

**3<sup>rd</sup> International Conference on  
Computational Intelligence in Pattern Recognition  
(CIPR~2021)**

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**[24<sup>th</sup> & 25<sup>th</sup> April, 2021]**  
(Organized by: *IEM, Kolkata*)

| <b>Technical Session - 1</b>  |          |  |  |
|---|----------|--|--|
| <b>Title-Machine Learning-I</b>   |          |  |  |
| <b>Date - 24.04.2021, Time – 02:00PM-04:30PM</b>  |          |  |  |
| <b>Session Chairs: Dr. J. Nayak(AITAM, A. P.), Dr. Sarat Ch. Nayak(CMRIT, Hyd.)<br/>Rapporteur: Dr. Rupam Bhattacharya (IEM, Kolkata)</b> |          |  |  |
| Sno   | Paper_id | Paper Title  | Authors  |
| 1   | 1        | Application of Big Data and Machine Learning for Astrological Predictions  | Partha Sarathi Paul  |
| 2   | 5        | A Comparative Analysis of Machine Learning Approaches in Personality Prediction Using MBTI                       | Kulsum Akter Nisha,<br>Umme Kulsum,<br>Saifur Rahman,<br>Md. Farhad Hossain,<br>Partha Chakraborty,<br>Tanupriya Choudhury |
| 3   | 11       | Convolutional Neural Networks based Sentence Level Classification of Crime Documents                             | Priyanka Das,<br>Asit Kumar Das  |
| 4   | 17       | Feature Selection using Louvain Clustering Algorithm for Rice Disease Prediction                                 | Sunanda Das, Shampa Sengupta, Priyanka Das   |
| 5   | 28       | An unsupervised COVID-19 report summarizer for developing smart healthcare system                                | Ankur Das,<br>Debdatta Pal,<br>Chirantana Mallick,<br>Asit K Das   |
| 6   | 36       | A Role of Machine Learning and Deep Learning Models for Preoperative Prediction in Shoulder Arthroplasty: Survey | Milind C. Tote,<br>Shrikant V. Sonekar   |
| 7   | 52       | AI Conversational Chatbot for Primary Healthcare Diagnosis using Natural Language Processing and Deep Learning   | Greeshma Kurup,<br>Sujala D. Shetty  |
| 8   | 71       | Feature Mining and Classification of Microarray Data Using Modified ResNet-SVM Architecture                      | Anirban Bej,<br>Indrani Roy,<br>Suchinta Chanda,<br>Arijit Ghosh,<br>Soumen Kumar Pati                                     |

**ZOOM Link to join:** <https://zoom.us/meeting/register/tJMrcieiqqz0pE9C9GiiQBcPSJCTDJWj4h0Ec>

**Technical Session - 2****Title-Cloud Computing: Security & Privacy****Date - 24.04.2021, Time - 02:00PM-04:30PM****Session Chairs: Dr. S. Vimal (RIT, Tamilnadu), Dr. Nirnay Ghosh (IEST, Shibpur)  
Rapporteur: Prof. Anwesha Das (IEM, Kolkata)**

| Sno | Paper_id | Paper Title  | Authors   |
|-----|----------|--|---|
| 1   | 6        | Performance Analysis of OFDM System on Multipath Fading and Inter Symbol Interference (ISI) Using AWGN | Abu Sayed,<br>Mahmuda Khatun,<br>Tasniya Ahmed,<br>Antara Anika Piya,<br>Partha Chakraborty,<br>Tanupriya Choudhury |
| 2   | 24       | Recent Trends in Blockchain Technology   | J Bheemeswara Sastry,<br>Barnali Gupta Banik  |
| 3   | 34       | Reconnaissance Attacks: A First Step to Hack IoT Devices and Cyber Crime                               | Samir Rana,<br>Umang Garg,<br>Neha Gupta  |
| 4   | 72       | An Effective Vessel Network Identification Scheme using Multilevel Attribute Analysis                  | Sumit Mukherjee,<br>Ranjit Ghoshal,<br>Bibhas Chandra Dhara   |
| 5   | 83       | DSA based Secured Communication in 5g Vehicular Networks using Edge Computing                          | Nadar Anusha Xavier,<br>S.Vimal ,<br>V.Jackins  |
| 6   | 85       | Enhancing Security and Privacy Preserving of Data in Cloud Using SHA and Genetic Algorithm             | E.Esai Malar,<br>B.Paramasivan  |
| 7   | 102      | A Novel Congestion Control Algorithm Using Buffer OccupancyRED   | Soamdeep Singha,<br>Biswapati Jana,<br>Sharmistha Jana,<br>Niranjan Kumar Mandal                                    |
| 8   | 114      | Extraction of Texture Features for Content-based Image Retrieval in the Cloud Environment              | K. Nalini Sujantha Bel,<br>I. Shatheesh Sam   |

**ZOOM Link to join:** <https://zoom.us/meeting/register/tJ0vde-hrTwsHtdE1KFNTk-sxaKrRUr4blf>

**Technical Session-3****Title-Applications of Image and Video Analysis-I****Date - 24.04.2021, Time - 02:00PM-04:30PM****Session Chairs: Dr. S. R. Nayak(Amity University, Noida), Dr. S. Phadikar(MAKAUT, WB)****Rapporteur: Dr. Ratna Mondal (IEM, Kolkata)**

| Sno | Paper_id | Paper Title  | Authors  |
|-----|----------|--|--|
| 1   | 7        | Object Detection and Classification from a Real Time Video using SSD and YOLO Models         | Md. AlaminFeroz,<br>Marjia Sultana,<br>Md. Rakib Hasan,<br>Aditi Sarker,<br>Partha Chakraborty,<br>Tanupriya Choudhury |
| 2   | 10       | A skin cancer image detection interface tool using VLF support vector machine classification | Rosy Mishra,<br>Sushant Meher,<br>Nitish Kustha,<br>Tanuja Pradhan   |
| 3   | 18       | Image Caption Generation using Neural Network Models and LSTM Hierarchical Structure         | Prachi. M. Waghmare, Swati.V.Shinde  |
| 4   | 46       | A Novel approach of audio-visual color recognition using KNN                                 | Bachchu Paul,<br>Tanushree Dey,<br>Debashri Das Adhikary, Sanchita Guchhait,<br>Somnath Bera                           |
| 5   | 58       | Design and SLAM Map Building System for a Ground Based Robot Using ROS                       | Swati Shinde,<br>Piyush Tailor,<br>Tanvi Mahajan,<br>Suyash Khachane,<br>Saurabh Kulkarni,<br>Prasad Borle             |
| 6   | 60       | Audio fingerprinting using high level feature extraction                                     | Aousnik Gupta,<br>Affifur Rahman,<br>Ghazaala Yasmin   |
| 7   | 63       | Self-Balancing Bicycle with Location Tracking Based On the Principle of Inverted Pendulums   | Reuben O Jacob,<br>M K Pushpa,<br>Shoaib Alyaan,<br>Arunabha Mitra,<br>Chidroop Sagar,<br>K. Anitha                    |
| 8   | 80       | Constructing Context-Aware Sentiment Lexicon for Amharic Language                            | Tewodros Tazeze Admasuand,<br>Raghavendra R  |

**ZOOM Link to join: [https://zoom.us/meeting/register/tJcqdequrTkrH9ULqKwHaV\\_I6u2FKnv4X8Rx](https://zoom.us/meeting/register/tJcqdequrTkrH9ULqKwHaV_I6u2FKnv4X8Rx)**

**Technical Session-4****Title-Intelligent Text & Pattern Recognition****Date - 24.04.2021, Time - 02:00PM-04:30PM****Session Chairs: Dr. Rajendrani Mukherjee(UEM, Kolkata), Dr. Sunanda Das(Modi University, Jaipur)****Rapporteur: Prof. Ankan Bhowmick (IEM Kolkata)**

| <b>Sno</b> | <b>Paper_id</b> | <b>Paper Title</b>   | <b>Authors</b>   |
|------------|-----------------|--|--|
| 1          | 16              | Bangla Spoken numerals recognition by using HMM  | Bachchu Paul,<br>Debashri Das Adhikary,<br>Tanushree Dey,<br>Sanchita Guchhait,<br>Somnath BeraDe                  |
| 2          | 61              | Automatic sign language identification using convolutional neural network  | Himadri Mukherjee,<br>Ankita Dhar,<br>Sk Md Obaidullah,<br>SantanuPhadikar,<br>Kaushik Roy                         |
| 3          | 73              | Comparative Multinomial Text Classification Analysis of Naïve Bayes and XGBoost with SMOTE on Imbalanced Dataset | Ashish Chaturvedi,<br>Santosh Yadav,<br>Mohd. Abuzar Mohd. Haroon<br>Ansari Mahendra Kanojia                       |
| 4          | 99              | Bangla Topic classification Using Supervised Learning  | Md. Kowsher,<br>Anik Tahabilder,<br>Nusrat Jahan Prottasha,<br>Md. Abdur-Rakib,<br>Md. Moyez Uddin,<br>PuspitaSaha |
| 5          | 115             | Recognition of Isolated Handwritten Gurumukhi Numerals Using Hopfield Neural Network                             | Pradeepta Kumar Sarangi,<br>Ashok Kumar Sahoo,<br>Soumya Ranjan Nayak,<br>Ambuj Agarwal,<br>Abhisek Sethy          |
| 6          | 116             | A Deep Convolutional Neural Network Based Approach for Handwritten Recognition System                            | Abhisek Sethy,<br>Prashanta Kumar Patra,<br>Soumya Ranjan Nayak  |
| 7          | 122             | A Study of Public Sentiment and Influence of Politics in COVID-19 Related Tweets                                 | Anjishnu Mukherjee,<br>Souparno Bhattacharyya,<br>Kinjal Ray,<br>Balraj Gupta,<br>Asit Kumar Das                   |

**ZOOM Link to join:** [https://zoom.us/meeting/register/tJUkfuiprTMqGNKhhCSeF2YSyCONXp37phb](https://zoom.us/join/https://zoom.us/meeting/register/tJUkfuiprTMqGNKhhCSeF2YSyCONXp37phb)

| <b>Technical Session-5</b>   |                 |   |   |
|--|-----------------|---|---|
| <b>Title-Machine Learning-II</b>   |                 |   |   |
| <b>Date - 25.04.2021, Time - 10:30 am-12.00 pm</b>                               |                 |   |   |
| <b>Session Chairs: Dr. Asit K. Das(IEST, Shibpur), Dr. J. Nayak(AITAM, A.P.)</b> |                 |   |   |
| <b>Rapporteur: Prof. Manjima Saha(IEM, Kolkata)</b>                              |                 |   |   |
| <b>Sno</b>   | <b>Paper_id</b> | <b>Paper Title</b>  | <b>Authors</b>  |
| 1  | 74              | A complete Crop guide using Machine Learning and AI based Chat bot  | Kapil Tajane,<br>Rohan Hirwe,<br>Bhagyashree Kadam,<br>Ameya Joshi,<br>Mehek Rayou                |
| 2  | 89              | An automated corona patient detection approach using a deep neural network from X-ray images  | A. Musha,<br>A. Al.Mamun,<br>A. Tahabilder,<br>B. Jahan,<br>R. Sultana,<br>M.Akter                |
| 3  | 91              | A Review on Lane Marking Detection Using Deep Neural Network  | Abdullah Al Mamun,<br>EmPoh Ping,<br>Md JakirHossen   |
| 4  | 104             | Vitiligo Prediction using Autoencoder   | Neha Agrawal,<br>Sagaya Aurelia   |
| 5  | 113             | Crop Management Using Machine Learning  | Vakula Rani J,<br>Aishwarya Jakka,<br>HamsiniKanuru   |
| 6  | 120             | Representation Learning-based Fusion Model for Scene Classification using Convolutional Neural Network (CNN) and Pre-trained CNNs as feature extractors | Peddapalli Venkatappa<br>Rukmangadha,<br>Rik Das  |
| 7  | 132             | Gold Price Forecasting using Machine Learning Techniques: Review of a Decade  | Saumendra Das,<br>Janmenjoy Nayak,<br>B. Kamesh Rao,<br>Kanithi Vakula,<br>Ashanta Ranjan Routray |
| 8  | 158             | Impact of Environmental Concern Factors on Lung Diseases Using Machine Learning   | Divya Gaur,<br>Sanjay Kumar Dubey   |

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| <b>Technical Session-6</b>  |                 |   |   |
|---|-----------------|---|---|
| <b>Title-Theory &amp; Practices of Computational Intelligence</b>                         |                 |   |   |
| <b>Date - 25.04.2021, Time - 10:30 am-12.00 pm</b>  |                 |   |   |
| <b>Session Chairs: Dr. Goldina Ghosh (IEM, Kolkata), Dr. Bighnaraj Naik(VSSUT, Burla)</b> |                 |   |   |
| <b>Rapporteur: Prof. Nayantara Mitra (IEM, Kolkata)</b>                                   |                 |   |   |
| <b>Sno</b>  | <b>Paper_id</b> | <b>Paper Title</b>  | <b>Authors</b>  |
| 1   | 39              | MIRFCS: An Ensemble of Filter Methods for Classification of Disease Data                                  | Moumita Mandal,<br>Dyuti Ghosh,<br>Soutrik Acharya, Nabanita Saha,<br>Ram Sarkar                                |
| 2   | 50              | Performance Evaluation of a Progression of Recommender System Models                                      | Krishna Kushal,<br>Sujala D. Shetty,<br>Aljo Jose   |
| 3   | 98              | Py FS: A Python Package for Feature Selection using Meta-heuristic Optimization Algorithms                | Ritam Guha,<br>Bitanu Chatterjee,<br>Khalid Hassan Sk,<br>Shameem Ahmed,<br>Trinav Bhattacharyya,<br>Ram Sarkar |
| 4   | 110             | Novel Approach for Steganography to Camouflage Digital Information using Least Significant Bit            | Shashidhar R,<br>Milan S kumar,<br>Arunakumari B N,<br>Santhosh kumar R,<br>S Patilkulkani                      |
| 5   | 112             | Impulse Noise Removal Algorithm using Modified Adaptive Distance Related Weighted Mean Filter             | Amiya Halder,<br>Rudrajit Choudhuri   |
| 6   | 121             | College Student Lifestyle Query Classification Using Multi-model Ensemble Learning with Polling Technique | Ashish Chaturvedi,<br>Santosh Yadav,<br>Mohd. AbuzarMohd.<br>Haroon Ansari,<br>Mahendra Kanojia                 |
| 7   | 171             | Deep DenseNet and ResNet Approach for COVID-19 prognosis: Experiments on Real CT Images                   | Swapna Rekha Hanumanthu,<br>Himansu Sekhar Behera,<br>Janmenjoy Nayak,<br>Bighnaraj Naik                        |
| 8   | 183             | Location Analysis using Ensemble Approach for Warehouses: A Study During COVID -19                        | Lakshmi Shree K,<br>Ashok Kumar R   |

**ZOOM Link to join:** <https://zoom.us/j/91693566150?pwd=bFlIb09LaGswTHRQNiZvWVvK0k2IVZz09>

| <b>Technical Session-7</b>   |                 |   |   |
|--|-----------------|---|---|
| <b>Title-Advanced Intelligent Simulation &amp; Design</b>  |                 |   |   |
| <b>Date - 25.04.2021, Time - 2:00 pm-3.30 pm</b>   |                 |   |   |
| <b>Session Chairs: Dr. Chandan Kumar Chanda (IEST, Shibpur), Dr. Prasun Ghosal (IEST, Shibpur)</b> |                 |   |   |
| <b>Rapporteur: Prof. Sujata Ghatak (IEM, Kolkata)</b>  |                 |   |   |
| <b>Sno</b>   | <b>Paper_id</b> | <b>Paper Title</b>  | <b>Authors</b>  |
| 1  | 12              | An optimum fuzzy EOQ model for deteriorating items with shortages in a particular period                                  | Minakshi Panda,<br>Anuradha Sahoo   |
| 2  | 19              | A comparative study based on Long Short Term Memory networks for assessing Photovoltaic Power                             | Debashis Majumdar,<br>Mayukh Bhattacharjee,<br>Sudipta Basu Pal,<br>Sankhadeep Chatterjee,<br>Rajiv Ganguly |
| 3  | 27              | Statistical Distribution of GPS Uncertainties over Low Latitude Regions of India  | V.B.S. Srilatha Indira Dutt,<br>P. Sirish Kumar,<br>P. Krishna Rao  |
| 4  | 29              | Ambiguities in GNSS Receiver Position Estimation: A Comparative Statistical Error Characterization                        | P. Sirish Kumar,<br>V.B.S. Srilatha Indira Dutt,<br>Jami Venkata Suman,<br>P. Krishna Rao                   |
| 5  | 40              | Redefining safety in Autonomous Vehicle through Remote Teleoperation  | Zehra Fallah,<br>Vinod Kumar Shukla,<br>Mohammad Nadeem Khalid  |
| 6  | 76              | Investigation of Navigation Solutions for Better Accuracy in Position Estimations   | P.Sirish Kumar,<br>V.B.S. Srilatha Indira Dutt,<br>N. Shiva Kumar,<br>A.S.Srinivasa Rao                     |
| 7  | 88              | A Novel Architecture of Flip-flop for Processor-In-Near- Memory (PINM) using Ternary Quantum Dot Cellular Automata (TQCA) | Suparba Tapna,<br>Kisalaya Chakrabarti,<br>Debarka Mukhopadhyay   |
| 8  | 129             | Multiple Data Integration using Joint Non-Negative Matrix Factorization   | Sweta Manna,<br>Indrani Roy,<br>Debapriya Majumder,<br>Ayan Banerjee,<br>Soumen Kumar Pati                  |

**ZOOM Link to join:** <https://zoom.us/j/95215571650?pwd=VytGR3dSVXRkNzBDaDViRVJWUTI5Zz09>

| <b>Technical Session-8</b>   |                 |  |  |
|--|-----------------|--|--|
| <b>Title-Applications of Image &amp; Video Analysis-II</b>                           |                 |  |  |
| <b>Date - 25.04.2021, Time - 2:00 pm-3.30 pm</b>                                     |                 |  |  |
| <b>Session Chairs: Dr. Sanjoy Kumar Saha (JU, W.B.), Dr. Ch. Ramesh(AITAM, A.P.)</b> |                 |  |  |
| <b>Rapporteur: Prof. Sreelekha Biswas (IEM, Kolkata)</b>                             |                 |  |  |
| <b>Sno</b>   | <b>Paper_id</b> | <b>Paper Title</b>   | <b>Authors</b>   |
| 1  | 93              | New Hybrid Approach for Exemplar based: Image Inpainting   | Rohith Pavuluri,<br>Tharun Abhinav,<br>Praveen Kumar,<br>Motahar Reza                    |
| 2  | 94              | Automatic speech Summarization without linguistic knowledge based on frame selection through acoustic features | Ghazaala Yasmin,<br>Shuvodeep Debnath,<br>Asit K Das                                     |
| 3  | 95              | Image-based Concrete Crack Detection using Random Forest and Convolution Neural Network                        | Chirag Kyal,<br>Motahar Reza,<br>BhumikVaru,<br>Shivangi Shreya                          |
| 4  | 97              | Quantitative Autofluorescence Imaging Reveals the Potential for Cervical Cancer Detection                      | Shreya Adhikary,<br>Seema Das,<br>Tapan Kumar Naskar,<br>Santi P. Maity,<br>Ananya Barui |
| 5  | 107             | Recent Advances on Mammogram Imaging for Breast Cancer Analysis: A Technological Review                        | Lovedeep Maan,<br>Soumya Ranjan Nayak  |
| 6  | 118             | A Game Theoretic Approach on Semantic Segmentation along with Transfer Learning                                | Arpita Dutta,<br>Chirantana Mallick  |
| 7  | 154             | Voice Based Detection of Speaker Gender through Co-occurrence Matrix Based Features                            | Suchibrota Dutta,<br>Ranjit Ghoshal,<br>Arijit Ghosal                                    |
| 8  | 157             | Fan Beam Transform and LU Decomposition based Blind Watermarking Technique for Color Images                    | K. Prabha,<br>I. Shatheesh Sam   |

**ZOOM Link to join:** <https://zoom.us/j/93175739429?pwd=U0hSOHBqeTh4ajNvOTk2QndxKzVnZz09>