**MRCN - 2024**

**Call for Papers**

**Special Session on**

**“ Recent** **Research Trends in Computer Vision, Data Analytics, and Artificial Intelligence”**

**Session Chair(s):**

**Dr. Kalpna Guleria, Professor-Research, CURIN, Chitkara University, Punjab, India**

**Dr. Ayush Dogra, Assistant Director-Research, CRIO, Chitkara University, Punjab, India**

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**Aim and Objectives of Session:**

Recent research trends in computer vision, data analytics, and artificial intelligence have brought revolutionary changes in today's era in various domains, including healthcare, precision agriculture, robotics, data security, automotive industry.The session will help researchers provide a platform for discussing important aspects of recent research trends in biomedical imaging and computational imaging, focusing on computer vision, and data analytics. It will also emphasize various artificial intelligence-based solutions related to the emerging challenges in these domains using machine learning, deep learning, and federated deep learning frameworks. It will also highlight various research and design issues and future trends in this domain.

**Topics of Interest:**

Topics to be discussed in this special session include (but are not limited to) the following:

* **Artificial Intelligence in Computer Vision**
* **Machine Learning and Deep Learning for Computational Intelligence.**
* **Computational Imaging & Artificial Intelligence.**
* **Biomedical Imaging and Signal Processing**
* **Federated -Deep Learning Frameworks in Healthcare**
* **Artificial Intelligence in the Internet of Vehicle(s)**
* **Artificial Intelligence in the Internet of Things**
* **Artificial Intelligence in Energy Efficient Precision Agriculture.**
* **Data Analytics: Data Handling & Data Processing**
* **Artificial Intelligence and Signal Processing for Robotics**

**Expected Number of Articles to Receive: 15 to 20**

**Short Biographies of SESSION CHAIRS**

**Prof. (Dr.) Kalpna Guleria** has completed her PhD in Computer Science Engineering from Thapar University, Patiala, India. She has received her M. Tech and B. Tech. with honours, majoring in Computer Science and Engineering. Presently, Dr. Kalpna is currently working as Professor -Research, in Chitkara University Research and Innovation Network (CURIN), Chitkara University, Punjab, India. She has 19+ years of experience in teaching, and research. She has been honoured with meritorious service award and has received various awards of merit in academics as well. She is actively involved in research and has filed 35+ patents. Dr. Kalpna is currently working on two Govt. funded projects. She is Co-Principal Investigator in the Project “Smart Ergonomic Portable Commode Chair” Disabled and Elderly (TIDE) Scheme by the Ministry of Science and Technology, Govt. of India, New Delhi. She is also working as Principal Investigator for a project titled as “Awareness and Training Program for Teachers on Teaching Mathematics through Origami for Patiala and Mohali Districts of Punjab" under the banner of Department of Science and Technology (DST), Govt. of India. She has research publications in reputed SCI/SCIE/Scopus indexed journals and conferences. She is also the reviewer of various International Journals. Her research interests include Wireless Sensor Networks, Ad hoc Networks, VANETS, Machine Learning, Deep Learning, Federated learning and Internet of Vehicles.

**Dr. Ayush Dogra** is graduated in Bachelor of Engineering and Technology (ECE) from Guru Nanak Dev University, Amritsar in 2011. He has received his Master’s degree in Electronics & Communication Engineering from Punjabi University, Patiala in 2013 and Master’s degree in Business Management (MBA) from IGNOU, Delhi (Central University) during 2015. He completed his Doctorate Degree from Department of Electronics and Communications engineering from Oct-2015 to Jan-2019 from Panjab University. Dr. Ayush is currently working as Assistant Director- Research, Centre for Research Impact & Outcome (CRIO), Chitkara University, Punjab. His work area focuses on devising a novel and innovative, market-oriented mechanism for medical image fusion. His research areas primarily are image fusion, image enhancement, image registration and image denoising. His pioneering ideas originated from inventive and free thinking aim at generating indigenous affordable software for efficient image fusion contributing to humanitarian and global welfare.

He has published numerous papers ( >80) in highly reputed SCI/SCIE/ SCOPUS/PUBMED indexed  journals and conferences. He is currently acting as editorial/reviewer work for various highly reputed SCI/SCIE and Scopus indexed journals. As of now, he have reviewed around 1110 manuscripts for more than 130 journals also handled 155 manuscripts as an Editor . He  has also worked as CSIR-Nehru Post-Doctoral Researcher in Biomedical Applications Unit, CSIR-Central Scientific Instruments Organization, Chandigarh. In the past, he worked as the Junior and Senior Research Fellow in the Department of Electronics and Communication Engineering, UIET, Panjab University, Chandigarh.  Also worked as Post-Doctoral fellow in the Department of Center of Biomedical Engineering, IIT Ropar .

He is the recipient of several awards some of which are:

1)  Dr. Paul Christian Lauterber, Young Scientist Award, World Congress on Cardiac Sciences, J.N.Tata Auditorium, Indian Institute of Science, Bengaluru

2) Top Peer Reviewer awarded for placing in the top 1 percent in engineering sciences/Computer Science/Cross Field in  Global Peer Review Awards Conducted by PUBLONS (Clarivate Analytics – Web of Science)

3) Research Award Winner for two consecutive year from UIET, PANJAB UNIVERSITY, Chandigarh.

4) Sushruta Most Popular Research Award  by iERP DELHI.

5) Green Thinkerz Preeminent Researcher Award, Chandigarh

In addition to the previous, Dr. Ayush Dogra designed a series of optimized medical imaging algorithms for enhanced visualization of various ailments and presented it through many SCI/SCIE indexed research publications with high impact factors in a short span of time. He had significantly worked on medical image fusion and designed many algorithms for fusion of osseous and vascular images with high visual quality at much lower cost. Further, he is exploring the other types of medical modalities. During his doctoral he has worked on osseous and vascular based fusion to enhance the details of vascular structures for detecting stenosis and aneurysm.  He is also engaged in Low Dose Cardiac (Fluoroscopic and stent) image enhancement and CT-MR based fusion for detection of various abnormalities. OSSEOUS and VASCULAR based project is being carried out with reputed Medical Colleges. Low dose X-ray (Cardiac) image quality improvement is currently on-going project with Medical INDUSTRY, Chandigarh which holds significant importance for healthcare.