

Event Report on

GUJCOST & IE (INDIA) SPONSORED ONE WEEK ONLINE FDP ON

“MACHINE LEARNING TO DEEP LEARNING: TRENDS AND CHALLENGES”

(13TH TO 18TH DECEMBER, 2021)

<p>CHIEF PATRON Er. Bhikhubhai B. Patel (Hon. Chairman - CVM, President - CVM University)</p> <p>PATRON Shri Manishbhai S. Patel Dr. S. G. Patel Shri Mehulbhai D. Patel Shri R. C. Talati Shri V. H. Patel</p> <p>PRESIDENT Dr. Himanshu B. Soni (Principal, MBIT)</p> <p>CONVENER Prof. Nirav Raja (HOD, CE Department)</p> <p>COORDINATOR Prof. Pooja Bhatt Prof. Dipti Mathpal</p> <p>ORGANIZING COMMITTEE Prof. Shital Gondaliya Prof. Ashwinikumar Jha Prof. Nirali Pandya Prof. Keyur Prajapati Prof. Priyanka Panchal Prof. Chetan Chudasama Prof. Jayna Donga Prof. Sunit Parmar Prof. Tushar Shah Prof. Atmiya Patel Prof. Akash Dave Prof. Shradhdha Korvadiya Prof. Shyam Vitthalani Prof. Mihir Rajyaguru Prof. Dhruva Mistry</p>	<p>PROGRAMME OBJECTIVE</p> <p>The objective of this FDP is to explain to the attendees about the use of Deep Learning technology and make them aware of the development of various applications using it. This FDP will provide a unique platform for enhancing the knowledge of the faculty members in the mentioned area, and it will help to share and exchange ideas, identify and discuss options of relevant fields.</p> <p>RESOURCE PERSON</p> <table border="0"> <tr> <td>Dr. Tapan Jain (HOD ECE, IIIT Nagpur)</td> <td>Dr. Narendrasinh Chauhan (Professor, ADIT, New V V Nagar)</td> </tr> <tr> <td>Dr. Suraj Sharma (Assistant Professor, IIIT Bhubaneswar)</td> <td>Dr. Mitul Kumar Ahirwal (Assistant Professor, MANIT, Bhopal)</td> </tr> <tr> <td>Dr. Saroj Kumar (Assistant Professor, Jain University, Bangalore)</td> <td>Dr. Debi Prasad Dogra (Assistant Professor, IIIT Bhubaneswar)</td> </tr> <tr> <td>Dr. Pooja Jain (Assistant Professor, IIIT Nagpur)</td> <td>Dr. S. Balakrishnan (Professor and Head, SKCET, Coimbatore)</td> </tr> <tr> <td colspan="2">Mr. Arshdeep Bahga (CEO, DeepLearn Solutions, Chandigarh)</td> </tr> </table> <p>COURSE CONTENT</p> <ul style="list-style-type: none"> • Importance of Machine Learning • Unsupervised Learning • Artificial Neural Networks • Convolutional Neural Networks • Deep Learning for Natural Language Processing • Generative Adversarial Networks • Applications of AI and ML for Visual Surveillance • Hands on session on Deep Learning: Recurrent Neural Network • Hands on session on Deep Learning: Fine Tuning and Linear Regression 	Dr. Tapan Jain (HOD ECE, IIIT Nagpur)	Dr. Narendrasinh Chauhan (Professor, ADIT, New V V Nagar)	Dr. Suraj Sharma (Assistant Professor, IIIT Bhubaneswar)	Dr. Mitul Kumar Ahirwal (Assistant Professor, MANIT, Bhopal)	Dr. Saroj Kumar (Assistant Professor, Jain University, Bangalore)	Dr. Debi Prasad Dogra (Assistant Professor, IIIT Bhubaneswar)	Dr. Pooja Jain (Assistant Professor, IIIT Nagpur)	Dr. S. Balakrishnan (Professor and Head, SKCET, Coimbatore)	Mr. Arshdeep Bahga (CEO, DeepLearn Solutions, Chandigarh)	
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Mr. Arshdeep Bahga (CEO, DeepLearn Solutions, Chandigarh)											



Last Date of Registration: 7th December, 2021

REGISTER NOW <https://bit.ly/FDPonMLtoDL>

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No Registration Fees.



Organized By:-

Department of Computer Engineering

Madhuben & Bhanubhai Patel Institute of Technology

(A Constituent College of CVM University), New Vallabh Vidyanagar

PROGRAMME SCHEDULE

DAY – 1 (13 th December, 2021)	
TIME	SESSION
10:00 AM - 10:30 AM	Inauguration
10:30 AM - 12:30 PM	Session – 1 Dr. Narendra C Chauhan (Professor, A D Patel Institute of Technology, New Vallabh Vidyanagar) Topic: Importance of Machine Learning
12:30 PM - 01:30 PM	Lunch Break
01:30 PM - 03:30 PM	Session – 2 Dr. Mitul Kumar Ahirwal (Asst. Professor, Maulana Azad National Institute of Technology, Bhopal) Topic: Regression Models with hands-on session on linear regression

DAY – 2 (14 th December, 2021)	
TIME	SESSION
10:30 AM - 12:30PM	Session – 1 Dr. Tapan Jain (HOD ECE, IIIT Nagpur) Topic: Unsupervised Learning
12:30 PM - 01:30 PM	Lunch Break
1:30 PM - 03:30 PM	Session – 2 Dr. Debi Prasad Dogra (Assistant Professor, IIIT Bhubaneswar) Topic: Applications of AI and ML for Visual Surveillance

DAY – 3 (15 th December, 2021)	
TIME	SESSION
10:30 AM - 12:30 PM	Session – 1 Dr. Suraj Sharma (Assistant Professor, IIIT Bhubaneswar) Topic: Artificial Neural Networks and Convolutional Neural Network
12:30 PM - 01:30 PM	Lunch Break
01:30 PM - 03:30 PM	Session – 2 Dr. Saroj Kumar (Assistant Professor, Jain (Deemed-to-be University), Bangalore) Topic: Deep Learning for Artificial Intelligence- and with hands-on session on Fine Tuning

DAY – 4 (16th December, 2021)

TIME	SESSION
10:30 AM - 12:30 PM	<p>Session – 1 Dr. S. Balakrishnan (Professor and Head , Sri Krishna College of Engg. and Technology, Coimbatore) Topic: Generative Adversarial Network</p>
12:30 PM - 01:30 PM	Lunch Break
01:30 PM - 03:30 PM	<p>Session – 2 Dr. Saroj Kumar (Assistant Professor, IIIT Bhubaneswar) Topics: Deep Learning for Artificial Intelligence -RNN and with hands-on session RNN</p>

DAY – 5 (17th December, 2021)

TIME	SESSION
10:30 AM - 12:30 PM	<p>Session – 1 Dr. Pooja Jain (Assistant Professor, IIIT Nagpur) Topic: Natural Language Processing</p>
12:30 PM - 01:30 PM	Lunch Break
01:30 PM - 03:30 PM	<p>Session – 2 Mr. Arshdeep Bahga (CEO, Deep Learn Solutions, Chandigarh) Topic: Deep Learning for Natural Language Processing</p>

DAY – 6 (18th December, 2021)

TIME	SESSION
10:30 AM - 11:30 AM	Quiz
11:30 AM - 12:00 NOON	Feedback and Valedictory Session

EXPERT LIST

Sr No.	Expert Details
1	Dr. Narendra C Chauhan (Professor, A D Patel Institute of Technology, New Vallabh Vidyanagar)
2	Dr. Mitul Kumar Ahirwal (Asst. Professor, Maulana Azad National Institute of Technology, Bhopal)
3	Dr. Tapan Jain (HOD ECE, IIIT Nagpur)
4	Dr. Debi Prasad Dogra (Assistant Professor, IIIT Bhubaneswar)
5	Dr. Suraj Sharma (Assistant Professor, IIIT Bhubaneswar)
6	Dr. Saroj Kumar (Assistant Professor, Jain (Deemed-to-be University), Bangalore)
7	Dr. S. Balakrishnan (Professor and Head , Sri Krishna College of Engg. and Technology, Coimbatore)
8	Dr. Pooja Jain (Assistant Professor, IIIT Nagpur)
9	Mr. Arshdeep Bahga (CEO, Deep Learn Solutions, Chandigarh)

The aim of this FDP is to explain the use of “Machine Learning To Deep Learning: Trends And Challenges” technology and making attendees aware about development of various applications using it. The FDP was conducted through Microsoft Team as an online platform. As these topics are the demand for today’s industry and society, there is a need to explore the research opportunities in the field of automation. This FDP will provide a unique platform for enhancing the knowledge of the faculty members and students who are doing research or planning to do research in the mentioned area.

DAY – 1: (13th December,2021)

Inaugural Ceremony was on 13th December, 2021 at 10:00AM.

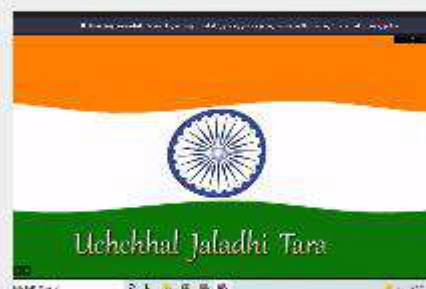
Inauguration commenced with Welcome Note by Prof. Ashwini Jha. He warmly welcomed the dignitaries and participants. Then blessings of God were taken by playing Saraswati Vandana by Organizing Team of FDP.



Prof. Nirav Raja gave brief introduction about the Faculty Development Programme. Prof. Dr. Himanshu Soni (Principal, MBIT) congratulated Computer Department for conduction of this FDP as well as shared the importance of Machine Learning To Deep Learning in this digital era and also congratulated entire organizing team of FDP. He also gave brief information about machine learning to deep learning and also enlightened everyone regarding current technologies useful for overall development of students, faculties and nation.

The FDP was inaugurated by Hon'ble Chairman CVM and President CVM University- Er. Shri. Bhikhubhai Patel and Prof. (Dr.) Himashu Soni (Principal, MBIT). The Honorable Chairman of CVM and Chief Patron of this FDP, Er. Shri Bhikhubhai Patel Sir motivated participants with his blessings and encouraging words as a presidential remark.

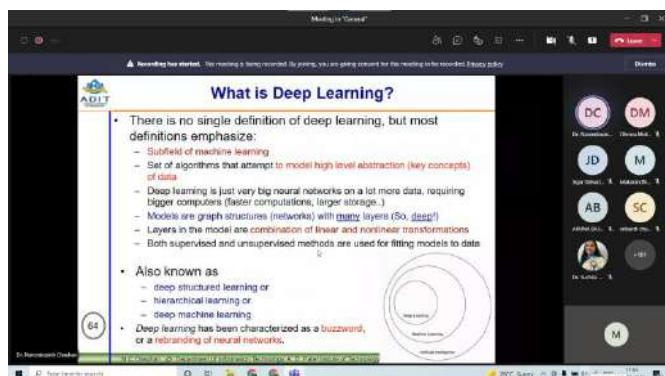
At the end of the session, Prof. Dipti Mathpal had proposed vote of thanks towards sponsoring bodies, CVM University, Chief Patron, President and Head of the computer Department for their eminent support and guidance. She also thanked all the participants of FDP and committee members of FDP.



DAY – 1: Session – 1 (13th December, 2021)

Dr. Narendra C Chauhan Professor & Head Department of Information Technology, A. D. Patel Institute of Technology, New Vallabh Vidyanagar conducted session on 13th December, 2021 during 10:30 AM to 12:30 PM. He delivered a talk on Introduction to Machine Learning.

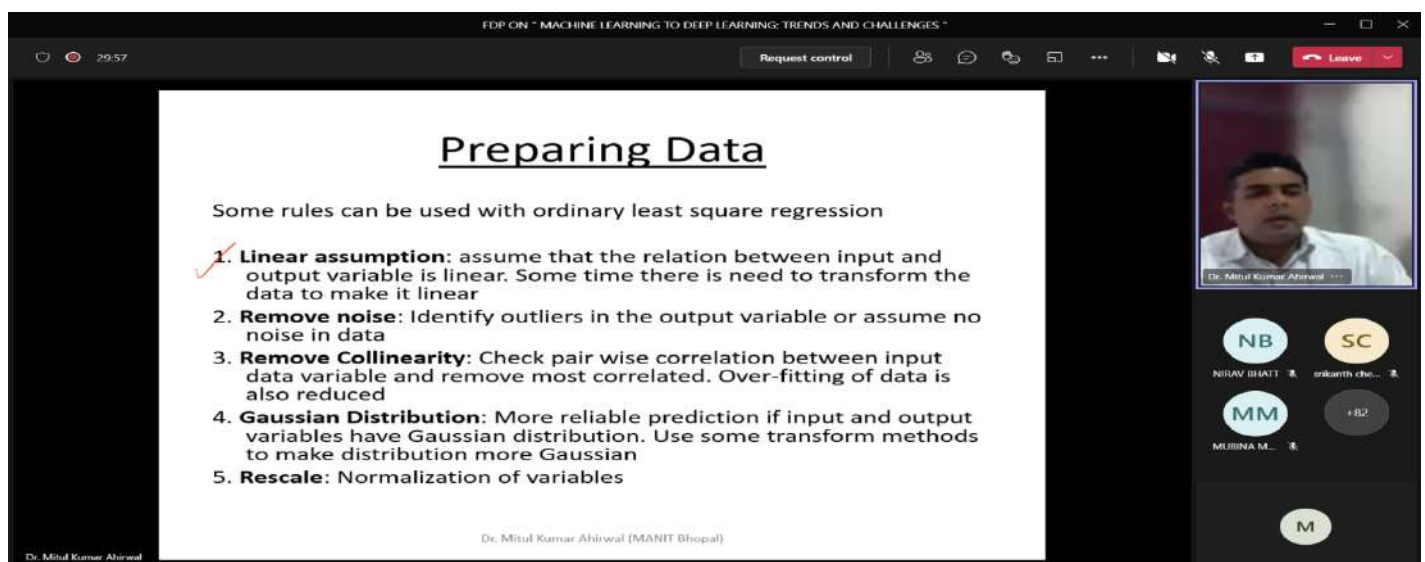
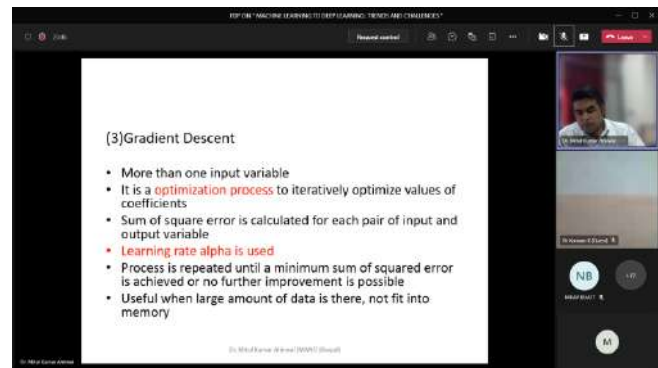
He has delivered session on Introduction to Machine Learning. He has Explored Importance of machine learning with different techniques. He also emphasizes use of supervise and unsupervised techniques of machine learning. After that he ended up the session by explaining the comparison of different techniques through examples.



DAY – 1: Session – 2 (13th December, 2021)

Dr. Mitul Kumar Ahirwal, Asst. Professor, Maulana Azad National Institute of Technology, Bhopal conducted session on 13th December 2020 during 1:30 PM to 03:30 PM. He delivered a talk on Regression Models by using linear regression.

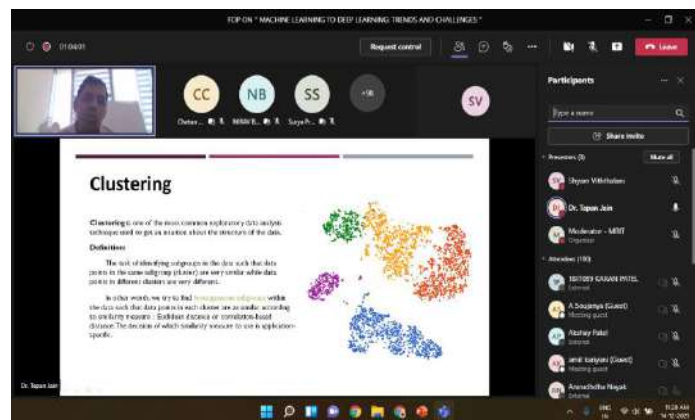
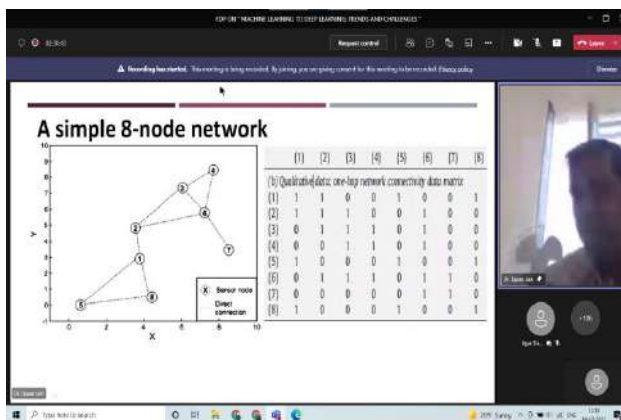

He has explored Regression Models by using linear regression. He delivered the importance of TensorFlow with hands on. He has also shown comparison of different data sets through practical. He has also explained the existing frameworks for the developing of machine learning applications.



DAY – 2: Session – 1 (14th December, 2021)

Dr. Tapan, Professor, HOD, ECE Department, IIT Nagpur conducted session on 14th December, 2021 during 10:30 AM to 12:30 PM. He delivered a talk on unsupervised learning.

At first, he has given the brief introduction of existing techniques for the machine learning approach. He gave importance of unsupervised learning with the different kind of contexts. At last, he also delivered the talk of comparison of Unsupervised Learning and Reinforcement learning.

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Unsupervised Learning

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Dr. Tapan Kumar Jain,
Assistant Professor (ECE), IIT Nagpur
Senior Member, IEEE

Dr. Tapan Jain

Shyam Vithal...

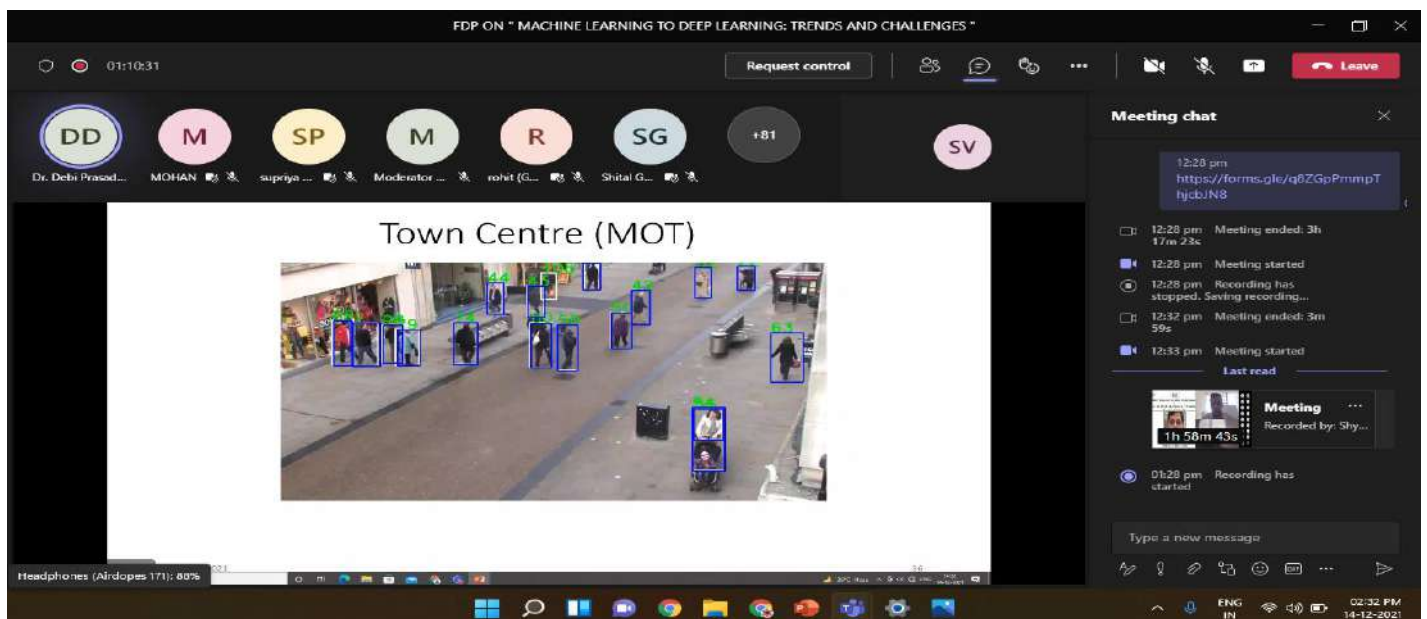
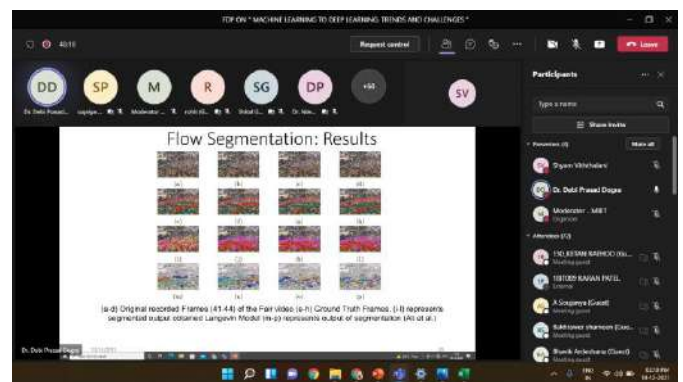
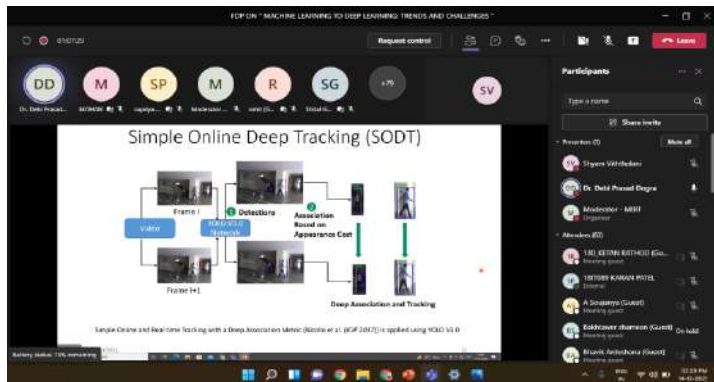
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DAY – 2: Session – 2 (14th December, 2021)

Dr. Debi Prasad Dogra, Assistant Professor, IIIT Bhubaneswar conducted session on 14th December, 2021 during 01:30 PM to 3:30 PM. He delivered a talk Applications of AI and ML for Visual Surveillance.

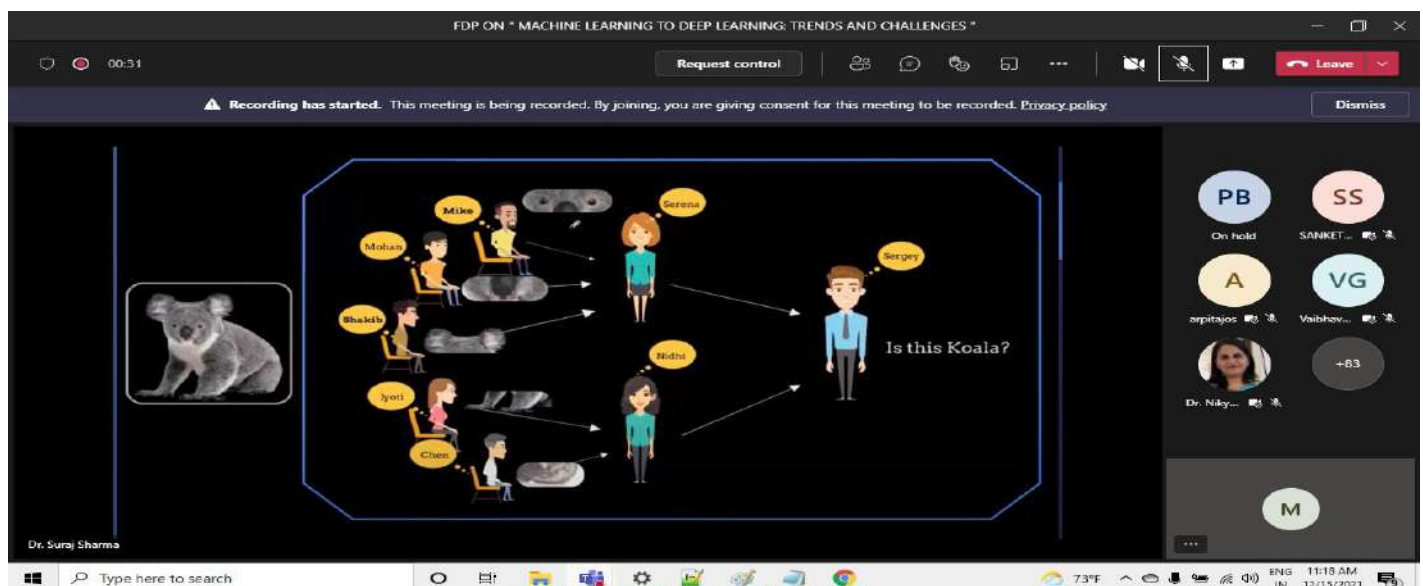
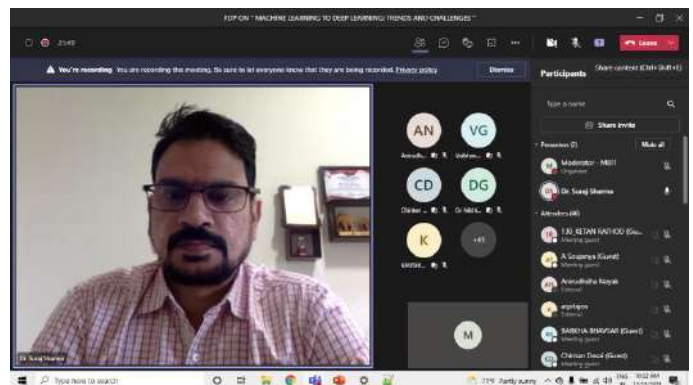
He has explained the intelligent software paradigm is taking over surveillance due to the pervasive nature of self-learning capabilities emerging in the space. He has explained AI is making a vast impact, because of its self-learning capabilities. He also made comment on Issues like people tracking, area monitoring, parking occupancy, vehicle analytics and traffic monitoring. At the end, he has also satisfied all the participants with their questionnaires.



DAY - 3: Session - 1 (15th December, 2021)

Dr. Suraj Sharma Assistant Professor, IIIT Bhubaneswar conducted session on 15th December, 2021 during 10:30AM to 12:30 PM. He delivered a talk on: importance of Artificial Neural Network and Convolution Neural Network.

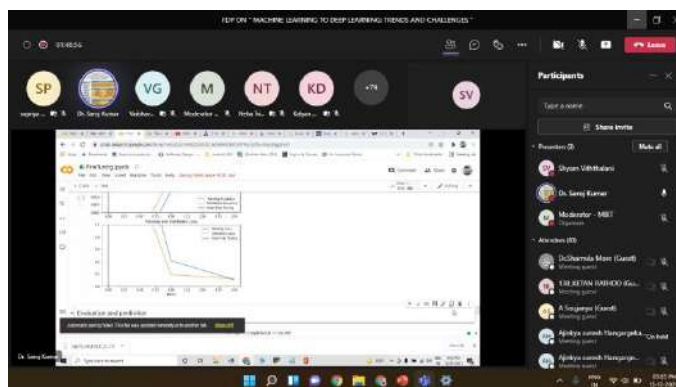
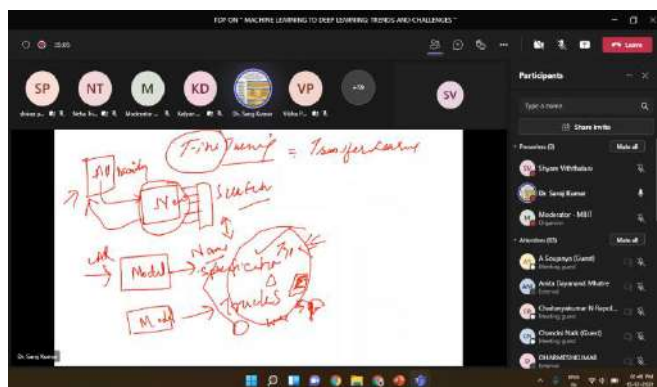
He has delivered expert session with the importance of Artificial Neural Network and Convolution Neural Network. He has also list out the applications in which we have to need neural network. He had explored the Neural Network with example. At last, he has given comparison of CNN and RNN.



DAY - 3: Session - 2 (15th December, 2021)

Dr. Saroj Kumar Assistant Professor, Jain (Deemed-to-be University), Bangalore conducted session on 15th December, 2021 during 01:30 PM to 3:30 PM. He delivered a talk on Deep Learning for Artificial Intelligence- and with hands-on session on Fine Tuning

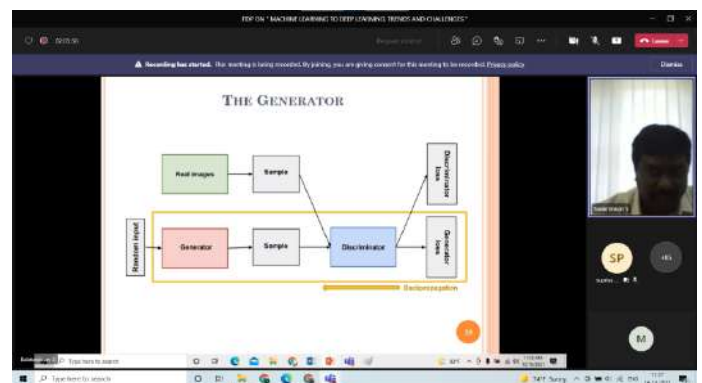
He has started his session with the explanation of difference between machine learning and deep learning. He made focus on machine learning techniques in the application of fine tuning. He has shown examples of fine-tuning implementation and also informed where we can find pre-trained network.



DAY – 4: Session – 1 (16th December, 2021)

Dr. S. Balakrishnan Professor and Head, Department of Computer Science and Business System at Sri Krishna College of Engineering and Technology, Coimbatore, Tamilnadu, conducted session on 16th December, 2021 during 10:30 AM to 12:30 PM. He delivered a talk on: Generative Adversarial Network.

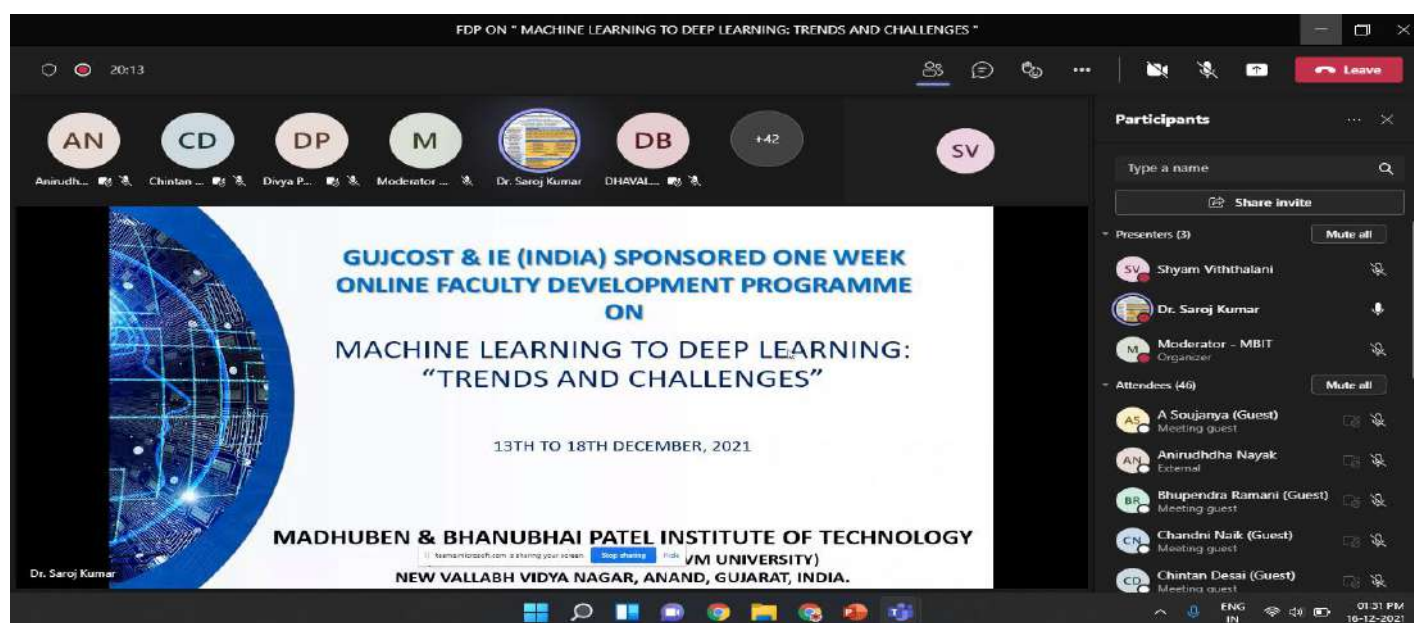
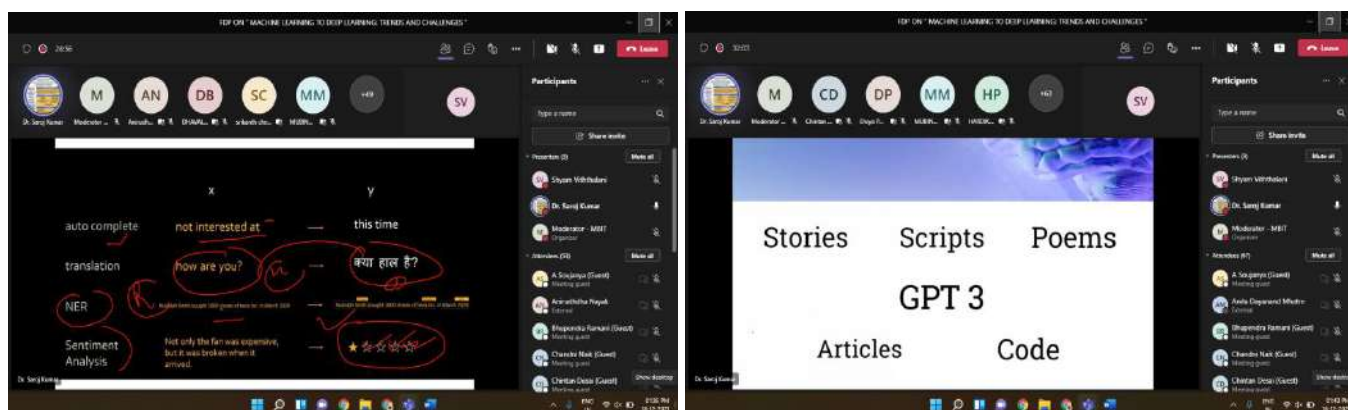
He explained Generative Adversarial Networks, are an approach to generative modelling using deep learning methods, such as convolutional neural networks. He explored Generative modelling is an unsupervised learning task in machine learning that involves automatically discovering and learning the regularities or patterns in input data in such a way that the model can be used to generate or output new examples that plausibly could have been drawn from the original dataset.

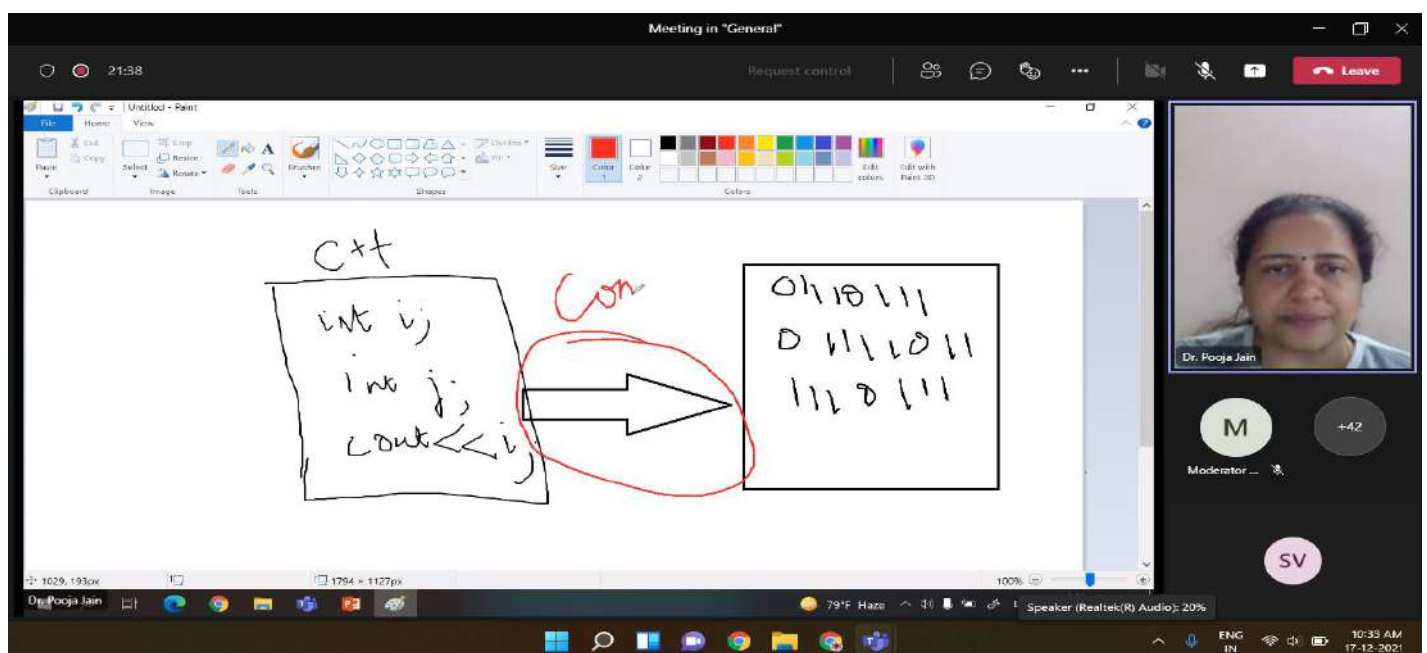


DAY – 4: Session – 2 (16th December, 2021)

Dr. Saroj Kumar Assistant Professor, Jain (Deemed-to-be University), Bangalore conducted session on 16th December, 2021 during 01:30 AM to 3:30 PM. He delivered a talk on: Deep Learning for Artificial Intelligence -RNN and with hands-on session RNN

He has explored the importance of Neural Network. Also, he clearly defined GPT3 tool. He has covered the knowledge of TensorFlow with practical examples. He has also defined the use of the existing libraries for the development of machine learning applications.

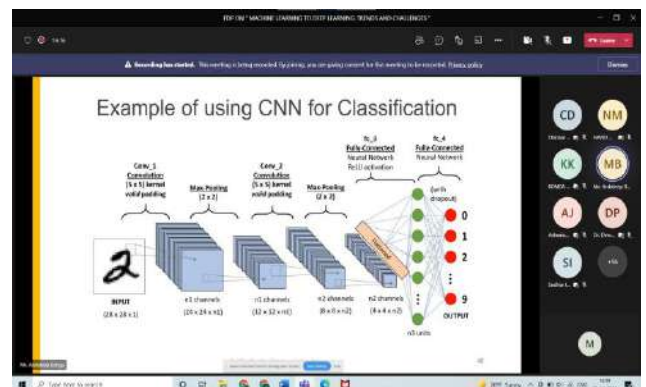
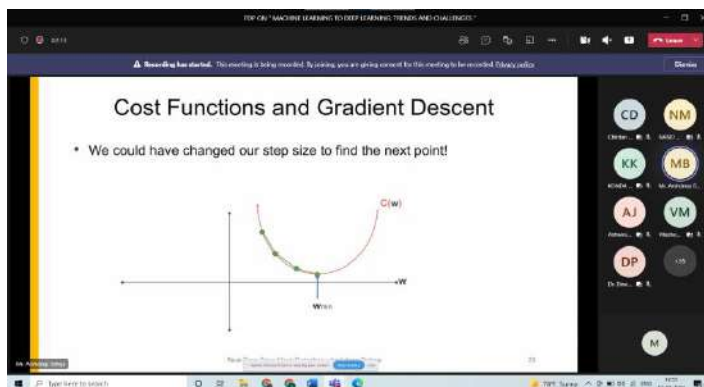
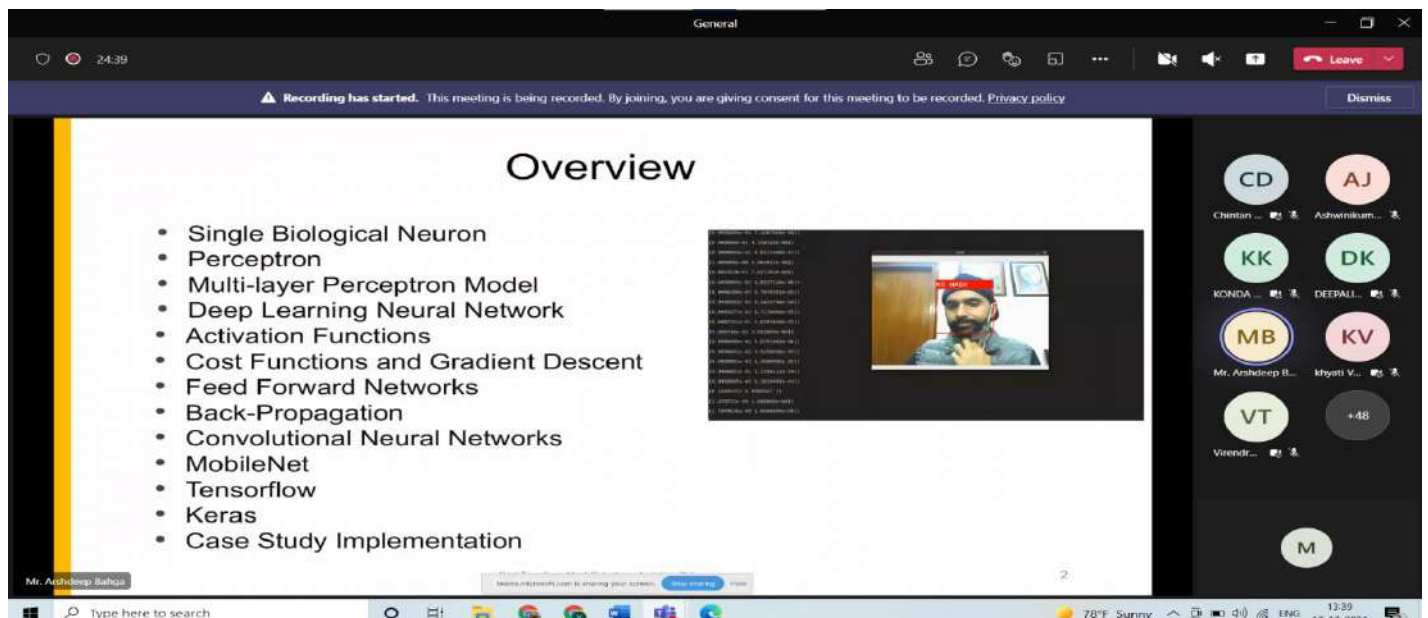




DAY – 5: Session – 2 (17th December, 2021)

Mr. Arshdeep Bahga, CEO, Deep Learn Solutions, Chandigarh conducted session on 17th December, 2021 during 01:30 AM to 3:30 PM. He delivered a talk on: Deep Learning for Natural Language Processing.

He has delivered talk on how machine learning is useful in the context of face recognition. He expressed how deep learning can be apply for the same. Finally, he also explored case study with TensorFlow and Keras.

Overview

- Single Biological Neuron
- Perceptron
- Multi-layer Perceptron Model
- Deep Learning Neural Network
- Activation Functions
- Cost Functions and Gradient Descent
- Feed Forward Networks
- Back-Propagation
- Convolutional Neural Networks
- MobileNet
- Tensorflow
- Keras
- Case Study Implementation

Mr. Arshdeep Bahga

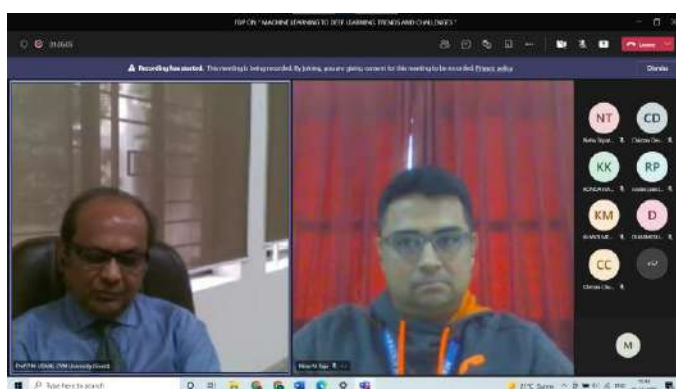
DAY – 6: Quiz (18th December, 2021, 10.30am to 11.30am)

The Quiz was taken of 30 marks during 10:30 AM to 11:30 AM based on topics delivered during the all sessions of the FDP.

DAY – 6: Valedictory Function & Feedback (18th December, 2021, 11:30am to 11:55am)

Valedictory Function Organized on 18th December 2021 at 11.30am. Function was commenced by Prof. Dipti Mathpal.

Then, Dr. P. M. Udani Sir, Director General, CVM University, Shared the importance of Machine Learning To Deep Learning in this digital era and also congratulated entire organizing team of FDP. He also gave brief information about Machine Learning and also enlightened everyone regarding current technologies useful for overall development of students, faculties and nation. Vote of thank was proposed by Dr. Pooja Bhatt, coordinator of this FDP.





Total No of Participants: 190

Feedback

- All sessions are knowledgeable. All six sessions are related to the topic and covered major area of data science. Thank you.-Pooja Pandya
- It's very nicely coordinated workshop. Instructions are clear and precise and coming right on time. No interruption at all even though it was organized on online platform.- Ravi Soni
- All the sessions are so useful and wonderful. All the topics were explained so well. All the experts are very knowledgeable. Especially thanks to the management team of this workshop, again thanks to MBIT. Thank you.-Dr. Nirav Bhatt
- All sessions are knowledgeable. All ten sessions are related to the topic and covered major area of data science. Thank you.-Dr. Warish Patel

Organized Team:

We are thankful our principal and CVM for providing such opportunity to provide us a platform to conduct such FDP for the students & Faculties and gain knowledge in such a pandemic situation. We are also grateful to GUJCOST & IE for providing financial support for this FDP.