

4th International Conference on Machine Intelligence and Signal Processing (MISP2022), March 12-14, 2022 (https://misp2022.nitrr.ac.in/)

<u>Organized by</u>

Department of Computer Science and Engineering, National Institute of Technology Raipur, India

1. Title of the Special Session: "Machine learning for Data Analysis and Computer Vision"

2. Details of Session Chair and Co-Chair

Name (Session Chair): Dr. Vaibhav Soni
 Designation: Assistant Professor
 Department of Computer Science and Engineering,
 Maulana Azad National Institute of Technology (MANIT) Bhopal, Madhya Pradesh, India
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Name (Session Co-Chair): Dr. Vijay Bhaskar Semwal
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 Maulana Azad National Institute of Technology (MANIT) Bhopal, Madhya Pradesh, India
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3. Aims & Scope (Theme of Session)

The main focus of this special session is to provide a platform to the researchers and practitioners from both academia as well as industry for knowledge exchange of the most recent scientific and technological advances in the field of machine learning and soft computing.

The machine learning solutions revolve around data gathering, training a model, and using the trained model to make predictions in the fields of data analysis and computer vision. Data analysis and forecasting have become a very intensive field of research, which is even increasing in recent years. Data analysis and forecasting algorithms are used extensively for analysing and forecasting time-based data. Machine learning has emerged as a powerful method for understanding hidden complexities in time series data and generating good forecasts. Machine learning methods, especially deep learning is also very popular in various applications in computer vision such as object detection, object classification, and extraction of relevant information from images, graphic documents, and videos. Machine learning techniques have proved to be powerful and are achieving high accuracy in many application fields related to time series data and computer vision.

This session looks for high-quality research contributions to all major fields of machine learning for time series data and computer vision in theoretical and practical aspects.

4. Subtopics: Topics include (but are not limited to) following:

Data Analysis

- * Data analysis, prediction, and forecasting time series analysis
- * Machine learning in time-series analysis and forecasting
- * Natural language processing
- * Speech recognition and speech production
- * Signal processing
- * Pattern recognition
- * Robotics
- * Data mining
- * Big data
- * Bioinformatics
- * Biomedical engineering
- * Machine Translation
- * Information retrieval
- * OLAP and data mining
- * Data and knowledge representation
- * Knowledge-based systems
- * Semantic web techniques and technologies
- * Social networks educational data mining
- * Financial engineering applications
- * Manufacturing and industrial applications
- * Question answering (QA)
- * Big data applications
- * Pre-processing and post-processing techniques
- * Machine learning applications
- * Learning problems
- * Supervised, unsupervised and reinforcement learning methods and analysis
- * Hybrid learning methods
- * Feature selection, extraction and aggregation
- * Deep learning
- * Neural networks
- * Evolutionary learning
- * Expert systems
- * Machine translation
- * Other topics in machine learning for data analysis

Computer Vision

* Machine learning in computer vision

- * Deep learning for computer vision
- * Detection and localization in 2D and 3D
- * Recognition and classification
- * Motion and tracking
- * Action and behavior recognition
- * Gestures and body pose
- * Human robot interaction
- * Bioinformatics
- * Biomedical image analysis
- * Scene analysis and understanding
- * Vision applications and systems
- * Vision for robotics and autonomous vehicles
- * Segmentation, grouping and shape representation
- * Video: events, activities and surveillance
- * Efficient training and inference methods
- * Optimization and learning methods
- * Other ML and DL applications in computer vision and image processing

5. **Technical Programme Committee(s) for special session:** (TPC should contain at least 3-5 active researchers of specialized area)

- 1. Dr. Anupam Biswas, NIT Silchar
- 2. Dr. Sudhakar Tripathi, REC Ambedkarnagar
- 3. Dr. Bhaskar Mondal, NIT Patna
- 4. Dr. Avinash Gautam, BITS Pilani
- 5. Dr. Dilip Kumar Choubey, IIIT Bhagalpur

Contacts: All inquiries should be directed to the attention of Session Chair/Co-Chair:

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Submission Guidelines for Authors

- Prospective authors are invited to submit original research work that falls within the scope of the session. All submissions will be thoroughly peer-reviewed by experts based on originality, significance, and clarity.
- Only papers presenting novel research results or successful innovative applications will be considered for publication in the conference proceedings.
- Authors are requested to submit their Manuscripts through the Easy Chair System. <u>https://easychair.org/my/conference?conf=misp2022#</u>
- The paper must be in Springer format and of size of 12-15 pages. <u>Springer Author's</u> <u>Guidelines</u>
- Please visit conference website for paper format and other details: <u>https://misp2022.nitrr.ac.in/#</u>
- All accepted and registered papers under MISP 2022 will be submitted for possible publication in Scopus Indexed Springer Book Series (approval pending).

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- As per the copyright transfer agreement, Authors are deemed to be individually and collectively responsible for the content of manuscripts published by them.
- Hence, it is the responsibility of each author to strive for the highest ethical standards with respect to plagiarism.

Special Session Timeline

Special Session Submission Deadline: **15th January 2022** Acceptance Notification (1st round): 30th January 2022 Acceptance Notification (2nd round): February 15th, 2022 Camera Ready Submission: 20th February 2022 Registration Due: 25th February 2022 Conference Date: 12th March – 14th March 2022.