

Workshop on "Artificial Intelligence in Modern Biology" organised by ICGB, New Delhi

Day 1 (12.09.2023)

Timing	Title	Speaker
09:00 - 09:30 am	Registration	
09:30 - 10:00 am	Workshop Inauguration by Director ICGB	Dr. Ramesh V. Sonti, ICGB
	Introductory Talk by the Organizer	Dr. Dinesh Gupta, ICGB
10:00 - 10:30 am	Introduction to Linear Classifiers and Key Deep Learning Concepts	Dr. Shweta Birla Dhakonia, ICGB
10:30 - 11:00 am	Hands-on Application of Linear classifier of Perceptron Vs linear SVM for patient treatment classification using Electronic Health Records.	Dr. Ankit Singhal, ICGB <i>Assisted by Dr. Shweta & Ms. Nimisha</i>
11:00 - 11:30 am	Tea Break	
11:30- 12:00 pm	Basics of Image (computer vision), Convolution Neural Network & Transfer Learning Technique for Image Classification	Ms. Nimisha Tiwari, ICGB
12:00 - 01:00 pm	Hands-on Image Classification using CNN & Transfer Learning Models	Ms. Nimisha Tiwari, ICGB <i>Assisted by Dr. Shweta, Ms. Tamseel & Dr. Ankit</i>
01:00 - 02:00 pm	Lunch	
02:00 - 03:00 pm	Leveraging representation learning for drug discovery	Dr. D. Sundar, IITD
03:00 - 04:00pm	Revolutionizing Reproductive Health: The Role of AI in Optimizing Fertility and Maternal Care	Dr Abhishek Sengupta/Dr. Priyanka Narad, Amity University
04:00 - 04:30 pm	Tea Break	
04:30 - 05:30 pm	Hands-on AI application using Exploratory Data Analysis (EDA), data visualization, and ML algorithms for prediction modeling.	Dr Abhishek Sengupta/Dr. Priyanka Team

Day 2 (13.09.2023)

Timing	Title	Speaker
09:00-10:00 am	Learnable Query Initialization for Surgical Instrument Instance Segmentation	Dr. Chetan Arora, IITD
10:00-11:00 am	Exploring Parkinson's Disease Progression Prediction Dataset on Kaggle	Mr. Ayon Roy, NielsenIQ
11:00 - 11:30 am	Tea break	
11:30 - 12:00	Deep Learning models for identifying angle dysgenesis in-vivo using glaucoma ASOCT images	Dr. Shweta Birla Dhakonia, ICGB
12.00-1.00 pm	Self-Practice/Problem-Solving/Informal session	All of us
01:00 - 02:00 pm	Lunch	

02:00 - 03:00 pm	Talk & Demo-on Machine Learning Assisted Drug Discovery for SARS-CoV-2	Mr. Neeraj Chaturvedi, ICGEB <i>Assisted by Ms. Neetu, Ms. Chhaya, Ms. Nimisha & Dr. Ashish</i>
03:00- 04:00 pm	Hands-on Vision Transformers for Brain Tumor Classification in MRI Images.	Mr. Rohan & Ms. Ankita, IITD
04:00 - 04:30 pm	Tea break	
04:30 - 05:30 pm	Session continued	Mr. Rohan & Ms. Ankita, IITD
Day 3 (14.09.2023)		
Timing	Title	Speaker
09:00 - 09:45 am	Lecture on Role of AI in Unlocking Gene Expression Patterns	Ms. Neetu Tyagi, ICGEB
09:45 - 10:45 am	Hands-on Session for Handling Gene Expression Data and analysing it via AI	Mr. Hemant, Ms. Neetu & Ms. Lalita ICGEB
10:45 - 11:15 am	Tea break	
11:15 - 12:00 pm	Hands-on Implication of AI driven classification models on metabolomics profiling dataset: Breast cancer case study	Dr. Ashish Sharma, ICGEB <i>Assisted by Ms. Tamseel, Ms. Chhaya & Ms. Deeksha</i>
12:00 - 01:00 pm	Deep Learning Assisted Retinopathy of Prematurity Screening	Mr. Vijay Kumar, IITD
01:00 - 02:00 pm	Lunch	
02:00 - 03:00 pm	Using Machine-Learning to Discern the Antimicrobial Resistance Profile of Microbes	Dr. Manish Kumar, DU
03:00 - 04:00 pm	Hands-on Approach to Modelling and Understanding Hidden Markov Models	Dr. Deeksha Pandey, ICGEB <i>Assisted by Dr. Sangeeta, Dr. Sonu & Ms. Tamseel</i>
04:00 - 05:00 pm	Expert Lecture Series	Dr. GPS Raghava, IITD
05:00 - 05:30 pm	Closing Session with High Tea	

Organizer:

Dr. Dinesh Gupta

Organizing Committee:

Dr. Ankit Singhal
Dr. Shweta Birla Dhakonia
Ms. Minakshi Sharma
Ms. Chhaya Gajra
Ms. Sushmita Sharma

Volunteers:

Dr. Ashish Sharma
Ms. Tamseel Fatma
Mr. Neeraj Chaturvedi
Mr. Hemant Kumar Joon
Ms. Neetu Tyagi
Ms. Lalita Dagar
Dr. Deeksha Pandey
Ms. Nimisha Tiwari