Department of Computer Engineering

Institute Vision

We at SIEM aspire to be a globally recognized Institute that delivers a world class education to outstanding intellectual by nurturing and grooming by their interest, creative abilities and thrusts to acquire a life-long learning so as to imbibe values of their commitment towards society.

Department Vision

The department aims to be recognized in the field of quality education through excellence in teaching, learning, research and innovation for the betterment of society.

EVENT REPORT

On

Workshop on " Deep Learning"

Name of Event: Workshop on " Deep Learning"

Date of Event: 02/05/2022
Coordinator of Event: Miss Priyanka Shahane, AISSMS, Pune
Name and Details of Resource Person: Miss Priyanka Shahane, AISSMS, Pune
No of Participants: 89

Details of Participants: Third Year Computer Engineering Students

Program Outcome Mapped: PO5, PSO1, PSO3

Objectives: To provide knowledge and awareness about cyber security related ethics, issues.

To understand the various tools used in cyber security.

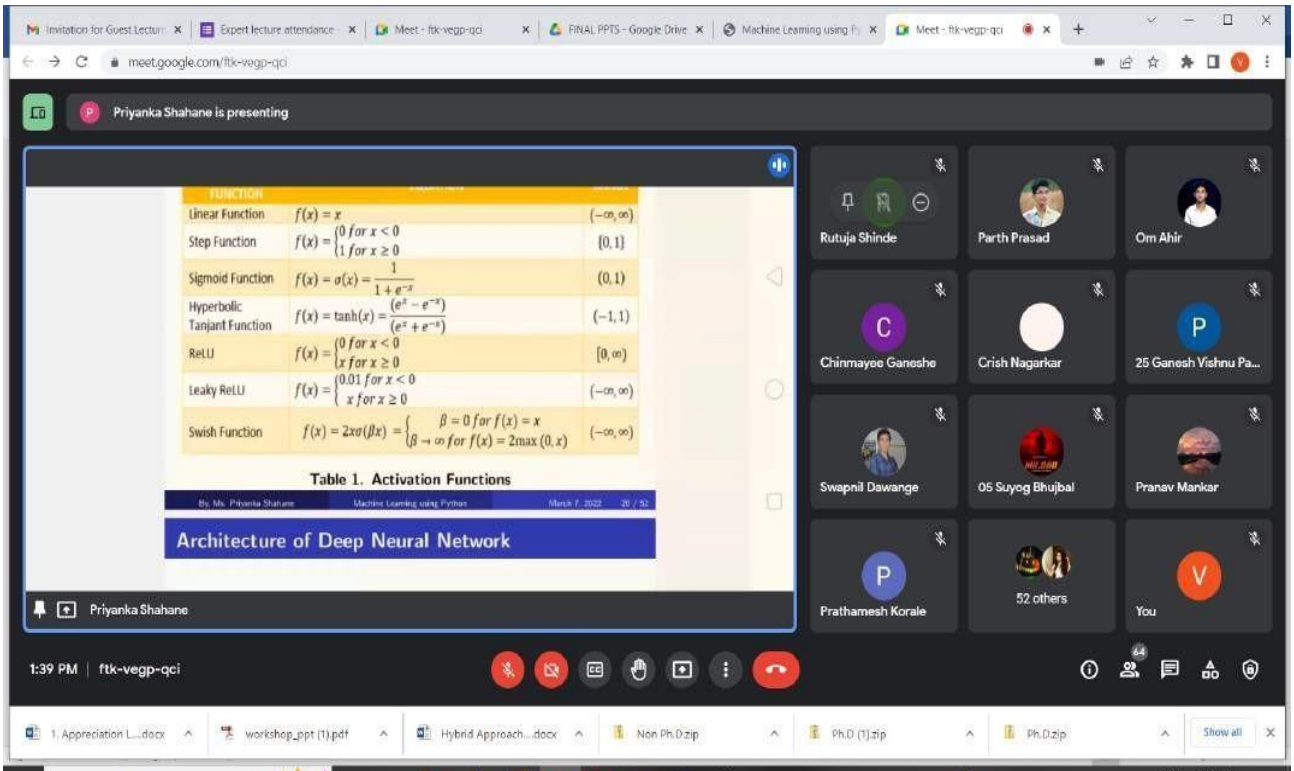
To understand issues in cybercrime and different attacks

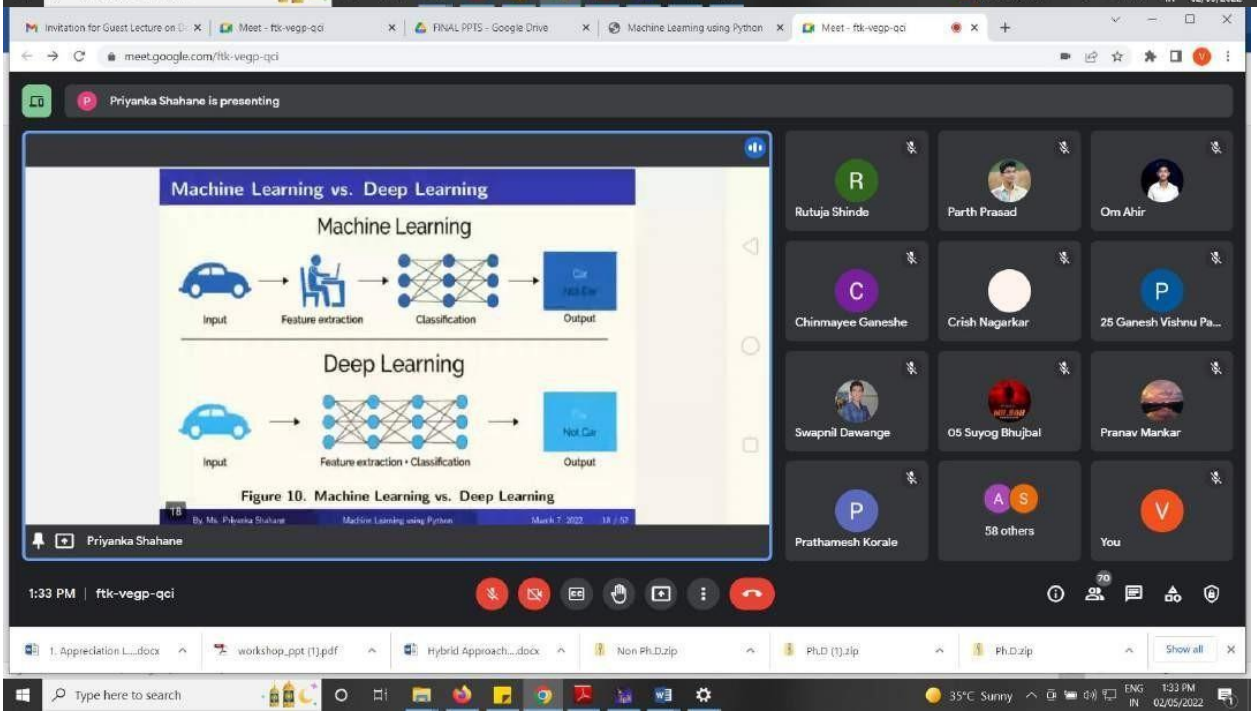
Outcome: 1. Understanding of concepts related to Network Security

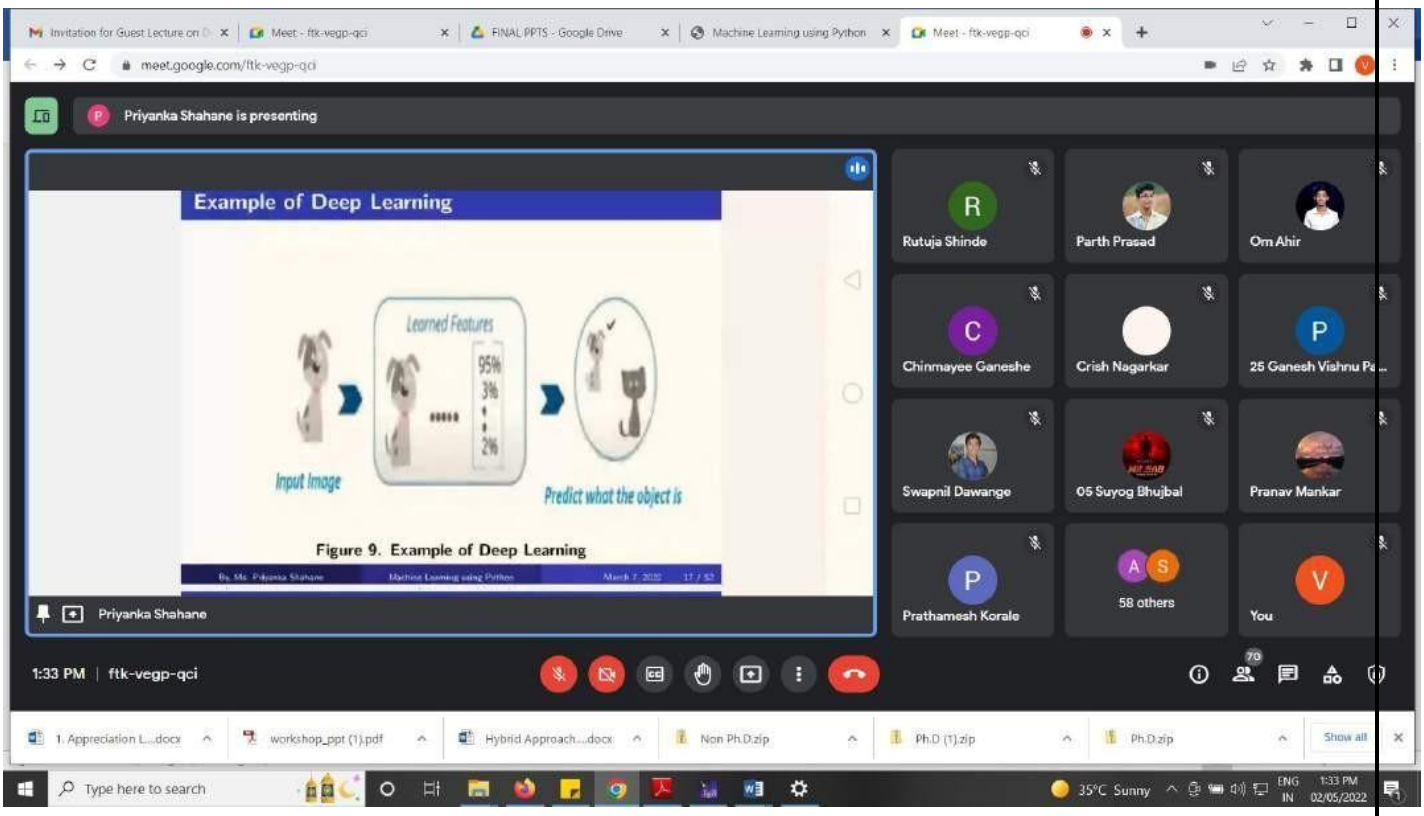
2. Analyse threats in order to protect or defend it in cyberspace from cyber-attacks.

3. Understanding of appropriate security solutions against cyber-attacks.

Photos:


meet.google.com/ftk-vegp-qci
Priyanka Shahane is presenting
Linear Function $f(x) = x$ $(-\infty, \infty)$
Step Function $f(x) = \begin{cases} 0 \text{ for } x < 0 \\ 1 \text{ for } x \geq 0 \end{cases}$ $[0, 1]$
Sigmoid Function $f(x) = \sigma(x) = \frac{1}{1+e^{-x}}$ $(0, 1)$
Hyperbolic Tanjant Function $f(x) = \tanh(x) = \frac{(e^{x} - e^{-x})}{(e^{x} + e^{-x})}$ $(-1, 1)$
ReLU $f(x) = \begin{cases} 0 \text{ for } x < 0 \\ x \text{ for } x \geq 0 \end{cases}$ $[0, \infty)$
Leaky ReLU $f(x) = \begin{cases} 0.01 \text{ for } x < 0 \\ x \text{ for } x \geq 0 \end{cases}$ $(-\infty, \infty)$
Swish Function $f(x) = 2x\sigma(\beta x) = \begin{cases} \beta = 0 \text{ for } f(x) = x \\ \beta \to \infty \text{ for } f(x) = 2\max(0, x) \end{cases}$ $(-\infty, \infty)$
Table 1. Activation Functions
Architecture of Deep Neural Network
Priyanka Shahane
Rutuja Shinde
Parth Prasad
Om Ahir
Chinmayee Ganeshe
Crish Nagarkar
25 Ganesh Vishnu Pa...
Swapnil Dawange
05 Suyog Bhujbal
Pranav Mankar
Prathamesh Korale
52 others
You
1:39 PM | ftk-vegp-qci
Type here to search
35°C Sunny
ENG IN
1:39 PM 02/05/2022


meet.google.com/ftk-vegp-qci
Priyanka Shahane is presenting
Machine Learning vs. Deep Learning
Machine Learning
Input
Feature extraction
Classification
Output
Deep Learning
Input
Feature extraction + Classification
Output
Figure 10. Machine Learning vs. Deep Learning
Priyanka Shahane
Rutuja Shinde
Parth Prasad
Om Ahir
Chinmayee Ganeshe
Crish Nagarkar
25 Ganesh Vishnu Pa...
Swapnil Dawange
05 Suyog Bhujbal
Pranav Mankar
Prathamesh Korale
58 others
You
1:33 PM | ftk-vegp-qci
Type here to search
35°C Sunny
ENG IN
1:33 PM 02/05/2022


Priyanka Shahane is presenting
Example of Deep Learning
Learned Features
95%
3%
2%
Input Image
Predict what the object is
Figure 9. Example of Deep Learning
Priyanka Shahane
Rutuja Shinde
Parth Prasad
Om Ahir
Chinmayee Ganeshe
Crish Nagarkar
25 Ganesh Vishnu Pa...
Swapnil Dawange
05 Suyog Bhujbal
Pranav Mankar
Prathamesh Korale
58 others
You
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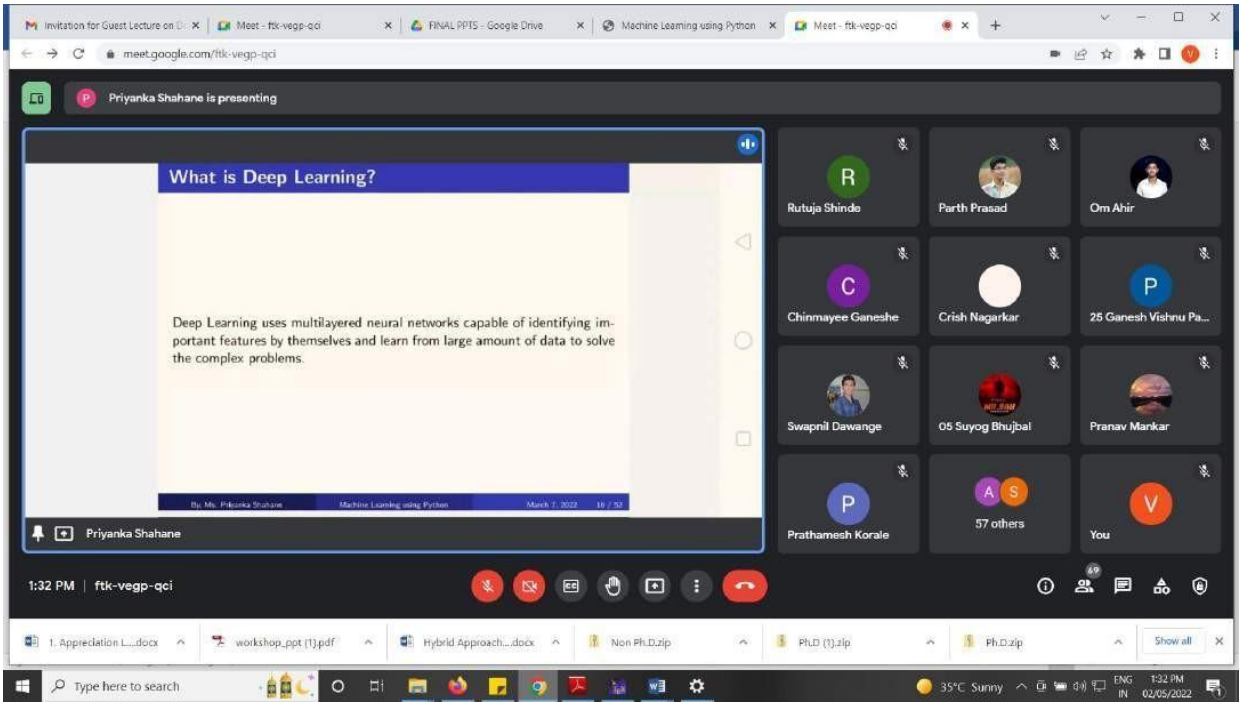
Priyanka Shahane is presenting
What is Deep Learning?
Deep Learning uses multilayered neural networks capable of identifying important features by themselves and learn from large amount of data to solve the complex problems.
Priyanka Shahane
Rutuja Shinde
Parth Prasad
Om Ahir
Chinmayee Ganeshe
Crish Nagarkar
25 Ganesh Vishnu Pa...
Swapnil Dawange
05 Suyog Bhujbal
Pranav Mankar
Prathamesh Korale
57 others
You
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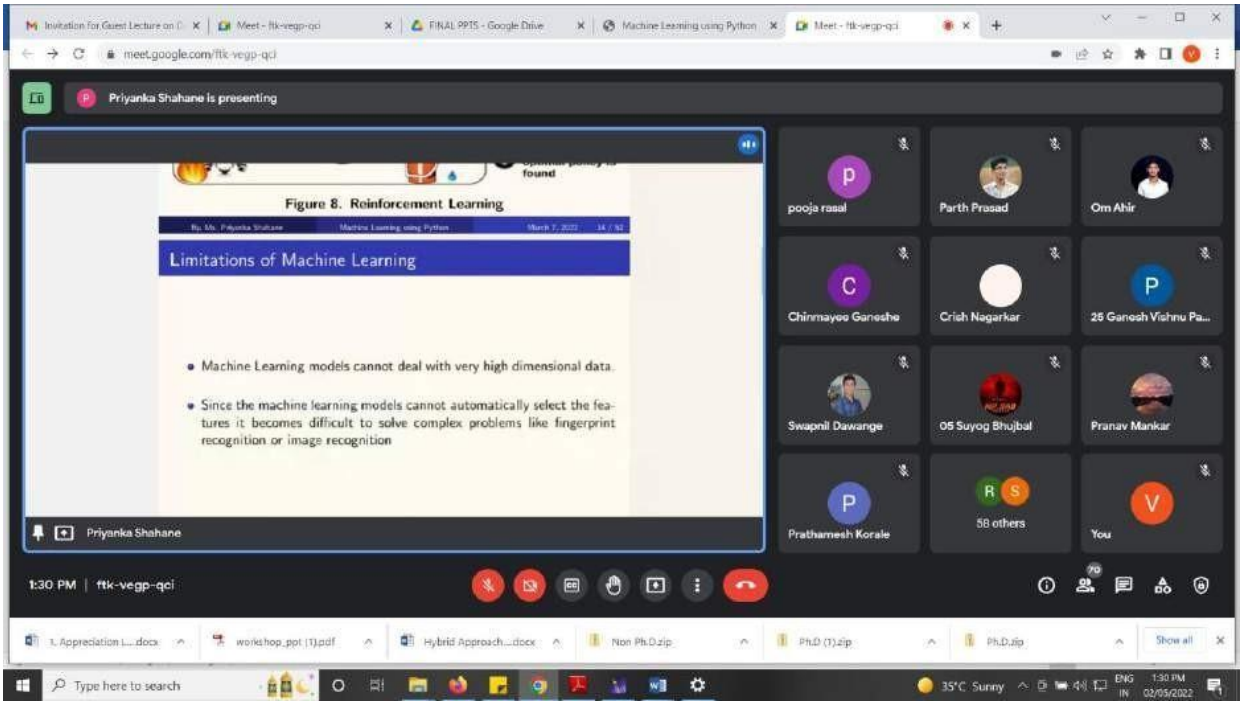
Priyanka Shahane is presenting
Figure 8. Reinforcement Learning
Limitations of Machine Learning
• Machine Learning models cannot deal with very high dimensional data.
• Since the machine learning models cannot automatically select the features it becomes difficult to solve complex problems like fingerprint recognition or image recognition
Priyanka Shahane
pooja rasal
Parth Prasad
Om Ahir
Chinmayee Ganeshe
Crish Nagarkar
25 Ganesh Vishnu Pa...
Swapnil Dawange
05 Suyog Bhujbal
Pranav Mankar
Prathamesh Korale
58 others
You
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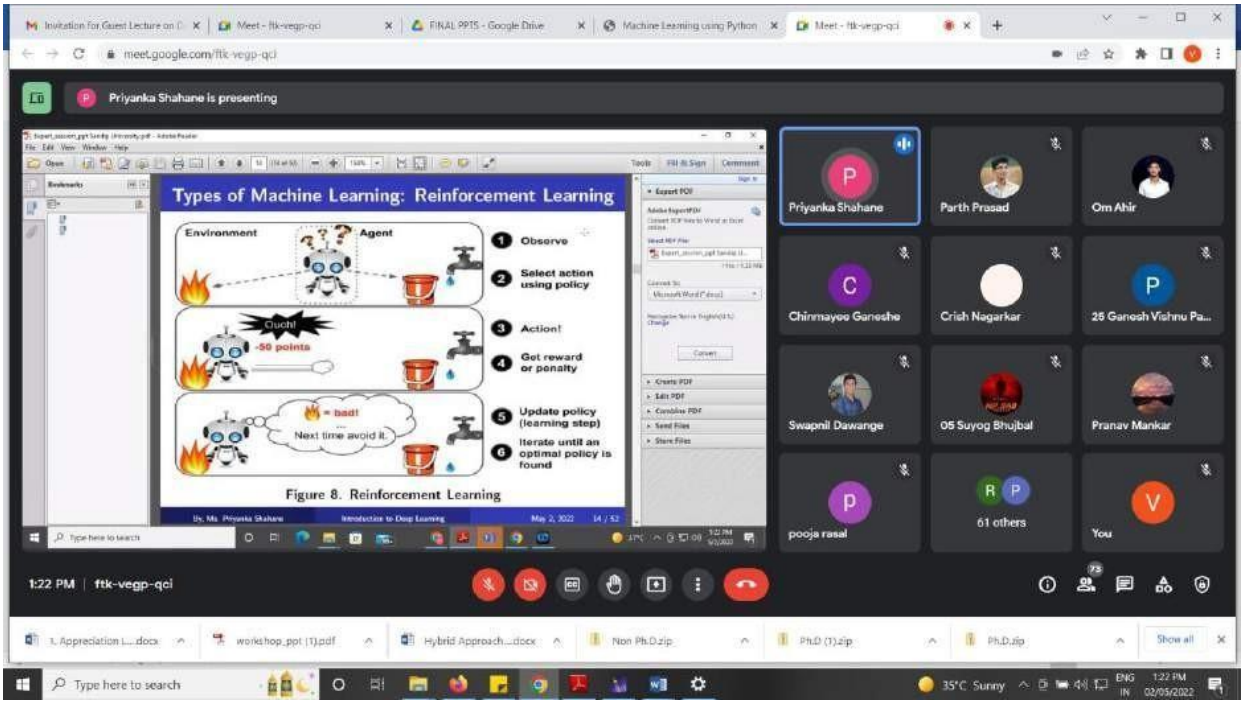
Priyanka Shahane is presenting
Types of Machine Learning: Reinforcement Learning
Environment
Agent
1 Observe
2 Select action using policy
Ouch!
-50 points
3 Action!
4 Get reward or penalty
= bad!
Next time avoid it.
5 Update policy (learning step)
6 Iterate until an optimal policy is found
Figure 8. Reinforcement Learning
Priyanka Shahane
Parth Prasad
Om Ahir
Chinmayee Ganeshe
Crish Nagarkar
25 Ganesh Vishnu Pa...
Swapnil Dawange
05 Suyog Bhujbal
Pranav Mankar
pooja rasal
61 others
You
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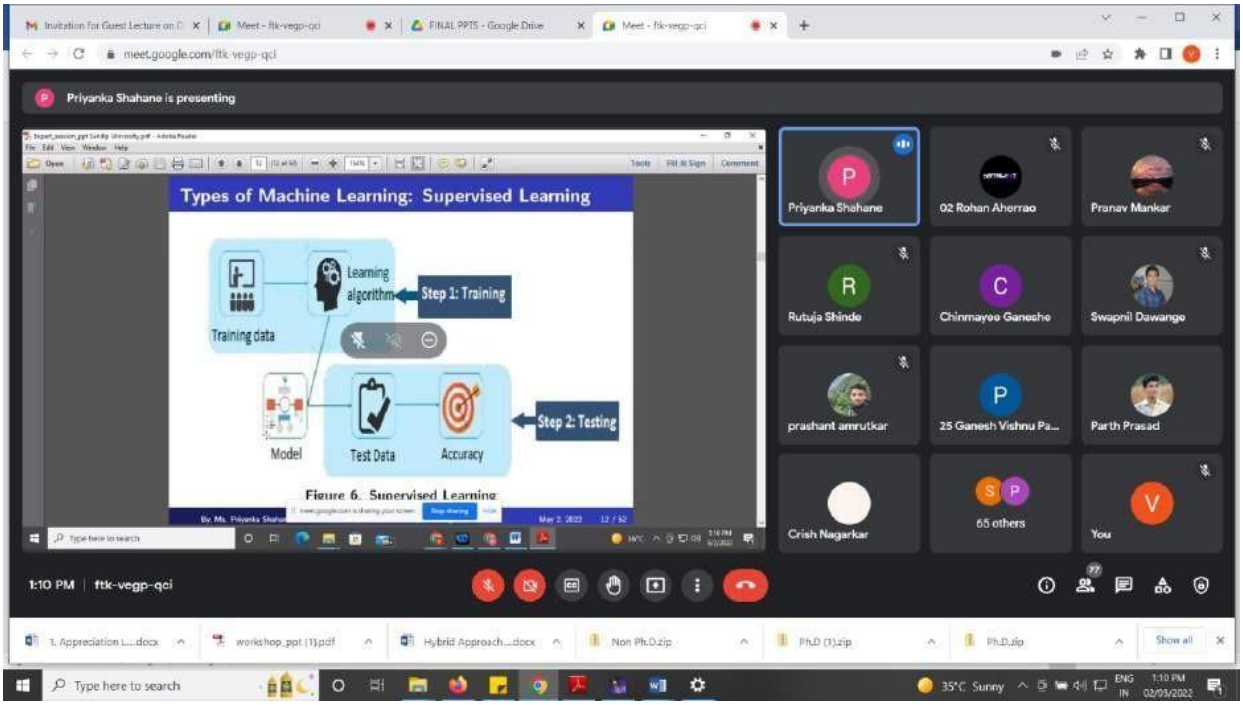
Priyanka Shahane is presenting
Types of Machine Learning: Supervised Learning
Learning algorithm
Step 1: Training
Training data
Model
Test Data
Accuracy
Step 2: Testing
Figure 6. Supervised Learning
Priyanka Shahane
02 Rohan Aherrao
Pranav Mankar
Rutuja Shinde
Chinmayee Ganesho
Swapnil Dawange
prashant amrutkar
25 Ganesh Vishnu Pa...
Parth Prasad
Crish Nagarkar
65 others
You
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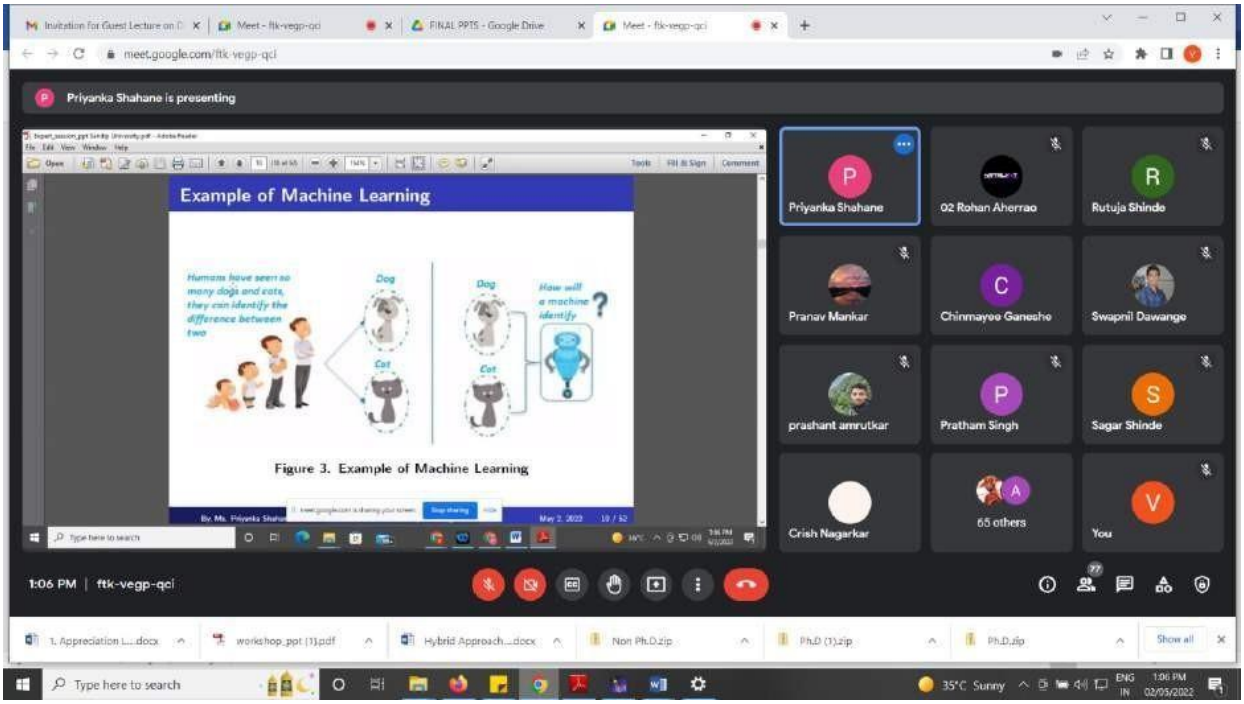
Priyanka Shahane is presenting
Example of Machine Learning
Humans have seen so many dogs and cats, they can identify the difference between two
Dog
Cat
How will a machine identify
Figure 3. Example of Machine Learning
Priyanka Shahane
02 Rohan Aherrao
Rutuja Shinde
Pranav Mankar
Chinmayee Ganesho
Swapnil Dawange
prashant amrutkar
Pratham Singh
Sagar Shinde
Crish Nagarkar
65 others
You
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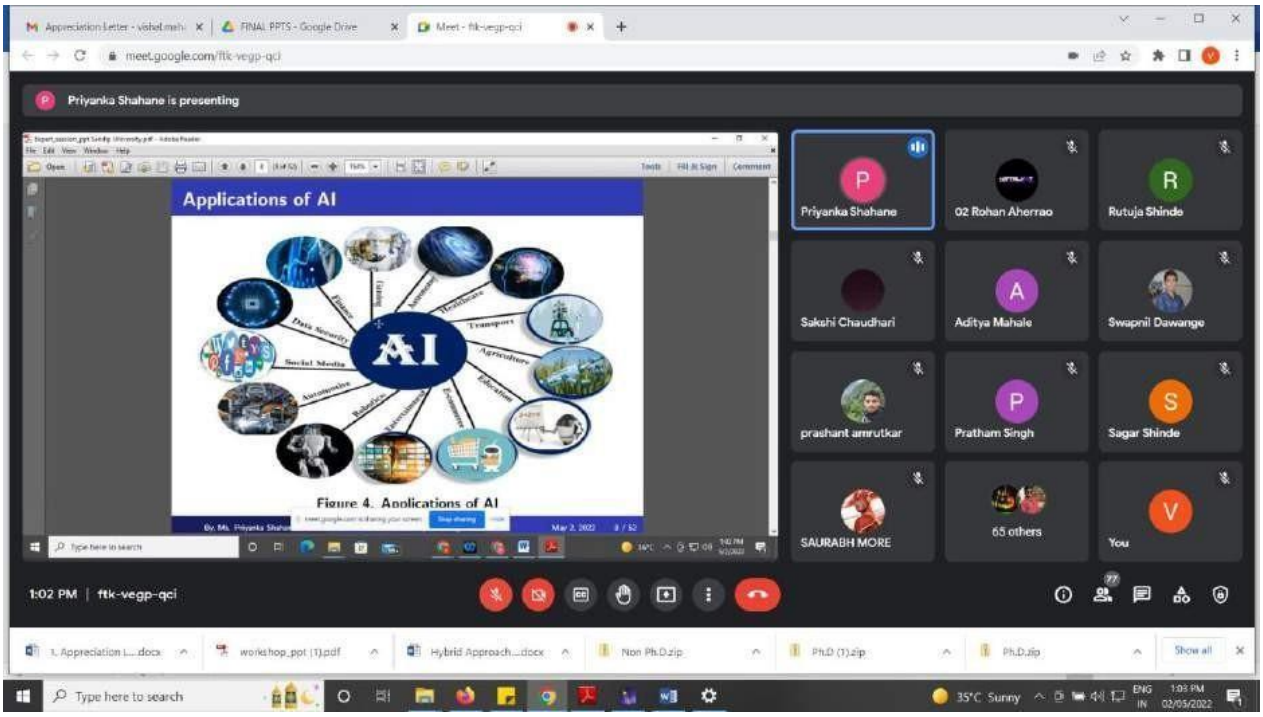
Priyanka Shahane is presenting
Applications of AI
AI
Figure 4. Applications of AI
Priyanka Shahane
02 Rohan Aherrao
Rutuja Shinde
Sakshi Chaudhari
Aditya Mahale
Swapnil Dawange
prashant amrutkar
Pratham Singh
Sagar Shinde
SAURABH MORE
65 others
You
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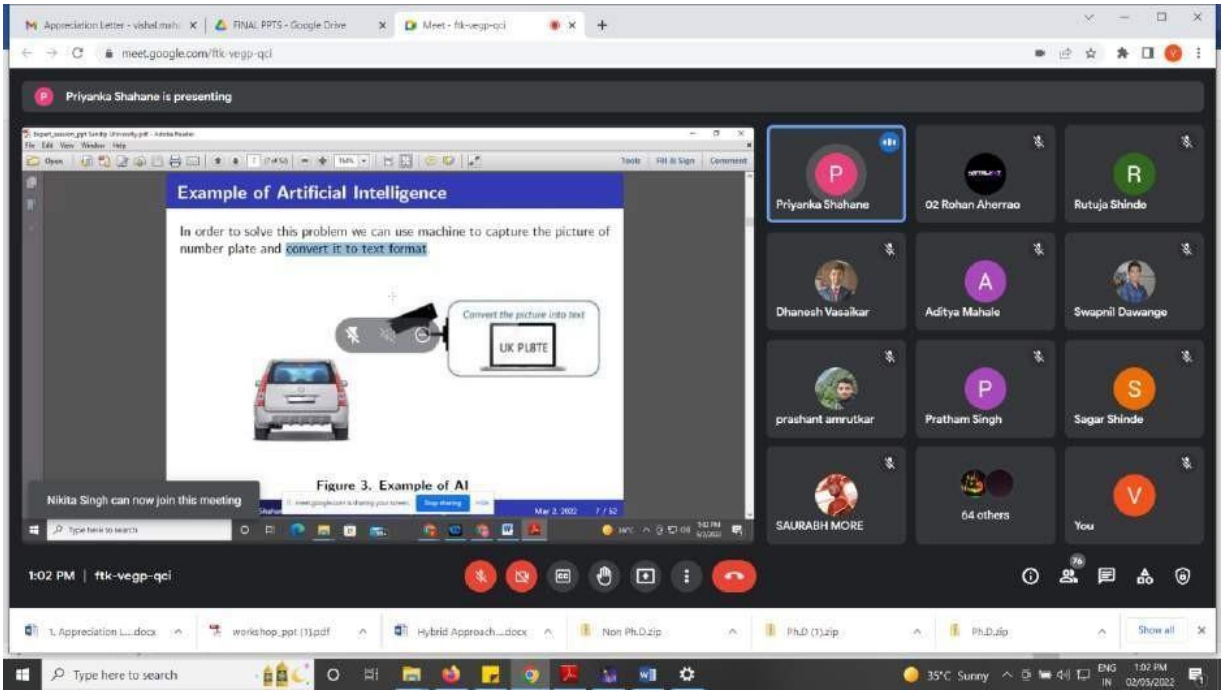
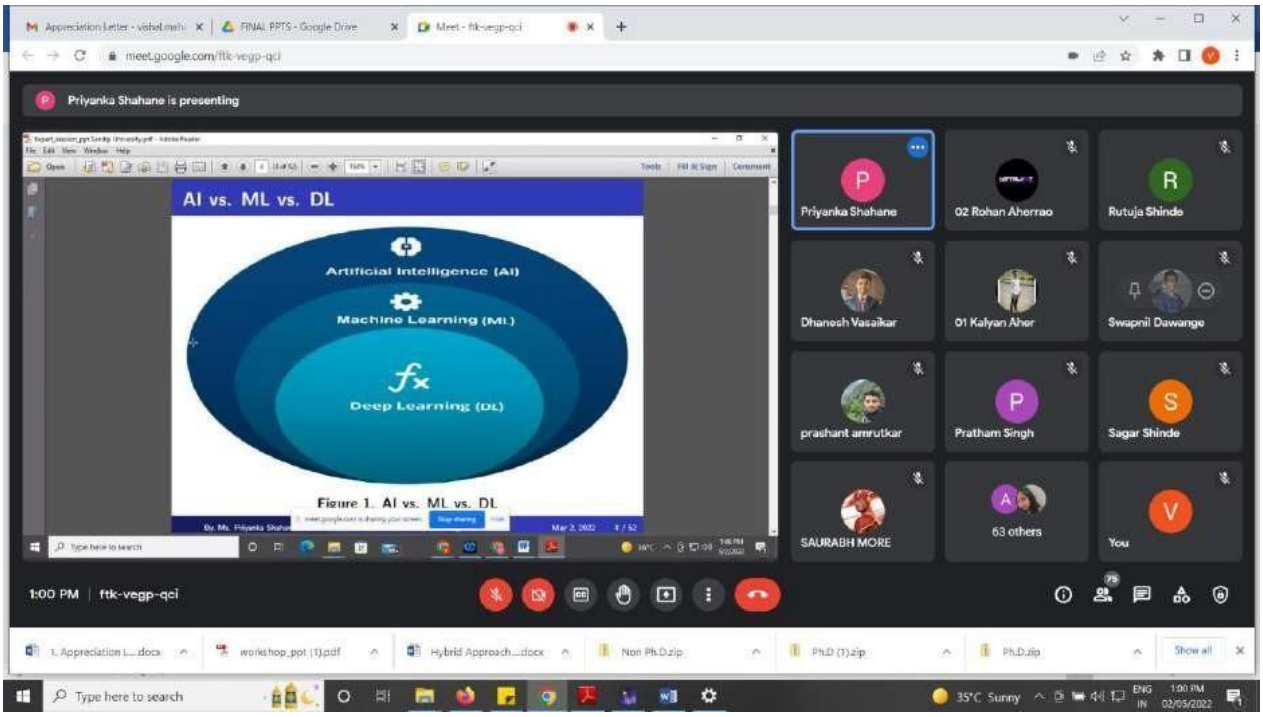

Priyanka Shahane is presenting
Example of Artificial Intelligence
In order to solve this problem we can use machine to capture the picture of number plate and convert it to text format
Convert the picture into text
UK PL8TE
Figure 3. Example of AI
Nikita Singh can now join this meeting
Priyanka Shahane
02 Rohan Aherrao
Rutuja Shinde
Dhanesh Vasaikar
Aditya Mahale
Swapnil Dawange
prashant amrutkar
Pratham Singh
Sagar Shinde
SAURABH MORE
64 others
You
1:02 PM | ftk-vegp-qci


Priyanka Shahane is presenting
AI vs. ML vs. DL
Artificial Intelligence (AI)
Machine Learning (ML)
Deep Learning (DL)
Figure 1. AI vs. ML vs. DL
Priyanka Shahane
02 Rohan Aherrao
Rutuja Shinde
Dhanesh Vasaikar
01 Kalyan Aher
Swapnil Dawange
prashant amrutkar
Pratham Singh
Sagar Shinde
SAURABH MORE
63 others
You
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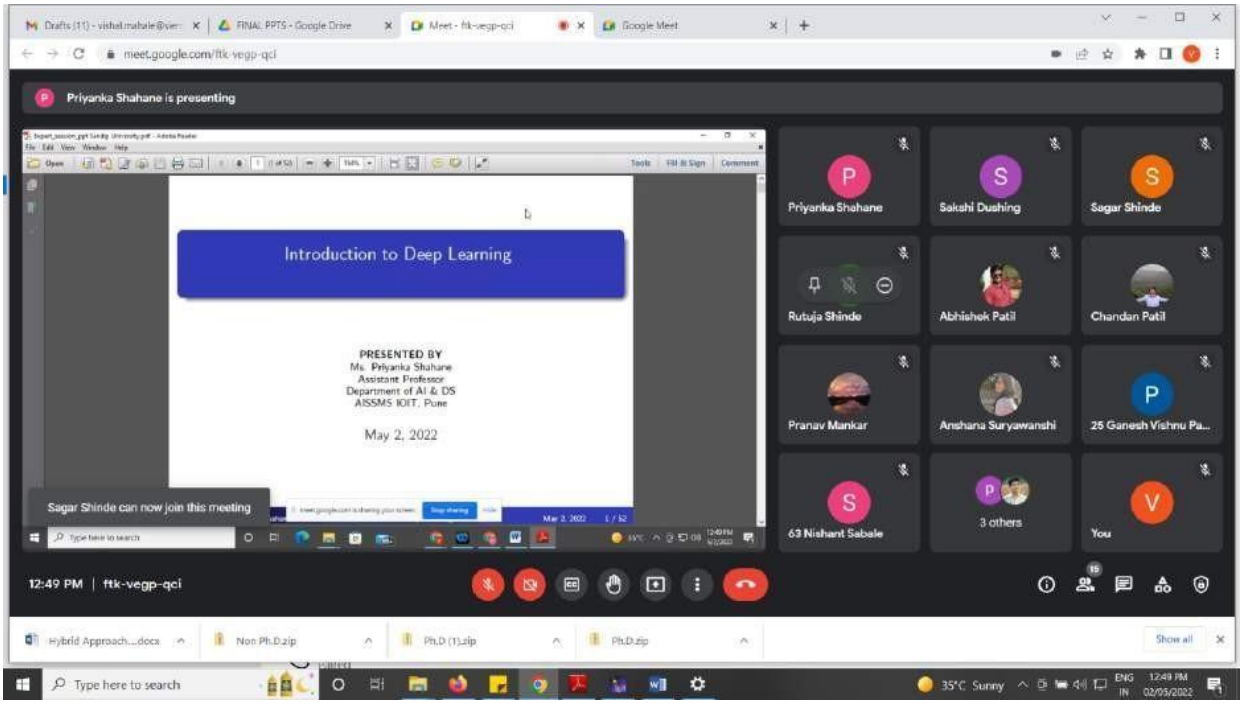
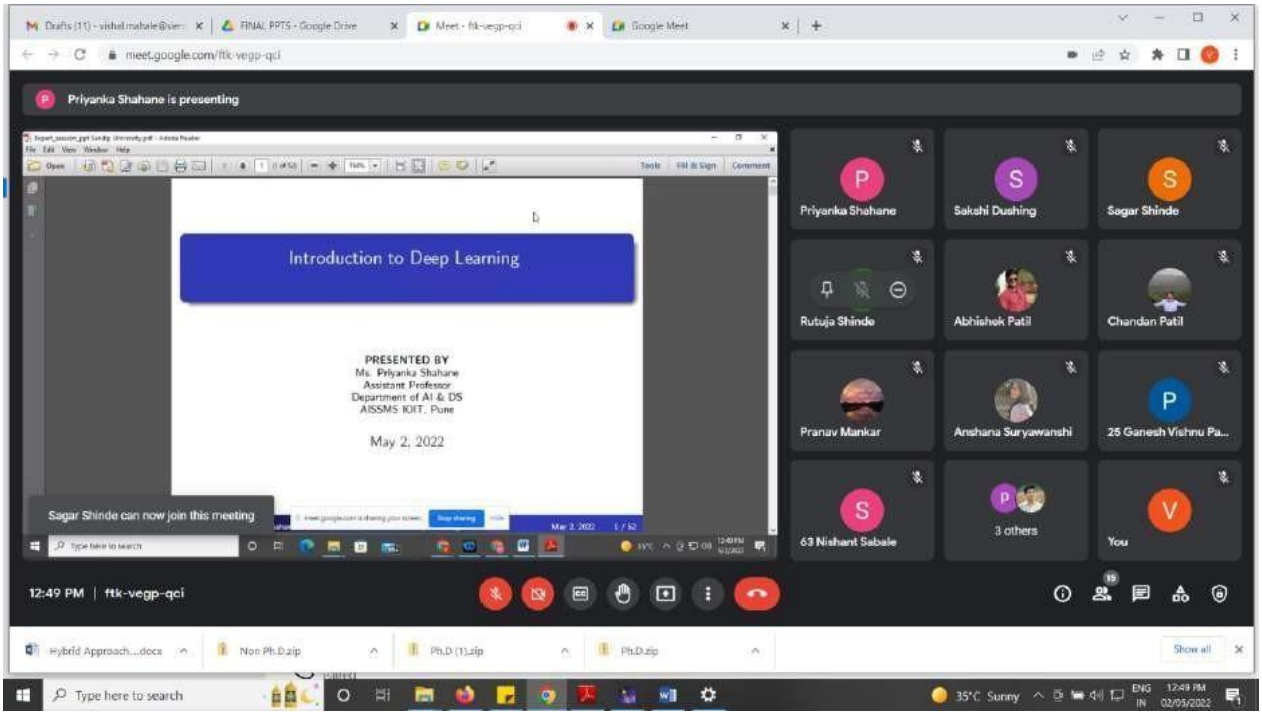

Priyanka Shahane is presenting
Introduction to Deep Learning
PRESENTED BY
Ms. Priyanka Shahane
Assistant Professor
Department of AI & DS
AISSMS IOIT, Pune
May 2, 2022
Priyanka Shahane
Sakshi Dushing
Sagar Shinde
Rutuja Shinde
Abhishek Patil
Chandan Patil
Pranav Mankar
Anshana Suryawanshi
25 Ganesh Vishnu Pa...
63 Nishant Sabale
3 others
You
Sagar Shinde can now join this meeting
12:49 PM | ftk-vegp-qci



Head of Computer Department