Joint Two Weeks Online Certificate Programme
organized by
IIT Guwahati, IIT Kanpur, IIT Roorkee, MNIT Jaipur, NIT Patna, NIT Warangal and PDPM IIITDM Jabalpur
Deep Learning and Applications
August 23rd to September 03rd, 2021

Date	Day	3:00-3:20 PM	3:30-5:30 PM	5:30-7:30 PM	9:00-10:00 PM
			Inaugural Session		
23-Aug-21	Monday	Inaugural Session	**L1: Prof. Aparajita Ojha, IIITDM Jabalpur** Introduction to Artificial Intelligence, ML and ANN	**P1:** Introduction to Python Programming and a brief introduction to Keras, Google Colab (PTS)	
		3:00-5:00		**5:30-7:00**	
24-Aug-21	Tuesday	**L2: Dr. Santosh Vipparthi, MNIT Jaipur** Deep Neural Networks, Hyperparameters tuning, Regularization and Optimization		**P2:** Writing and running a code to build a Neural Network Classification model, hyper parameter tuning, Using different optimizers. (PTS)	
25-Aug-21	Wednesday	**L3: Prof. Aparajita Ojha** Convolutional Neural Networks, CNN Architectures		**P3:** Building a CNN Classification Model using Transfer learning (MV)	
26-Aug-21	Thursday	**L4: Dr. Santosh Vipparthi** Facial Expression Recognition using CNN		**P4:** Building a Deep Neural Network Model for facial expression recognition (MV)	
27-Aug-21	Friday	**L5: Prof. Aparajita Ojha** Autoencoders and their Applications, Image Segmentation using CNN		**P5:** Implementing an Encoder Decoder Model for image segmentation (SC)	
28-Aug-21	Saturday	**L6: Prof. Aparajita Ojha** Object Detection in Conventional Views		**P6:** Implementation of Object detection algorithm (PTS)	**Quiz-1 (30 Minutes)**
29-Aug-21	Sunday	**Holiday**			
		3:00-5:00		**5:30-7:00**	
30-Aug-21	Monday	**L7: Dr. Santosh Vipparthi** Object Detection/Moving Object in Aerial Views		**P7:** Implementation of Object detection in challenging scenarios (MV)	
31-Aug-21	Tuesday	**Holiday (Janmashtami)**			
01-Sep-21	Wednesday	**L8: Dr Sriparna Saha, IIT Patna** Recurrent Neural Networks Part 1: Basics of RNN, LSTM, GRU and Attention Models		**P8:** Implementation of an LSTM model for sequence data (PTS)	
02-Sep-21	Thursday	**L10: Dr Sriparna Saha** RNN Part 2: Applications of RNN, Image caption generation using RNN.		**L11: MATLAB Team** Deep Reinforcement Learning	**Quiz 2 (30 minutes)**
03-Sep-21	Friday	**L12: MATLAB Team** Wavelets with CNN		**P8: MATLAB Team** Generative Adversarial Networks **7:30-7:45 Valedictory**	

PTS: Poornima Singh Thakur ; MV: Monu Verma; SC: Shubhangi Chaturvedi