Session 4**

December 12, 2023

12:00 GMT - 16:00 GMT

Chairs: Mourad Ellouze, Marwa Amara, Raouia Bouabdallah

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- 388 Jain, Samyak; Rajput, Aditi; Kaur, Kiranpreet  
Python Powered AI Desktop Assistant
- 389 de Lucena, Paulo Lucena Ponte; Campos, Lidio Lmlc  
Classification of Obesity Level using Deep Neural Networks
- 390 Bouabdallah, Raouia; fakhfakh, fairouz  
Overview of Automated Negotiation Approaches Based on Cloud System
- 391 Silva, Eric Hans M; Ladeira, Marcelo  
Lessons learned on summarizing legal documents combining Reinforcement Learning and ChatGPT
- 393 Vagin, Andrey; Romanov, Vitaly; Ivanov, Vladimir  
Evaluating Baselines for Type Inference: Static Code Analysis versus Large Language Model

- 395 Guennich, Ala; Othmani, Mohamed; Ltifi, HeIAA  
Deep-Net: Brain Lesion Segmentation with 3D CNN and Residual Connections
- 399 Hmida, Imen; Ben Romdhane, Nadra; Fendri, Emna  
A Bimodal Autism Spectrum Disorder Detection Using fMRI Images
- 403 Koohborfardhaghighi, Somayeh; De Geyter, Gert; Kaliner, Evan  
Unlocking the Power of LLM-based Question Answering System: Enhancing Reasoning, Insight, and Automation with Knowledge Graphs
- 404 Schimitz de Carvalho, Daniela DSC; Capriles, Priscila; Goliatt, Leonardo  
Comparative Analysis of Machine Learning Models for Breast Cancer Patients' Survival Prediction
- 405 Goliatt, Leonardo; Capriles, Priscila; Iwashima, Gabriele Cesar; Scoralick, João Paulo  
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- 406 Pacelli, Alexandre Vieira Pereira; Melo Júnior, Anderson Machado; Barros, Nathan Oliveira; Goliatt, Leonardo; Capriles, Priscila  
Use of deep learning for the segmentation of aquaculture fishponds in the state of Minas Gerais, Brazil
- 411 Surange, Geetanjali; Khatri, Pallavi; Hazra, Shubhankar  
Dynamic Analysis of Window's Based Mal-ware using Reverse Engineering: A Case Study of Exmatter
- 412 Bidve, Pranav; Mishra, Shalini; Jonnalagadda, Annapurna  
An Ensemble Multinomial Naïve Bayes Classifier for Overlapping Prakriti Detection
- 416 Khatri, Pallavi  
A Survey on Malware Bypassing Detection Techniques
- 418 Pandey, Shivam; Hemant Sharma  
Multiclass Chest X-ray Image Classification for Respiratory Diseases: A Deep Learning Framework
- 419 Pham, Duong Tien; Nguyen, Luan Thanh  
Gendec: A Machine Learning-based Framework for Gender Detection from Japanese Names
- 424 Duymaz, Şeyma  
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- 425 Mobin, Gulfishan; Roy, Abhishek  
Object Oriented Modeling of Integrated Cloud Transportation System
- 427 Thabet, Dhafer; Ali, Mouez  
Intelligent Selection of Machine Learning Algorithms - Water Tank Monitoring Example
- 433 Zhao, Juntao; Hifi, Mhand; Saadi, Toufik  
A Hybrid Machine Learning Method for Solving the Set Union Knapsack Problem
- 434 Gupta, Akshita  
A Comparative Study on Storage Solutions for Analysis of Streaming Telemetry Data
- 439 Rahmani Hosseinabadi, Ali Asghar; Mirkamali, seyedsaeid; Rohani Hajiabadi, Mahdi; Abraham, Ajith  
Providing an Intelligent Hybrid Routing Method in Wireless Sensor Networks
- 440 Anand, Rohit; Dhaliwal, Harinder; Sardana, Kamal; Gupta, Deena Nath; sindhwani, nidhi; Mittal, Manisha

- Loan Approval Prediction Using Machine Learning
- 443 V, Vinothina  
Intelligent Analysis of Student Feedback in Post-Course Assessments using a Multiclass Classification Model
- 444 Shamraj, Aneesh; Sathe, Gargi; Surve, Aditya; Patil, Nahush J; Saxena, Kumkum  
Cross-Language Assessment of Mathematical Capability of ChatGPT
- 447 Sankaranarayanan, Bathrinath; M, Shivabalakrishnan; K, Sivasabarish; A, Someshwar Reddy; Priyanka, Ramesh; K, Koppiahraj; RKA, Bhalaji  
Fuzzy DEMATEL-Based Assessment of Barriers in 2 and 4 Wheelers Workshop Automation: A Comprehensive Analysis
- 449 Sghaier, Ranim; El Hog, Chiraz; Ben Djemaa, Raoudha; Sliman, Layth  
A review on SLA monitoring based on blockchain
- 450 Ben rjeb, Hanen; Ben Djemaa, Raoudha; Zorgati, Hela; Sliman, Layth  
Service Placement Problem for IoT Applications on Fog Computing
- 453 Churi, Ayush; Shakti, Aaryan; Agrawal, Sahil; Khotele, Jeetisha; Sayyad, Javed K.; Narkhede, Parag  
Health Monitoring System for Mountaineers Using IoT
- 457 Charan Reddy, K Y Nisheeth; Radha, S; K, Vasanth; Let G, Shine; Perattur, Nagabushanam  
UAV and SAT images to monitor climate conditions and crop yielding – A survey
- 459 Suman Kumar Suman, Samridhi Kapoor, Sakshi Sharma, Sahil Sharma, Anu Bajaj, Ajith Abraham  
Feature Importance Analysis and Model Performance Evaluation for Real Estate Price Prediction
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**December 13, 2023**

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**HIS 2023: Offline Session 5**

December 13, 2023

12:00 GMT - 16:00 GMT

Chairs: K. Anitha Kumari, Ambili PS, Vadivel S M

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- 5 Krishnan A, Aravind; Deepak, Gerard  
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- 7 Dani, Virendra; Panadiwal, Himanshu; Anjana, Rahul; Dhawan, Manoj; Kothari, Shubham  
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- 10 Lung, Rodica Ioana  
A Game-theoretic Approach to Ensemble Stacking Classification
- 14 Brandenburg, Thiago; Geremias, Vinicius; Miranda, Fabiano; Fischer, Gustavo; Silva Filho, José; Parpinelli, Rafael S  
Atmospheric Corrosion Prediction in Metallic Materials Using Machine Learning

- 17 Trung, Ha Duyen; Phuong Xuan, Quang  
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- 18 Chowdhury, Abishi; Bhaliya, Ayush  
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- 20 Gomes, Maísa; Parpinelli, Rafael S  
Fundus Image Segmentation and ISNT Rule Identification for Glaucoma Diagnosis
- 22 S, Sandosh; Bala, Akila; Kodipyaka, Nithin  
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- 25 Roy, Rita; Samanta, Debabrata  
Enhancing Liver Disease Diagnosis through Hybrid Met Heuristic-Deep Learning Models
- 29 Bozhenyuk, Alexander V; Knyazeva, Margarita; Kosenko, Olesya; Kosenko, Eva  
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- 30 Belyakov, Stanislav L; Bozhenyuk, Alexander V; Nikashina, Polina; Rozenberg, Igor  
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- 31 Luong, Duong Trong; Hung, Pham; Huyen, Ngo; Linh, Nguyen; Thao, Hoang; Duc, Nguyen  
Flexible Conductive Dry Electrodes for Electromyography and Electro-cardiography Monitoring
- 32 E M, Roopa Devi  
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- 33 Trung, Ha Duyen; Nguyen Xuan, Dung  
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- 34 Bezawada, Nagaharshith; Rajagopal, Ashoka Rajan; A, Swaminathan; G S, Smrithy; R, Elakkiya  
Optimizing Data Extraction techniques in the Automation Industry
- 35 Guerreiro, Rita Filipa C; Santos, Guilherme; Santos, André S; Tereso, Anabela Pereira  
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- 41 Reis Lux Barboza, Vitor Gabriel; Kniess, Janine; Parpinelli, Rafael S  
Task Allocation with Simulated Annealing in Edge Computing to Industrial Internet
- 43 Santos, André S; Madureira, Ana M; Lopes, Carolina  
An Aggregate Production Planning Optimization Support Tool
- 45 Silva, Krigor; Serpa, Pedro; Sgrott, Douglas; Cerqueira, Fabricio; Miranda, Fabiano;  
Francisco, Jose; Parpinelli, Rafael S  
Diversity-guided Multi-objective Evolutionary Algorithm Applied to Steel Development
- 46 Gasmi, karim; Torjmen-Khemakhem, Mouna  
Dynamic Fuzzy Logic Model for Ranking Medical Tourism
- 48 Cezario, Sidemar F; Marques, Thiago S; Maia, Sílvia; Goldberg, Marco; Goldberg, Elizabeth FG  
Ordered Weighted Averaging for the Beam Angle Optimization and Intensity Problems
- 49 Marques, Thiago S; Cezario, Sidemar F; Maia, Sílvia; Goldberg, Marco; Goldberg, Elizabeth FG  
Hybridizing Models and Ad Hoc Heuristic for Beam Angle and Fluence Map Optimization

- 50 Chalamayya Batchu Veera Venkta Satya; Premchandran, Divya  
Optimized Supplier recommendation using hybrid intelligent system for a private block chain network
- 52 Mili, Rahma; Khaskhoussy, Rania; Maalel, Ahmed; Bouaziz, Bassem; Gargouri, Faiez  
Eyebrow, blink and head movement artifacts detection from EEG signals using machine learning techniques
- 53 Leandro Martins Candido, Antonio; Maia, José Everardo B  
Domain adaptation with DIET-RASA and XLNet in urgent post detection
- 55 Rubaidi, Zainab Saad; Ben Ammar, Boulbaba; Ben Aouicha, Mohamed  
Handling Imbalance Functional and Non-functional Software Requirement Classification Based on Machine Learning Algorithms
- 58 Hilali, Intissar; Arfaoui, Nouha; Ejbali, Ridha  
Analysis and Comparative of Object Detection Models for Tourism POIs Recognition
- 62 Trung, Ha Duyen  
Design and Implementation of Wi-Fi and ZigBee IoT Devices for Short-range IoT Connectivity
- 63 Slimen, Sonia; Mezghani, Anis; Kherallah, Monji  
Skin cancer detection and classification using CNN and SVM
- 67 Kaur, Gunseerat; Batth, Ranbir Singh  
Strategizing amalgamation of intelligent traffic management and smart vehicles: Assessment of techniques and tools
- 69 Syed, Saba Raof; M. A., Saleem Durai  
A Comparison Study of Machine Learning and Deep Learning Approaches for Diabetes Mellitus Prediction
- 72 El Mobaraky, Abdessamad; Kouiss, Khalid; Chebak, Ahmed  
Comparative Analysis of Different IT2 FLC-Like PID Schemes for Pitch and Roll Control of a Fixed-Wing UAV
- 74 Ben Aissa, Fatma; chaibi, nesrine; Mejdoub, Mahmoud; Zaied, Mourad  
GAN-deepfakes detection using ELA and Deep Learning

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### **HIS 2023: Offline Session 6**

December 13, 2023

12:00 GMT - 16:00 GMT

Chairs: Logeswaran Kanakachalam, Nagendra Panini Challa, Debendra Muduli

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- 77 Ouerhani, Nourchene; Maalel, Ahmed; P. Drljača, Dalibor; Ben Ghezala, Henda  
Towards a Deep Learning Post-Traumatic Stress Disorder Dialogue System based on Transformers
- 79 Jlidi, Nozha; Jemai, Olfa; Bouchrika, Tahani  
Human pose estimation for Action Recognition in sports video using GNN
- 81 Nailly, Rehab; yahia, siwar; Zaied, Mourad  
Comprehensive Comparison of Machine Learning Models with DWT for EEG-Based Epilepsy Prediction: Including Residual and Deep Neural Networks

- 85 Marzougui, Fatma; Elleuch, Mohamed; Kherallah, Monji  
Literature Survey of Emerging Technologies IoT and Blockchain in Digital Agriculture
- 86 Augusto Costa, João Pedro; A. C. Cortes, Omar; Marcon, César  
Optimizing the Cost of Maintenance Scheduling for Railway Lines Using a Hybrid Evolutionary Algorithm
- 88 Jovanovic, Luka Z; Zivkovic, Miodrag; Bacanin, Nebojsa; Bozovic, Aleksandra; Bisevac, Petar  
Metaheuristic optimized electrocardiography time-series anomaly classification with recurrent neural networks
- 90 Sathe, Neha Prasad; Hiwale, Anil; H.Kolekar, Maheshkumar; Ranade, Archana  
Recognizing the Pervasiveness of Neurological Disorders Using a Gait Monitoring Approach
- 91 Gunasheelan, Akshith; Deepak, Gerard  
SVMJ: A Strategic Model for Recommending Videos Concerning Mobile Journalism
- 92 Trentin, Welinton; Parpinelli, Rafael S  
Enhancing Operational Efficiency and Decision-Making through NLP Analysis of Machine Data
- 93 Correia, António; Kärkkäinen, Tommi; Jameel, Shoaib; Schneider, Daniel; Antunes, Pedro; Fonseca, Benjamim; Grover, Andrea  
A pipeline for AI-based quantitative studies of science enhanced by crowdsourced inferential modelling
- 94 Stanly, Hamil  
CDAC: Collaborative Data Augmentation for the Classification of Chest CT Image
- 95 Swaminathan, Swetha; Deepak, Gerard  
DHPL: Scientific Documents Recommendation using Hybrid Semantics and Partial Learning
- 97 S, Nanthan; P B, Pranesh; L, Srinithi; C, Nalini  
Developing Intelligent Food Recommended System with Nutrition Insights
- 99 Tandon, Prakhar; Kumar, Aditya; Bihani, Rahul; Bafna, Prafulla  
Evaluating SEG For Gujarati News Clustering
- 100 Ferreira, Patrícia; Martins, Daniel; Alves, Ana; Silva, Catarina; Gonçalo Oliveira, Hugo  
Unsupervised Flow Discovery from Task-oriented Dialogues
- 102 Campos Lidio LMLC  
Models for Short-Term Electricity Price Forecasting
- 103 Khanna, Dhruvi; Bafna, Prafulla  
Predicting Health and Financial stability based on goal setting status using classification techniques
- 109 Silva, Hitalo; Pinheiro, Diego; Bastos-Filho, Carmelo  
A Hybrid Approach to Quantify the Structure and Dynamics of Vascular System
- 111 Costa, Nelson F; Mota, Alzira; Sousa, Inês  
Multivariate analysis of products topology data - a case study
- 114 Manghirmalani Mishra, Pooja; Kulkarni, Sushil  
Classification of Non-Linear Clinical Data using Intelligent Systems
- 116 Kallel, Dorra; Beji, Noura  
CoPMER: A Search Tool for Research Question Formulation in Literature Review

- 123 Santos, Guilherme; Guerreiro, Rita Filipa C; Santos, André S; Tereso, Anabela Pereira; Oliveira, José; Bastos, João  
Load Balancing in Parallel Machines: A Literature Review
- 126 Prama, Tabia Tanzin; Anwar, Md. Musfique  
Sylheti to Standard Bangla Neural Machine Translation: A Deep Learning-Based Dialect Conversion Approach
- 127 Ben Salah, Rayen; El Mannai, Hela; Zaied, Mourad  
An enhanced medical image watermarking based on Beta Chaotic Map
- 129 Labidi, Hamida; Chaabani, Abir; Ben Azzouna, Nadia; Hassine, Khaled  
Hybrid genetic algorithm for solving an online vehicle routing problem with time windows and heterogeneous fleet
- 131 Abbes, Yosra; Sakhravi, Zaineb; Sellami, Asma; Bouassida, Nadia  
Classifying Security Change Requests in IOT-based Systems using LSTM deep learning model
- 132 Gerard Deepak; Achyuth Samavedhi  
IIFSDR: Intelligent Integration Framework for Scientific Document Recommendation
- 133 Batita, Safa; Makni, Achraf; Amous, Ikram  
Towards an efficient and intelligent Graph model-based Cooperative Intersection Collision Avoidance Systems
- 137 Gaskó, Noémi; Képes, Tamás-Zsolt; Suciu, Mihai M; Lung, Rodica  
Critical node detection in weighted networks. An application in data analysis
- 138 Umoh, Uduak Augustine; Asuquo, Daniel E; Robinson, Samuel Akpan; Dan, Emmanuel  
Intelligent System for Spectrum Detection and Selection in Cognitive Radio Networks
- 139 Intissar, Dhrari hajsalem; Amal, Abbes  
A New Deep Learning Method for Delineating Early Gastrointestinal Cancer
- 140 Mocelin Júnior, Nilton J; Fiorese, Adriano; Parpinelli, Rafael S  
A Comparison Between Traffic Classification Models for Bandwidth Management in Software-Defined Networks
- 142 Rocha, Gustavo G; Lobato, Fabio; A. C. Cortes, Omar  
Performance Evaluation of Metaheuristics Using TensorFlow Parallelism on GPU
- 143 Agarwal, Hriday; Raghav, Lakshay; Nagar, Krittin; Susan, Seba  
K-Nearest Neighborhood based Hybrid Recommendation System using Collaborative Filtering and Meta-Learning
- 144 Llasag Rosero, Raúl Homero; Silva, Catarina; Ribeiro, Bernardete  
Evaluating Collaborative Forecasting in Non-Horizontal Federated Learning
- 147 Pereira, Jose; Rosa, Joana; Antunes, Nuno; Santos, Pedro; ferreira, joao carlos A  
Image Classification based on Federated Learning using PETA Dataset
- 148 Cordeiro, Manuela; ferreira, joao carlos A; Fernandes, Vitor  
Enhancing Agriculture Products Traceability Towards Sustainability
- 152 S, Adithya; S, Bhuvaneshwari; V, Subramaniaswamy  
Graph Neural Network-based Collaborative Filtering for Movie Recommendation

- 153 Prama, Tabia Tanzin; Anwar, Md. Musfique  
SobdoKrom: An Unsupervised Bengali Keyword Extraction Model using Pre-trained Large Language Model
- 158 Sukirti Sharma, Anu Bajaj, Ajith Abraham  
AI and ML in Ovarian Cancer Diagnosis: A Comprehensive Survey and Critical Analysis
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## December 14, 2023

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### IAS 2023: Offline Session 7

December 14, 2023

08:00 GMT - 12:00 GMT

Chairs: Meenakshi Munjal, B. Veera Jyothi, Shrinivas D Desai

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- 9 Yede, Pranav H; Vichare, Rohit N; Shelar, Aarya; Shingane, Priyanka V  
Decentralized and Secure Verification Process Using Interplanetary File System (IPFS) and Web3 Storage: A Comprehensive Study
- 11 Sairam, Lakshmi; Shaik, Ayesha; Ananthakrishnan, Balasundaram; Sai Nithin, Mattapally; Kovvuri, Uday Surya Deveswar Reddy; M, Nivedita  
Adaptive DoubleU-Net for Pothole Segmentation with Stagnant Water Detection
- 12 Sai Nithin, Mattapally; Shaik, Ayesha; Ananthakrishnan, Balasundaram; Sairam, Lakshmi; Kovvuri, Uday Surya Deveswar Reddy; M, Nivedita  
Artificial Intelligence Techniques in WildLife Classification-A Review
- 13 Rout, Shasanka Sekhar  
A Comparative Implementation of 12-bit and 14-bit Heterogeneous Adders
- 14 Kumari, Shabnam; Tiwari, Shrikant; Tyagi, Amit Kumar  
Spatial Computing: Opportunities and Challenges for the Next Decade
- 15 Tyagi, Amit Kumar; Rao, B V A N S S Prabhakar; Soundararajan, Gopalakrishnan  
Modern Education Post COVID 19: A Comparative Analysis
- 16 Ouhssini, Mohamed  
Enhancing Cloud Security: A Study on the Performance of Ensemble Optimized DNNs for DDoS Detection
- 18 Sharan, Bhagwati; Raja, Manjula; Ghosh, Anirban; Avinash, Mallampati Venkata; Lalitha P, Kavya; Sai Prudhvi Teja, Puli Venkata  
Analysis of THz Signal in Multi-layered Biological Tissues for in-vivo Communications: Heart Monitoring
- 19 Baker, Mohammed Rashad; ETEM, Taha; Jihad, Kamal H.; Buyrukoğlu, Selim  
The Role of Hyperparameter Tuning in Phishing Website Classification: A Comparative Analysis of ML Models

- 20 Sucharitha, G; Hari Prasad, P. Venkata; Roy, Mrs. Subhadra Deb; Batabyal, Mr. Surajit; Meenakshi; Raghuvanshi, Abhishek  
Adaptive Intrusion Detection System Towards Secure Internet of Things Enabled Intelligent Healthcare Industry
- 21 Petrovic, Aleksandar; Jovanovic, Luka Z; Venkatachalam, K.; Zivkovic, Miodrag; Bacanin, Nebojsa; Budimirovic, Nebojsa  
Anomaly detection in electrocardiogram signals using metaheuristic optimized time-series classification
- 22 Kindo, Almissi Amed; Bassole, Didier; Koala, Gouayon; Sie, Oumarou  
DDoS Attacks Simulation on a Storage Cloud: Impacts and Appropriate Security Mechanisms
- 38 Singh, Suyogita; Verma, Satya Bhushan; Gupta, Bineet Kumar  
Federated Learning for GDPR Compliance
- 40 Jabri, Abdou-essamad; Azizi, Mostafa; Drocourt, Cyril; Utard, Gil  
Exploration of Medical IoT security with blockchain
- 41 Asanov, Alan; Fedoseev, Victor  
Semi-fragile image watermarking based on CNN
- 42 Ezzedini, Lotfi; Talha, Amira; benmohamed, Chams Adhouha  
Blockchain implementation for Sustainable and Transparent Fisheries
- 43 Asanov, Alan; Fedoseev, Victor  
A zero watermarking method using radial point density for 3D model copyright protection
- 51 Ali, Mohd Mahboob; Chvs, Harshavardhan; Gundumalla, Sai Teja; Jyothi, B.Veera; Kumar, L Suresh  
Real-time Smart Waste Management: Arduino-Enhanced Trash Detection and Classification
- 54 Jyothi, B.Veera; Mangaiahgari, Vaishnavi; Kandi, Meghana; Vangoor, Sidhartha Reddy; Ramalakshmi, Eliganti  
AgriCrop - Crop Recommendation Through Soil Analysis and Plant Monitoring
- 59 Wakhloo, Abhinav; Ghergulescu, Ioana; Moldovan, Arghir-Nicolae  
Investigation of WiFi Security Auditing Tools for Evil Twin Attacks and Detection
- 61 Omar, Satyam  
An Advanced Multivariate Convertible Ring Signature Scheme
- 66 Ben Abdelghani, Sarra; Nabli, Hajer; Ben Djemaa, Raoudha; Sliman, Layth  
Blockchain-Integrated Technologies to Address Counterfeit Drugs in the Pharmaceutical Supply Chain
- 68 Prateek Khokar, Anu Bajaj, Ajith Abraham  
A Novel Security Enhancement of Caesar Cipher Encryption Technique

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### **SoCPaR 2023: Offline Session 8**

December 14, 2023

12:00 GMT - 16:00 GMT

Chairs: Ritika Wason, Beebi Naseeba, Raman Chadha

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- 6 K, Logeswaran; S, Savitha; M, Dinesh Kumar; S, Suganraj; M, Gunasekar; R, Rajdevi; K R, Prasanna Kumar; A.S, Sree Harshan  
Machine Learning driven Precise Automobile Insurance Claim Predictions
- 13 Chahi, Abderrazak; El merabet, Youssef, Ruichek, Yassine, Touahni, Raja  
Accurate Writer Identification with IDWriter: A Novel Text-Independent Offline CNN-based approach
- 17 El Mimouni, Sanae; Bakhbakh, Adil  
Formalizing Swarm Intelligence: Event-B Verification in Robotics
- 19 Wason, Ritika; Arora, Parul; Hoda, M.N.; Arora, Devansh  
An Empirical Analysis of AI based Learning Methods in Identification of Cognitive Decline in Neurodegenerative Disorders
- 21 Umar, Shahla U.; Baker, Mohammed Rashad; Jihad, Kamal H.  
Machine Learning for Enhanced Diabetes Prediction: A SMOTE-Based Comparative Study
- 24 Bali, Akanksha; Mansotra, Vibhakar  
Myopia Segmentation using Hybrid Neural Encoder Decoder based Unet Hybrid Inception
- 31 Dani, Virendra; Bhati, Nisha; Nagar, Sneha; Mandloi, Ayesha; Matkar, Mayank  
A framework for Recommending Products to solve Cold Starts Problem using FP Growth Algorithm
- 32 Dang, Jayanti; Rout, Ranjita; Parida, Priyadarsan; Patro, Ajit Kumar  
Skin lesion extraction using particle swarm optimization
- 40 Qoiriah, Anita; Yamasari, Yuni; Rochmawati, Naim  
Detecting Students' Comprehension Based on Sentiment Analysis of Students' Feedback in Indonesian Using Support Vector Machine
- 43 L, Agilandeewari; Chunduri, Atirath; Kunchakuri, Rithesh  
Leveraging Transfer Learning for Robust Detection of Malicious Network Activity
- 44 Nahak, Pradeep; Pansuriya, Kashyap; Pratihari, Dilip Kumar; Kanti, Alok  
Vision Transformer-Based Transfer Learning Approach for Tomato Maturity Stage Classification
- 47 Gill, Navtegh Singh; Wadhwa, Stuti  
A comparative analysis of YOLOv8 and YOLO-NAS for identifying fetal intracranial structures in pregnancy
- 57 A, Kamal; V, Devisurya  
Enhancing Stock Trend Prediction using Machine Learning Techniques and Sentiment Analysis
- 64 Shah, Haiya; Deepak, Gerard  
KSRR: Knowledge Centric Semantically Driven Recipe Recommendation Framework Encompassing Collective Intelligence
- 66 Malhotra, Gayatri; Duraiswamy, Punithavathi; Kishore, J K  
A Novel Self-Healing Embryonic Fabric for 3-tap FIR Filter with CGP Configuration Data
- 69 K K, Nithish; Parthasarathy, Karthikeyan; K, Dharmesh Nithil; P, Reshma; V, Vaishnavi; N, Prakash  
The Study of Ethical Aspects of Implementing Large Language Models in Business and Society

- 83 Bavrina, Alina; Sergejev, Vladislav  
Fast calculation of the local entropy of a digital image using machine learning
- 84 Uduak Augustine Umoh; Imo Eyoh; Daniel E Asuquo; Vadivel S M; Alimot Olanrewaju  
Interval Type-2 Fuzzy Support Vector Regression in Representation of Uncertainty in Prediction Problems
- 87 S, Subhashini; Sathiya narayanan, Revathi S; H, Zulfa Ali  
Ultrasonic sensor-enabled hand gesture commands for computer navigation
- 88 Lakshmi, Mansi Laksgmi; Paliviri, Manoj Kumar; Yanduri, Krishna Guptha; Aluvalu, Rajanikanth  
Wrist Band for monitoring the safety of elderly people using IoT and Deep Learning algorithms
- 93 P, Sundharesalingam; R, Somasundaram; M, Archana; R, Rithanya; SSS, Sushmitha  
Ai Enhanced Fintech Strategies for Driving ESG Investments in Sustainable Finance
- 104 V, Vaishnavi; N, metha manusri; v m, karnika; m, sri balaji; Parthasarathy, Karthikeyan; n, prakash  
AI- Powered Recommendation System for Dining and Cuisine Exploration
- 107 Mridul, Aunik Hasan; Ahsan, Nowreen; Saleh, Md. Abu; Asif, Asifuzzaman; Afrose, Sonia  
Effective Early Hypothyroid Disease Prediction Using Traditional and Ensemble Machine Learning Algorithm
- 108 Thomas, Neetha Merin  
Quality Analysis of Preprocessing Techniques for De-noising and Enhancement of Fundus Images to Detect Diabetic Retinopathy
- 116 Nguyen, Thien Thanh  
An efficient multi-modal approach for multi-label urban garbage classification
- 119 Mridul, Aunik Hasan; Ahsan, Nowreen; Sultana, Zakia; Asif, Asifuzzaman  
Detecting Cyber Bullying in The Social Media Using Deep Learning Algorithms
- 122 Shamsudin, Nisha Vr, Bindu  
Real-Time Super-Resolution of Webcam Streams for Precise Face Recognition in Challenging Environments
- 123 D, Pavithra; S, Padmavathy; M, Umasankar; P, Rokesh Kannan; M, Sneka  
Revolutionizing Education: The Transformative Influence of AI-Enhanced E-Learning on Student Performance
- 128 S, Mythili; S, Pousia; M, Kalamani; Ramanujam, Srivathsala R; S R, Lakshmy; S, Lokesh Suriya  
Web-Based System for Detecting Plant Leaf Diseases and Providing Treatment Recommendations
- 130 Antony, Alfred; Dennis, Austin; P, Sreevidya; Riju, Beenu  
Indian Sign Language Interpreter - A Portable Device
- 137 M, Dharshne; M, Mohanasundari; A, Dhanashree; M, Hariharan; M, Monisha; k, Srimathi  
A Theoretical Study on Assessing the Relationship Between Customer Reviews, Ratings and Purchase Behavior in Online Marketplaces
- 141 Chevallier, Marc; Clairmont, Charly  
Machine Learning-Based Surrogate Model for Genetic Algorithm with Aggressive Mutation for Feature Selection

- 143 Manghirmalani Mishra, Pooja; Saboowala, Rabiya  
Predicting in-Service Teachers' Epistemological Beliefs based on their TL Conception using Ensemble Learning
- 163 F, Ajesh; Philip, Felix M; Jims, Anupama; Alapatt, Bosco Paul  
IoT Wearable Medical Device for Heart Disease Recognition Based ML and DL: A Classification Approach
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**December 15, 2023**

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**NaBIC 2023: Offline Session 9**

December 15, 2023

08:00 GMT - 12:00 GMT

Chairs: André Serra e Santos, Rajanikanth Aluvalu, Nanda Dulal Jana

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- 11 Gunasheelan, Akshith; Deepak, Gerard  
SBRIR: A Strategic Blog Recommendation Framework Employing Integrative Learning-Reasoning Paradigm
- 15 Kerestes, Szabolcs; Gaskó, Noémi  
An evolutionary framework for different variants of the fair layout optimization problem
- 18 Stankovic, Marko; Jovanovic, Luka Z; Bozovic, Aleksandra; Budimirovic, Nebojsa; Zivkovic, Miodrag; Bacanin, Nebojsa  
Exploring The Potential Of Combining Mel Spectrograms With Neural Networks For Acoustic Speed Violation Detection
- 20 Bahadure, Nilesh Bhaskarrao; Patil, Prasenjeet Damodar; Kalbande, Sanjula; Pipalatkhar, Shailaja; Nagar, Somesh; Kuhikar, Om  
Machine Learning-based Music Recommendation System from Spotify
- 26 Saravanan, T  
Improving data delivery and energy efficiency in MANETs: a stacking based SVM approach for multipath
- 28 Arora, Rameshwar  
The Use of AI in Pharma: Results from mapping of Peer-reviewed and Grey literature across the world
- 42 Cherish, Reshma R; S P, Jeno Lovesum  
A Study on Applications of Natural Language Processing in Medical Data
- 43 Essah, Richard; Ajibade, Samuel-Soma M.  
Utilization of Machine Learning Algorithms to Monitor the Growth Path of Fishes in Marine Aquaculture
- 45 Acharya, Badal; Parida, Priyadarsan; Panda, Ravi Narayan; Mohapatra, Pradyumna Kumar  
Subspace-Based Adaptive Approach for Blind Channel Estimation and Equalization

- 58 Krishnan, Aravind; Deepak, Gerard; Vijayan, A. Santhana  
OSOL: Open Linked Data Generation using Semantics Oriented Learning Paradigms
- 62 Krishnan A, Aravind; Deepak, Gerard; Vijayan, A. Santhana  
TCGC: Tweet Classification and Recommendation for Geographical Catastrophes and Events
- 63 Jihad, Kamal H.; Baker, Mohammed Rashad; Mahmood, Ozlam Abdulhakeem; Umar, Shahla  
Uthman; B D, Parameshachari  
Emotion-Driven Predictive Modeling of Airline User Reviews: A Comparative Analysis of ML  
Models
- 67 Singh, Harmanjot; Deepak, Gerard  
MetaDiffBlog: A Metadata driven Blog Tag Recommendation Framework Using Semantics  
and Differential Evolution
- 75 Sengupta, Rakesh; Shukla, Anuj; Janapati, Ravichander; Verma, Bhavesh  
Temporal dynamics of human perceptual averaging using a neural network model
- 
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### **IBICA-WICT 2023: Offline Session 10**

December 15, 2023

12:00 GMT - 16:00 GMT

Chairs: Meenakshi Munjal, Shilpa Gupta, Rose Bindu Joseph P

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### **IBICA 2023**

- 9 Barranha Rodrigues dos Santos, Nuno M; Curado Silveirinha, Joel; ferreira, joao carlos A  
Blockchain's Potential in International Criminal Justice: A Blue Ocean Analysis and Literature  
Review
- 14 Mkhwanazi, Sthembiso; Ezugwu, Absalom E  
The Future of News Recommendation: A Blend of User Preferences, Content Analysis, and  
Social Signals
- 16 Guehria, Sonia Dr; Belleili, Habiba; Azizi, Nabiha  
A Comparative Analysis of Ensemble Learning Methods for Multi-Label Classification on  
Bioinformatics
- 22 Pereira, Jose; Rosa, Joana; Ferreira, Joao Carlos  
A Image Classification based on Federated Learning using PETA Dataset
- 23 Cale, Daniel; Franco, Adriana; Rocha, Joao; Ferreira, Joao Carlos  
A Gamification System for Eco-Driving: Enhancing Driver Motivation and Fuel Savings  
through Game Mechanics
- 25 S, Suriya; R, Sanjay Krishna  
Hybridizing Ant Colony Optimization with Other Optimization Algorithms for Solving Complex  
Problems
- 27 Bose, Nadashree; Joshi, Hemlata  
Optimizing Healthcare Analytics: A Zero-Inflated Poisson Approach to Pediatric Emergency  
Room Visits
- 28 Das, Tanmoy; Joshi, Hemlata  
Enhancing Education Policy Estimation: A Novel Ridge Fuzzy Regression Approach for  
Handling Multicollinearity with Fuzzy Input Data

- 30 sharma, aastha; Avasthi, Sandhya; Agarwal, Kadambri; Jain, Khushboo; Abraham, Ajith  
A Human Brain Disease Anatomy Framework on Communication & Rehabilitation
- 31 Jain, Khushboo; Agarwal, Arun; Singh, Sheetal; Avasthi, Sandhya; Abraham, Ajith  
Unveiling the Viability of Integrating ChatGPT into the Realm of Intelligent Libraries
- 37 Paiva, Emerson J; Rocha, Ana Maria A.C.  
Home Healthcare Optimization: A Systematic Literature Review
- 41 Kamimura, Ryotaro  
Pseudo-Learning to Identify Prototype Networks for Interpreting Multi-Layered Neural Networks
- 42 Krichen, Moez  
A Survey on Mutation Testing: Principles, Advantages, Limitations, and Future Directions
- 43 Krishnan, Aravind; Deepak, Gerard  
FTISI: Folksonomy based Automatic Tweet Tagging Integrating Community Derived Semantic Intelligence
- 46 Elaanba, Abdelfettah; Ridouani, Mohammed  
A Transformer Models Customization Pipeline for Radiology Text Reports Prediction based on Frontal and Lateral Chest-X-Ray Images
- 49 Canbay, Ali Can; Ketenoglu, Didem; Harder, Manuel; Ketenoglu, Bora; Bostanci, Erkan; Karaca, Adnan Sahin; Eren, Engin; Aydin, Ayhan; Yin, Zhong; Güzel, Mehmet Serdar; Martins, Michael  
Genetic Algorithms-based Spot Size Optimization for a Synchrotron Beamline Comprising of Focusing Lenses and KB-Mirrors
- 56 K, Asha; Thommeykutty, Romel; Roy, Anwesh  
Enhancing Epilepsy Care in Resource-Constrained Settings through Streamlined EEG Data Analysis
- 58 Shah, Haiya; Deepak, Gerard  
ASDS: Ontology Synthesis for Space Science as a Strategic Domain using Semantics Oriented AI
- 59 Tayal, Kanishk; Mehta, Aryan; Kamboj, Jaskaran; Susan, Seba  
Fuzzy Aggregation of Polarity Scores for Unsupervised Sentiment Analysis using AFINN, VADER and TextBlob
- 60 Paiva, Emerson J; Alves Coutinho Rocha, Ana Maria  
Simulation on Home Healthcare Problem: A Systematic Literature Review
- 62 F, Ajesh; Abraham, Ajith  
Detecting Age Related Macular Degeneration Using Integrated Auto Coder and Particle Swarm Optimization
- 72 Qurban Memon  
Generalized Skin Cancer Image Classification Performance using a Deep Learning Model
- 73 Ashwin Uniyal; Huizhi Liang; Varun Ojha  
Self-supervised learning for Pathological Speech Analysis of Parkinson's Disease
- 74 Harry Peach; Nicolay Rusnachenko; Mayank Baraskar; Huizhi Liang  
Using Sentence Embedding Techniques for Enhancing Terms-of-Service Text Summarization
- 75 Huizhi Liang; Zhiling Zhou; Zhenyu Hou; Chris Ryder; Rodney Jones

WICT 2023

- 1 Agjei, Richard O; Balogun, Oluwafemi S.; Olaleye, Sunday Adewale; Adusei-Mensah, Frank; Adoma, Prince Owusu; Baidoo, Michael Afari  
Ultra-processed foods and risk of Obesity: A bibliometric Analysis
- 8 Alle, Naga Rishikesh Reddy; Deepak, Gerard  
Ontology Synthesis for Transnational, Cultural & Community Studies Using Hybrid Learning Paradigms
- 9 Chakraborty, Sonali A  
A Comparative Study of Optimizers on Non-Pretrained CNN Models for Stray Animal Surveillance System
- 14 Liu, Dapeng; Wu, Meijun  
Disparity in the Adoption of XBRL Taxonomies – An Across-Industry Analysis
- 20 MS, Kaniskaa; P, Priakanth; K, Sangeetha  
Hybrid Deep Neural Network for detecting Fake Traffic Data in Vehicular Social Network
- 21 Tyagi, Amit Kumar, Prakash M; Senthil Kumar Arumugam  
Emerging Era of AI based Chatbots: Is It really Required to Today Generation?
- 28 sarah, hadjoudja; Abderrahmane, Adda Benattia; Mansour, Benyamina; Benachenhou, Abdelhalim  
Development of a Virtual Tutor for Remote Solar Laboratory Using Voice Synthesis
- 29 Gehrhardt, Ingolf; Mager, Daniel; Bahrpeyma, Fouad; Reichelt, Dirk  
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## Plenary speaker Abstracts and Biographies

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### Stefka Fidanova

Institute of Information and Communication Technologies, Bulgarian Academy of Sciences, Bulgaria

**Title:** How Ants Can Solve Engineering Problems

**Abstract:** We can learn a lot by observing nature. There is no waste with it. Everything is done in the most economical, optimal way. Particularly impressive is the collective intelligence of a group of individuals working together. Bees, ant colonies, bird flocks, fish passages, etc. can be given as examples of group intelligence. Animals that do not have a high level of individual intelligence deal with difficult problems using a collective approach. This gave scientists the idea to create algorithms inspired by nature, mimicking the collective intelligence of some animals. These are the so-called metaheuristic methods. There are complex optimization problems coming from real life and industry that require large computing resources to find close to the optimal solution. For the most part, these are combinatorial optimization problems. Exact methods and traditional numerical methods are not suitable for this type of problems. In this case, the only possibility is metaheuristic methods. Their advantage is quickly finding a good solution. Their disadvantage is that their accuracy is not guaranteed. In cases where the accuracy of the solution can be compromised and it is more important to find it quickly, metaheuristic methods are preferable. The unique behavior of ants in nature and their ability to always find the shortest path between the nest and the food source, gives the idea for the creation of the ants' method. The original idea has been expanded and modified by different researchers to apply to a wider class of tasks.

**Biography:** Stefka Fidanova is Professor of Computer Science at Institute of Information and Communication Technologies, Bulgarian Academy of Sciences. Her research interests include theory, methods, applications of combinatorial optimization and parallel algorithms. She heads the research group of Parallel Algorithms and Machine Learning. She has authored over 200 refereed journal, proceedings and collection papers, edited 13 proceedings, collections and special issues and written a 2 monograph. She belongs to the editorial boards of several international journals. She has received Career Award 2018 of Marie Curie Alumni Association of EU.

### Sebastian Ventura

University of Cordoba, Spain

**Title:** Advance Machine Learning to Improve Predictive Maintenance

**Abstract:** Maintenance costs constitute a significant portion of the overall operational costs in any manufacturing or production facility. The proportion can vary widely, ranging from 15% to 60% of the production costs, depending on the industry. Recent studies on the efficiency of maintenance management reveal that about a third of these costs are squandered due to unnecessary or incorrectly executed maintenance tasks. Therefore, it is evident that the role of maintenance activities has a significant influence on overall productivity. Today's manufacturing setups employ a massive number of sensors that collect data at rates ranging from hundreds to thousands of samples every second. Predictive maintenance leverages this vast data pool to forecast system malfunctions or failures, enabling the scheduling of maintenance activities right before issues arise. Predictive maintenance has seen significant advancements through the incorporation of machine learning methodologies. Nevertheless, the field continues to be a work in progress with ample room for improvement. This presentation aims to shed light on recent innovations that focus on enhancing the quality, resilience,

and dependability of predictive maintenance algorithms. We will explore cutting-edge approaches that promise to push the boundaries of what predictive maintenance systems can achieve.

**Biography:** Sebastián Ventura has been full professor of Computer Science and Artificial Intelligence at the Universidad de Córdoba since April 2016 where leads the KDIS research group since its creation at 2009. He also holds the positions of Affiliated Professor at Virginia Commonwealth University (Richmond, USA). In the last five years, Prof. Ventura has published 50+ high-impact papers, many in collaboration with global institutions, and has a total of over 150 articles in prestigious journals. His interdisciplinary work, particularly in medicine and industry, has earned him 24,000+ citations and an h-index of 59. He has also contributed to around 200 books and conferences, authored and edited multiple books, and his four most notable papers each have over 1,500 citations. Additionally, he has led 10 national/international projects requiring interdisciplinary collaboration and has advised 5 doctoral theses in the past year, bringing his career total to 22. Ventura has held leadership roles in several international conferences, including serving as the general chair for EDM in 2009, ISDA in 2011 and 2012, and the IEEE CBMS Symposium in 2019. He is also a member of the program committees for a variety of international conferences. In addition to reviewing for multiple prestigious publications since 2006, he serves as an associate editor for journals like Engineering Applications of Artificial Intelligence, Information Fusion, IEEE Trans. on Cybernetics, and is the editor-in-chief of Progress in Artificial Intelligence journal.

## Diego Oliva

Universidad de Guadalajara, Mexico

**Title:** Metaheuristic Algorithms: Open Challenges in Engineering

**Abstract:** Engineering is changing and the use of intelligent algorithms to solve different challenges is more common nowadays. For example, in logistics, different problems are solved by using optimization algorithms as metaheuristics. In the same way, images are widely used in different engineering domains, and the use of metaheuristics in combination with other intelligent approaches permits to perform the proper analysis of the scenes. However, the problems in engineering are still growing and it is important to have powerful methods that permit improve the processes in an effective way. In this talk, the principles of optimization and the basic concepts of metaheuristics are explained. Their classification and importance are also discussed. In this context, they have also analyzed some important points related to multiobjective optimization. Finally, some challenges in different domains of engineering are discussed.

**Biography:** Diego Oliva received the B.S. degree in Electronics and Computer Engineering from the Industrial Technical Education Center (CETI) of Guadalajara, Mexico, in 2007, the M.Sc. degree in Electronic Engineering and Computer Sciences from the University of Guadalajara, Mexico in 2010. He obtained a Ph. D. in Informatics in 2015 from the Universidad Complutense de Madrid. Currently, he is an Associate Professor at the University of Guadalajara in Mexico. Since 2020 he has been a visiting professor at the Tomsk Polytechnic University in Russia. He has the distinction of National Researcher Rank 2 by the Mexican Council of Science and Technology. Since 2017 he has been a member of the IEEE. Diego Oliva is co-author of more than 100 papers in international journals and different books. He is part of the editorial board of IEEE Access, Plos One, Mathematical Problems in Engineering, IEEE Latin America Transactions, and Engineering Applications of Artificial Intelligence. His research interest include Evolutionary and swarm algorithms, hybridization of evolutionary and swarm algorithms, and Computational intelligence.

## Theresa Schmiedel

University of Applied Sciences and Arts Northwestern Switzerland, Basel, Switzerland

**Title:** Value-Sensitive Design of Socially Intelligent Agents

**Abstract:** With the rise of large language models that can generate human-like conversations, physical and virtual intelligent agents are all of a sudden able to communicate with humans in very smooth way. While such conversations can leave a very positive impression, we can increasingly identify concerns

that interactions with intelligent agents can become harmful, for example, through manipulation. Value-sensitive design (VSD) is an approach that calls for the consideration of human values in the design of technology. In the context of intelligent agents, VSD provides a relevant perspective to reflect on the way we would like intelligent agents to be designed so they interact in a socially appropriate way. This talk uses VSD as a lense to discuss the notion of “socially” intelligent agents.

**Biography:** Theresa Schmiedel is a professor at the Institute of Information Systems at FHNW. After her studies in economics at the University of Hohenheim, she did her PhD and habilitated at the University of Liechtenstein. Her research interests focus on social phenomena in the information systems field. Particularly, her interests include social robots, culture, values, human-centered design, intelligent agents. She heads the Competence Center Technology, Organization, and People at FHNW.

## Nuno Bettencourt

Instituto Superior de Engenharia do Porto, Portugal

**Title:** Blockchain and DLT: Where Does It Stand

**Abstract:** Blockchain and Distributed Ledger Technology (DLT) are reshaping industries, but their current standing is multifaceted. This talk, "Blockchain and DLT: Where Does It Stand," provides a snapshot of their status. We'll explore core principles, emphasizing decentralization, transparency, and security. Industry use cases will be dissected, showcasing disruptions in finance, supply chain, and healthcare. However, challenges like scalability, regulation, and interoperability persist. This presentation addresses some of these obstacles and surveys ongoing solutions. Attendees will gain insights into research shaping the future of these technologies. The talk overview offers a nuanced understanding of the evolving landscape, valuable for professionals, researchers, and enthusiasts. By analysing achievements and challenges, it aims to spark a dialogue on their trajectory, fostering collaboration and innovation in this dynamic field.

**Biography:** Nuno Bettencourt holds a Ph.D. in Informatics Engineering from the Universidade de Trás-os-Montes e Alto Douro (UTAD), Portugal. He is an Associate Professor for the Department of Informatics Engineering at Institute of Engineering of Porto (ISEP). He nourishes special interest for software engineering and systems architecture, model driven engineering, software quality assurance and adoption of agile methodologies for the development and management of IT projects. In addition to lecturing, he is also a researcher, has authored several articles and chapters. His main research interests are Semantic Web, Information Privacy, Content Sharing on the Internet, Software Development Quality, Artificial Intelligence and Blockchain. He's also the current IEEE Portugal Blockchain Working Group Chair.

## João Pedrosa

INESCTEC, Portugal

**Title:** AI in Medical Imaging: Growing Pains and How to Dig Deeper

**Abstract:** The challenging and time-consuming nature of medical image interpretation makes it an extremely attractive field for the application of artificial intelligence (AI) and the advances made in the last few years have allowed to achieve near-human performance in several imaging modalities. Chest radiography is a particularly interesting example as it is an almost ubiquitous medical imaging modality and this high image throughput has allowed for the creation of large annotated datasets. These have in turn been used to train deep learning systems with excellent performance but are these systems ready for the clinic? In this presentation, the main challenges in the development and application of deep learning systems in high stakes situations such as medical imaging - and in particular chest radiography - will be presented with a focus on interpretability and a case study on the COVID-19 pandemic.

**Biography:** João Pedrosa was born in Figueira da Foz, Portugal, in 1990. He received the M.Sc. degree in biomedical engineering from the University of Porto, Porto, Portugal, in 2013 and the Ph.D. degree in biomedical sciences with KU Leuven, Leuven, Belgium, in 2018 where he focused on the development of a framework for segmentation of the left ventricle in 3D echocardiography. He joined

INESC TEC (Porto, Portugal) in 2018 as a postdoctoral researcher and is an invited assistant professor at the Faculty of Engineering of the University of Porto since 2020. His research interests include medical imaging acquisition and processing, machine/deep learning always with a focus on applying research for improved patient care.

## Christine Zarges

Aberystwyth University, UK

**Title:** Mathematical Foundations of Randomised Optimisation Algorithms

**Abstract:** Randomised Optimisation Algorithms such as evolutionary algorithms, simulated annealing or estimation of distribution algorithms implement a general idea of how to search for solutions for (hard) optimisation problems. They iteratively sample candidate solutions from a search space and assess the quality of a solution using an objective function. They provide a powerful and flexible way of tackling different complex problems where classical optimisation methods fail. While the general idea is to apply such algorithms 'right out of the box', in practice it is almost always necessary to adjust them to the problem at hand by modifying the overall search strategy to achieve acceptable performance. It is thus highly desirable to obtain a clear understanding of the working principles of different operators and strategies. Mathematical analysis can provide such an understanding, including properties of problems and operators, parameterisation, and limitations of different approaches, and can inspire the design of better algorithms. Over the last few decades significant progress on mathematical foundations of Randomised Optimisation Algorithms has been made. This talk will provide an overview of the main lines of research in the area with a focus on runtime and anytime analysis in combinatorial optimisation. It will highlight example results and illustrate how these results can be used for the modification and development of algorithms in relevant applications. I will also point out future research directions with the aim to initiate a dialogue between researchers interested in theory and applications.

**Biography:** Christine Zarges is currently a Senior Lecturer (Associate Professor) in the Department of Computer Science at Aberystwyth University which she joined as a Lecturer in 2016. Before, she held a postdoctoral research position at the University of Warwick, UK, and a Birmingham Fellowship at the University of Birmingham, UK. She obtained her PhD from TU Dortmund, Germany, in 2011. Christine's research focuses on heuristic search in the context of optimisation. She is interested in the theoretical analysis of all kinds of randomised search heuristics such as evolutionary algorithms and artificial immune systems with the aim to understand their working principles and guide their design and application. She is also interested in applications in combinatorial optimisation as well as computational and theoretical aspects of natural processes and systems. She has given tutorials on these topics at various conferences and contributed to the organisation of such conferences in different capacities, most importantly as track, programme, and workshop chair at GECCO, PPSN, FOGA and EvoCop as well as local chair of EvoStar 2024. She is member of the editorial board of Evolutionary Computation (MIT Press) and Associate Editor of Engineering Applications of Artificial Intelligence (Elsevier). She is a member of the Executive Board of SPECIES, the Society for the Promotion of EC In Europe and Surroundings and a Manage Committee member for the UK in European research networks concerned with Randomised Optimisation Algorithms (COST actions CA15140 and CA22137).

## Dalia Kriksciuniene

Vilnius University / Kaunas University of Applied Sciences, Lithuania

**Title:** Application of Artificial Intelligence Methods in The Neurology Healthcare Domain

**Abstract:** The role of technology in healthcare became pervasive and raise expectations for assisting medical professionals and treatment efficiency in broad medical problem areas. However, its application has not yet reached its full potential, as the most suitable data sources and the methods for their processing and analysis are still in their development and evaluation stage. The research discussion focusses to comparative evaluation of scientific literature and analysis of experimental research results in the interdisciplinary domains of artificial intelligence, its application in neurology and emerging healthcare approach of person-centred care.

The neurology domain of healthcare has reached high level of urgency in many countries worldwide. It has attracted attention of research due to severity of outcomes of neurological disorders, factors hindering accuracy of diagnosis, high risk of repeated cases (about 40% for stroke), and slow and inefficient rehabilitation period. The neurological disorders (such as stroke) often reduce capability of persons to take care of themselves during rehabilitation period, and require to involve family care givers and community efforts to fulfil the treatment and rehabilitation programs. The complexity of the domain arises need of various data sources and their extraction models, such as health measures and expert evaluation data. Although these data can potentially be scattered, unstructured and hard to uncover, the AI methods bring potential for their inclusion to efficient healthcare. The experimental research of neurological patient enabled to explore and highlight the challenges and implication of applying AI methods for the domain.

**Biography:** Dalia Kriksciuniene is a professor of Vilnius University and Kaunas University of Applied Sciences in Lithuania. Her applied research area is Marketing Information Systems. Her expertise lies in the field of data analytics and marketing technology solutions, with a particular focus on computational intelligence algorithms, artificial intelligence in electronic marketing, digital marketing, e-commerce, and social network research. D. Kriksciuniene has made significant contributions to the academic community through her publications in ISI WOS journals, including Neurocomputing, Transformations in Business and Economics, Advances in Intelligent Systems and Computing, and Information Technology and Control. Additionally, she serves as an Associate Editor for "Electronic Commerce Research and Applications (ECRA)" and actively participates as a PC member in various international conferences. Furthermore, she contributes her expertise as a reviewer for several prestigious journals. ORCID: 0000-0002-0730-3763

## Ke Feng

Singapore-ETH Centre, The National University of Singapore, Singapore

**Title:** Digital Twin-Driven Health Management and Remaining Useful Life Prediction of the Gearbox Transmission System

**Abstract:** The gearbox transmission system plays a vital role in advanced manufacturing, aerospace, renewable energy, vehicle, and mining system. Its degradation and failure would cause unexpected economic loss and even serious accidents. For example, the degradation and failure of the gearbox will impair the performance of the machine tool, affecting the production quality and quantity significantly and resulting in enormous economic loss. Therefore, monitoring the health condition of the gearbox transmission system is of great significance. However, the gearbox transmission system usually operates in harsh working environments, and it is difficult to conduct regular manual inspections and maintenance. Thus, the use of advanced online algorithms to monitor the degradation status of the gearbox transmission system and predict its remaining useful life (RUL) can bring significant benefits to industry practices. Digital twin (DT) is a virtual representation (mirror) of a physical structure or a system in real space along its lifecycles. Through real-time interaction between the virtual model and physical structure, the degradation status of the system and its RUL can be reflected and evaluated effectively. Thanks to its unique specialty, DT has recently received considerable attention from the research community. However, due to the complex structures and harsh operation conditions, research on DT-based gearbox transmission system RUL prediction is limited. Moreover, existing conceptual approaches have limitations in indicating the specific contact status and providing insights into the degradation stages of gearbox transmission systems, which greatly benefit RUL prediction. To this end, this work presents a systematic and practical digital-twin technology for gearbox transmission systems RUL prediction, including the development of the realistic virtual model, real-time interaction between the virtual model and physical structures, and 'transfer learning' for a wider mechanical transmission system RUL prediction. This work can significantly benefit the health management of the gearbox transmission system and bring significant benefits to various industrial applications, including advanced manufacturing equipment/machinery, industrial machinery, aerospace applications, and wind turbines.

**Biography:** Ke Feng is a Marie Curie Fellow affiliated with Imperial College London and Brunel University London. He earned his Ph.D. from the University of New South Wales, Australia, in 2021. Following his doctoral studies, Feng held positions at the University of British Columbia and the National University of Singapore in 2022 and 2023, respectively. Feng's research focuses on digital-twin-based

Remaining Useful Life (RUL) prediction, vibration analysis, structural health monitoring, dynamics, tribology, signal processing, and machine learning. Recognized as a Vebleo Fellow and an Emerging Leader by Measurement Science and Technology, Feng actively contributes to the academic community. He serves as an editor and guest editor for esteemed journals, including Mechanical Systems and Signal Processing, IEEE Transactions on Industrial Cyber-Physical Systems, Engineering Applications of Artificial Intelligence, IEEE Transactions on Instrumentation and Measurement, Measurement, Measurement Science and Technology, Computer Systems Science and Engineering, and Digital Engineering and Digital Twin. In addition to his editorial roles, Feng has played a pivotal role in organizing the International Conference on Aerospace Structural Dynamics (ICASD). He has also served as a section chair for renowned conferences such as ICSMD 2022, SRSE 2022, QR2MSE 2023, and IECON 2023. Furthermore, he has been invited as a speaker at the 2nd Digital Twin International Conference and the 6th International Conference on Dynamics, Vibration, and Control.

## Kusum Deep

Indian Institute of Technology Roorkee, India

**Title:** Use of Nature Inspired Optimization Techniques to Solve Real Life Problems

**Abstract:** Optimization is the art of selecting "the best" alternative among a given set of options. Optimization problems arise in almost all fields of science, engineering, business, finance and Industry – in fact, in all walks of human activity in which the problem may be mathematically modeled. The traditional optimization techniques are unable to tackle the complexities of real world optimization problems. Recently, a number of nature inspired optimization techniques (NIOT) are being developed and proposed in literature. They are gaining popularity and are considered efficient due to their ability to find a reasonably acceptable solution within a fair amount of computational time. Some of the methods in this category are: Genetic Algorithms, Particle Swarm Optimization, Artificial Bee Colony, Biogeography Based Optimization, Grey Wolf Optimization, Sine Cosine Algorithm, Ant Lion Optimization, etc. This talk will focus on the state-of-the-art of Nature Inspired optimization Techniques. Then the talk will demonstrate the use of these techniques in many real life application problems in various areas of Engineering, particularly in Computer Games, Self-Driving cars, Defence, Medicine, Pattern Recognition, Electrical Engineering, Forecasting of Avalanches, Earthquake Engineering, etc.

**Biography:** Kusum Deep, is a full Professor (HAG), with the Department of Mathematics as well as Joint Faculty at the Mehta Family School of Data Science and Artificial Intelligence at the Indian Institute of Technology Roorkee, India. Also, she is a Visiting Professor, Liverpool Hope University, UK, University of Technology Sydney, Australia and University of Wollongong, Australia. With B.Sc Hons & M.Sc Hons. School from Centre for Advanced Studies, Panjab University, Chandigarh, she is an M.Phil Gold Medalist. She earned her PhD from UOR (now IIT Roorkee) in 1988. She has been a national scholarship holder and a Post-Doctoral from Loughborough University, UK assisted by International Bursary funded by Commission of European Communities, Brussels. She has won numerous awards like Khosla Research Award, UGC Career Award, Starred Performer of IITR Faculty, best paper awards by Railway Bulletin of Indian Railways, special facilitation in memory of late Prof. M. C. Puri, AIAP Excellence Award. She is one of the four women from IIT Roorkee to feature in the ebook "Women in STEM-2021" celebrating the contributions made by 50 Indian women in STEM published by Confederation of Indian Industries. According to Stanford University, she falls within top 2 % of the scientists in the world for 2019 and 2020. In 2021 she bagged the prestigious POWER grant awarded by DST, Govt. of India. In 2022 she is leading a collaborative consultancy project with Deloitte. On September 5, 2022, she was awarded Uttarakhand State Level "Excellence in Research of the Year 2022 Award, jointly organized in collaboration with DIVYA HIMGIRI (Premier Weekly News Magazine of Uttarakhand), VMSB Uttarakhand Technical University, Uttarakhand State Council for Science & Technology (UCOST) and Society for Research & Development in Science, Technology and Agriculture (SRADSTA). She has authored two books, supervised 20 PhDs, and published 125 research papers. She is a Senior Member of ORSI, CSI, IMS and ISIM. She is the Executive Editor of International Journal of Swarm Intelligence, Inderscience. She is Associate Editor of Swarm and Evolutionary Algorithms, Elsevier and is on the editorial board of many reputed journals. She is the Founder President of Soft Computing Research Society, India. She is the General Chair of series of International Conference on Soft Computing for Problems Solving (SocProS). She has a vast teaching experience in Mathematics, Operations Research, Numerical and Analytical Optimization, Parallel Computing, Computer

Programming, Numerical Methods, etc. Her research interests are nature inspired optimization techniques, particularly Evolutionary Algorithms, and Swarm Intelligence Techniques and their applications to solve real life problems.

## Milan Tuba

Singidunum University, Serbia

**Title:** Application of Bio-inspired Optimization Algorithms to Problems in Artificial Intelligence

**Abstract:** Nowadays many optimization problems can be solved relatively easily by deterministic mathematical methods. However, there is a large group of optimization problems of great practical importance that even though they can appear as simple problems with a clear solution they cannot be solved in a reasonable time. These problems can be combinatorial problems or continuous optimization problems with a large number of local optima. For these problems, guided random search by imitating the principles and behaviors observed in natural systems, i.e. bio-inspired optimization algorithms achieved remarkable results. One of the domains where these algorithms have been successfully used is artificial intelligence (AI). For example, digital image classification problems are the core of many applications in computer vision and related fields such as medical diagnostic systems, autonomous vehicles, and security systems. Some of the most important steps in classification are feature extraction and selection. Feature selection problem is a combinatorial problem and bio-inspired optimization algorithms have been widely adjusted and adapted for solving it. On the other hand, the feature extraction step was automatized in recent years by using convolutional neural networks (CNNs) which brought revolutionary improvements in digital image classification. Using almost any CNN architecture for classification will outperform previous classification algorithms but fine-tuning the large number of hyperparameters that define architecture and learning model could further improve results. Due to the large number of hyperparameters that should be considered, this is a hard optimization problem and bio-inspired algorithms have shown good results in tackling this problem.

**Biography:** Milan Tuba, Professor of Computer Science, Mathematics and Electrical Engineering, Head of the Artificial Intelligence Project at Singidunum University and Vice-Rector of Research at Sinergia University, is included in both versions of the Stanford University list of 2% of the most influential scientists in the world in all disciplines, one for contribution during the entire career and other for contribution in the previous year (for years 2020, 2021, 2022 and 2023). He was Vice Rector for International Relations at Singidunum University, Head of the Department for Mathematical Sciences at State University of Novi Pazar and Dean of the Graduate School of Computer Science at John Naisbitt University. Prof. Tuba is the author or coauthor of around 300 scientific papers (cited around 7,000 times, h-index 49) and editor, coeditor or member of the editorial board or scientific committee of number of scientific journals, Springer books, congresses and international conferences. He was invited and delivered more than 90 keynote and inaugural lectures at international conferences. He received B. S. in Mathematics, M. S. in Mathematics, M. S. in Computer Science, M. Ph. in Computer Science, Ph.D. in Computer Science from University of Belgrade and New York University. From 1983 to 1994 he was in the U.S.A. at Vanderbilt University in Nashville and Courant Institute of Mathematical Sciences, New York University and later as Assistant Professor of Electrical Engineering at Cooper Union School of Engineering, New York. During that time, he was the founder and director of Microprocessor Lab and VLSI Lab, leader of the NSF scientific projects and theses supervisor. He was the mentor of dozens of doctoral and master's dissertations at the Faculty of Mathematics University of Belgrade, Singidunum University, University of Sarajevo, State University of Novi Pazar, John Nesbitt University and University of East Sarajevo. He was teaching more than 20 graduate and undergraduate courses, from VLSI Design and Computer Architecture to Computer Networks, Operating Systems, Artificial Intelligence, Image Processing, Calculus, Probability, Mathematical Statistics and Queuing Theory at numerous universities in Europe and the USA. Prof. Tuba is a member of the National Agency for Accreditation of Universities of the Republic of Serbia. His research interest includes Artificial Intelligence, Deep Learning, Neural Networks, Nature-inspired Optimization Algorithms, Image Processing, Computer Networks. Senior Member IEEE, ACM, AMS, SIAM, IFNA, Executive Board of IASEI.

## About Ella Hassanien

Cairo University, Egypt

**Title:** Innovations for Intelligent Systems: Basics, Trends and Open Problems

**Abstract:** Intelligent systems (IC) is being rapidly integrated into many areas of computer engineering by exploiting new developments in machine learning areas such as drones, IoT, image processing, biomedical engineering, bioinformatics, and chemoinformatics greatly benefits from recent advances in deep learning. AI and big data are work together to achieve more. This talk will discuss the basics of intelligent systems and their connection with big data. It explores the applications in different areas and highlights the current research. Discuss recent research problems in different applications, including digital twining in heritage, medical imaging, drone-based applications, chemo-informatics, agriculture, and energy.

**Biography:** Aboul Ella Hassanien is the Founder and Head of the Egyptian Scientific Research Group (SRGE) and a Professor of Information Technology at the Faculty of Computer and AI, Cairo University. Professor Hassanien has more than 1500 scientific research papers published in prestigious international journals and over 60 books covering such diverse topics as data mining, medical images, intelligent systems, social networks, and smart environment. His other research areas include computational intelligence, medical image analysis, security, animal identification, space sciences, telemetry mining, and multimedia data mining.