

**Joint Two Weeks Online Certificate Programme**  
**organized by IIT Guwahati, IIT Kanpur, MNIT Jaipur, NIT Patna, PDPM IIITDM Jabalpur**  
**Machine Learning for Computer Vision**  
**February 1-12, 2021**

Date	Day	3:00-3:15	3:15-5:15	5:30-7:30
		<b>Inaugural Session</b>		
1-Feb-21	Monday	Welcome Address by Course Coordinators	<b>Inaugural Lecture (L1)</b> Prof. Shantanu Chaudhury, Introduction to Computer Vision	<b>Lab Session 1 (P1)</b> Introduction to Python Programming
		<b>3:00-5:00</b>		<b>5:30-7:00</b>
2-Feb-21	Tuesday	<b>L2: Dr. Suresh Sundaram, IIT Guwahati</b> Fundamentals of Image Processing [Traditional approaches in CV]		<b>P2:</b> Edge detection, image enhancement and segmentation
3-Feb-21	Wednesday	<b>L3: Prof. A. Ojha, IIIDM Jabalpur</b> Introduction to AI and ML		<b>P3:</b> Image classification and segmentation using ML approaches
4-Feb-21	Thursday	<b>L4: Dr Santosh Viparthy, MNIT Jaipur</b> Introduction to Deep Learning		<b>P4:</b> Building a Deep Neural Network Model for Classification problems
5-Feb-21	Friday	<b>L5: Prof. H. Fujiyoshi, Chubu Univ. Japan</b> Convolutional Neural Network, CNN Architectures and Applications to CV		<b>P5:</b> Implementing a CNN model for feature extraction and classification
		<b>10:00-11:30 &amp; 11:30-1:00PM</b>		<b>2:00-4:00 PM</b>
6-Feb-21	Saturday	<b>T1: Prof. A Ojha</b> Tutorial on CNN <b>L6: Dr Santosh Viparthy,</b> Deep CNN Architectures for CV		<b>P5:</b> Implementing a Deep CNN with Transfer Learning
7-Feb-21	Sunday			
		<b>3:00-5:00</b>		<b>5:30-7:00</b>
8-Feb-21	Monday	<b>L7: Prof. H. Fujiyoshi</b> Recent CNN Architectures and Appl to CV		<b>P6:</b> Implementing a CNN model for feature extraction and classification
9-Feb-21	Tuesday	<b>L8: Prof. Barbara Zitova, Acad Sci. Czech Repulic</b> Medical Imaging and Applications of ML in Medical imaging		<b>P7:</b> ML approaches for medical image processing
10-Feb-21	Wednesday	<b>L9: Dr. Amit Sethi, IIT Bombay</b> Deep Learning for Medical Imaging		<b>P8:</b> Deep CNN for medical applications
11-Feb-21	Thursday	<b>L10: Prof. Sumantra Dutta Roy, IIT Delhi</b> K-Means, Mixture Models, EM Algorithm, and Stauffer-Grimson Background Subtraction from Videoss		<b>L11: Dr P. Guha, IIT Guwahati</b> Commercial Detection from Television Broadcast Videos
		<b>3:00-4:30</b>		<b>4:30-6:00</b>
12-Feb-21	Friday	<b>L12: Dr Santosh Viparthy</b> CNN for Change Detection		<b>T2:</b> Problem Solving & Research Orientation Session <b>6:00-6:15 Valedictory</b>