



Five days workshop
On
Artificial Intelligence and Computational Imaging in Healthcare
Under CSIR-Integrated Skill Initiative (CSIR-ISI) Program
During
November 20-24, 2023



About CSIR-CSIO

Central Scientific Instruments Organisation (CSIO), a constituent unit of Council of Scientific & Industrial Research (CSIR), is a premier national laboratory dedicated to research, design and development of scientific and industrial instruments. It is a multi-disciplinary and multi-dimensional apex industrial research & development organisation in the country to stimulate growth of Instrument Industry in India covering wide range and applications.

Course contents

Lectures

The workshop covers lectures on Medical image processing using Artificial intelligence and Machine learning, Medical Image Segmentation, Medical image classification using conventional machine learning techniques, deep learning architecture in biomedical imaging, and Image Annotation and Augmentation techniques. Many other lectures shall be based on the practical and real life applications of Medical imaging.

Practical

The hands-on practical sessions shall be conducted on image processing using Python programming language. The practical sessions cover basic Python Language, basic image processing operations, Image Augmentation techniques, Image classification using CNN, and the use of different deep learning architectures.

Target Audience

- UG/PG/Ph.D. students
- Faculty members from any Department
- Researchers /Industrial Professionals

Note

- The workshop will be conducted in physical mode at CSIR-CSIO, Chandigarh.
- All the participants will be required to bring their laptops for practical sessions.
- The prior registration to attend the workshop is mandatory. No participant will be allowed to attend the workshop without registration.
- The seats in the workshop are limited.
- The selected participants will be informed through email.**
- The participant will arrange their own staying arrangement in Chandigarh and cost of stay will be bear by participants themselves.
- Certificate will be issued to the participant who will attend all the sessions of the workshop.
- Please visit website regularly to get latest information and updates related to the course.

Workshop Registration Fee: Nil

Last date of Registration: November 13, 2023

Venue of the Workshop

Convention Hall, 2nd Floor, Library Block,
CSIR-CSIO, Sector 30 C, Chandigarh

Chief Patron

Prof. Ramancharla Pradeep Kumar,
Director, CSIR-CSIO, Chandigarh

Convener

Dr. Abhishek Gupta, Sr. Scientist
Contact: +91-9023167443, abhishekgupta@csio.res.in

Co-conveners

Mr. Naveen Sharma, Scientist
Dr. Neelesh Kumar, Sr. Principal Scientist
Dr. Prasant Mahapatra, Sr. Principal Scientist

Organised by

Biomedical Application Group, CSIR-CSIO, Chandigarh

Registration link

<https://forms.gle/3JckmS4AQteHjq3V8>



Contact Details

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5 Days workshop Schedule

Days/Time slot	10:00 -11:15 AM		11:15-11:30 AM Tea Break	11:30 AM-12:45 PM		Lunch	2:00-3:00 PM		3:00-3:15 PM Tea Break	3:15-4:30 PM	
Nov 20, 2023	Inauguration of the workshop	Medical Image Segmentation [Dr. Vijay Kumar]		Analysis and classification of liver ultrasound images [Dr. Jitendra Virmani]			Practical Session [Mr. Mohit Pandey]			Practical Session [Mr. Mohit Pandey]	
Nov 21, 2023	Introduction to Medical image processing using AI/ML [Prof. Ajay Mittal]			How multimedia is changing psychological scenario of the world? [Mr. Naveen Sharma]			Practical Session [Mr. Mohit Pandey]			Practical Session [Mr. Mohit Pandey]	
Nov 22, 2023	Medical imaging and its application in current scenario [Dr. Abhishek Gupta]			Image Annotation and Augmentation techniques [Dr. Ritesh Kumar]			Practical Session [Mr. Mohit Pandey]			Practical Session [Mr. Mohit Pandey]	
Nov 23, 2023	Medical image classification using conventional machine learning techniques [Dr. Nitin Kumar]			Use of deep learning architecture in biomedical imaging [Dr. Prashant S Rana]			Practical Session [Dr. Prashant S Rana]			Practical Session [Dr. Prashant S Rana]	
Nov 24, 2023	Thermal Imaging in biomedical applications [Dr. Prasant Mahapatra]			Assistive tool for elder people [Dr. Aparna Akula]			Impact of innovation & entrepreneurship on nation economic and funding opportunities through PRISM scheme of DSIR [Mr. Narinder Singh]			Valedictory and certificate distribution	

Resource Persons



Prof. Ajay Mittal

Professor in UIET, Panjab University, Chandigarh
Interest in Image Processing, Machine Learning, Medical Image Analysis



Dr. Vijay Kumar

Associate Professor in National Institute of Technology, Jalandhar
Interest in Meta-heuristic techniques, Deep Learning, pattern recognition



Dr. Nitin Kumar

Associate Professor in PEC Chandigarh
Interest in Image Processing, Deep Learning, Machine Learning



Dr. Prashant Singh Rana

Associate Professor in Thapar University, Patiala
Interest in Machine Learning, optimization and Deep Learning



Dr. Prasant K Mahapatra

Sr. Principal Scientist in CSIR-CSIO Chandigarh
Interest in Thermal imaging and Medical imaging



Mr. Narinder Singh

Sr. Principal Scientist in CSIR-CSIO Chandigarh
Interest in entrepreneurship and project management



Dr. Ritesh Kumar

Principal Scientist in CSIR-CSIO Chandigarh
Interest in Artificial intelligence, Machine Learning and Data Science



Dr. Aparna Akula

Principal Scientist in CSIR-CSIO Chandigarh
Interest in Computer Vision, Signal & Image Processing, Machine Intelligence



Dr. Jitendra Virmani

Sr. Technical Officer in CSIR-CSIO Chandigarh
Interests in machine learning for analysis of medical images



Dr. Abhishek Gupta

Senior Scientist in CSIR-CSIO Chandigarh
Interest in Medical Image Processing, Computer Vision and Artificial intelligence



Mr. Naveen Sharma

Scientist in CSIR-CSIO Chandigarh
Interest in Biomedical Imaging, Computer Vision & Machine Learning



Mr. Mohit Pandey

Assistant Professor at PSIT, Kanpur (UP)
Interest in Deep Learning and medical image analysis