



Department of Electronic & Telecommunication Engineering

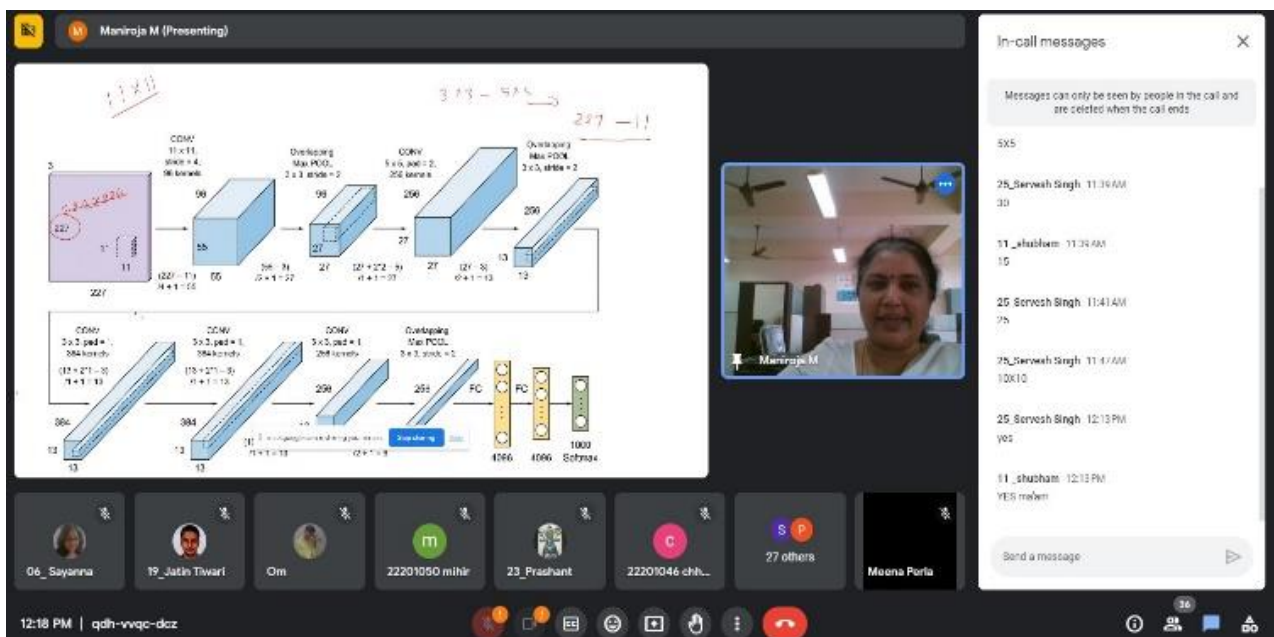
Topic Name: CNN Architecture
Name of the Guest Speaker: Dr. Maniroja M.Edinburgh
Designation: Professor and Head of Department
Organization/Institution: Thadomal Sahani Institute of Technology.
Date: 16/10/2023
No. of Student: 35

Programme Summary:

The lecture was organized and scheduled under the IETE Student forum. Guest speaker Maniroja M.Edingurg took the session about CNN Architecture, where she very interestingly taught about the different layers on the CNN and gave a brief idea about how training is done and image recognition is done with the help of CNN. It was an online session. She ended the session by solving the doubts of the students.

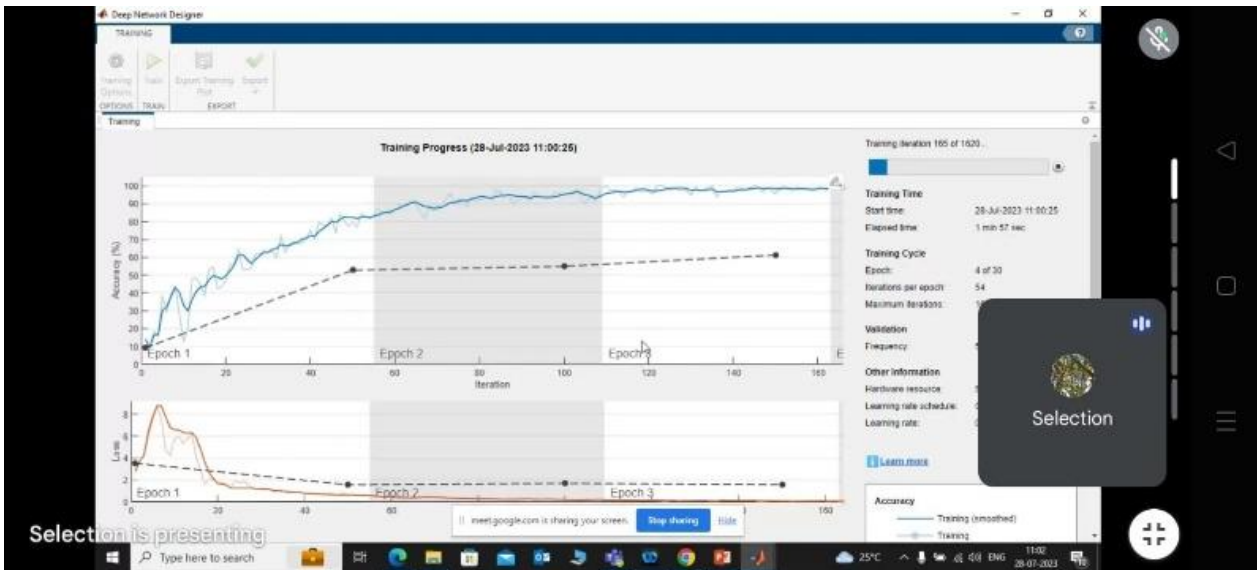
Thanking you,
Student Correspondence
Manali Kadam.

Photos:





Vishnu Waman Thakur Charitable Trust's
VIVA Institute of Technology
Approved by AICTE New Delhi, Recognized by DTE, Govt. of Maharashtra
And Affiliated to University of Mumbai
NAAC "B++" Grade



10:27

pbx-ppcw-cbm

Digit Recognizer Example

Goal: Create a CNN network from scratch to classify digit

- Build initial models without any coding
- Don't need to be a DL expert

Data: The MNIST data set consists of 70,000 handwritten digits split into training and test partitions of 60,000 and 10,000 images, respectively. Each image is 28-by-28 pixels and has an associated label denoting which digit the image represents (0-9).

Approach:

- Load data in MATLAB
- Build and Train the CNN
- Test model on new image

The diagram shows an 'Input Image' of the digit '5' being processed by a 'Neural Network'. The output of the network is a set of nodes labeled 0 through 9, representing the possible digits. A 'Selection' dialog box is overlaid on the right side of the screen.

Flowchart to recognize a digit using CNN

The flowchart illustrates the process of recognizing a digit using a CNN. It starts with a 'Digit Dataset' (a grid of handwritten digits) which is then 'Imported Dataset'. This leads to 'Design Network', which shows a neural network architecture with layers like 'Input Layer 1', 'Hidden Layer 1', and 'Output Layer 1'. The next step is 'Train Network', which shows a 'Training Options' dialog box. Finally, the 'Training Results' are displayed as a graph showing 'Accuracy (%)' and 'Loss (L)' over iterations. A 'Selection' dialog box is overlaid on the right side of the screen.

<https://in.mathworks.com/help/deeplearning/ug/data-sets-for-deep-learning.html>

34