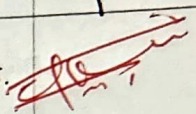
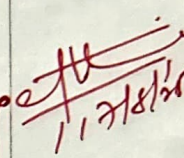
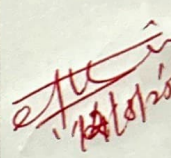
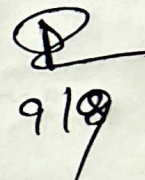
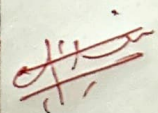
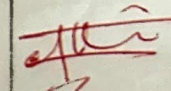
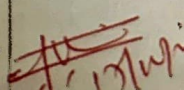
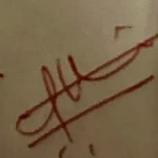


Serial. No.	Topic.	Date.	Signature
1/	Exploring the Deep Learning Platforms & Frameworks	31/07/2025.	
2/	Implement a Classifier using an open-source dataset	7/8/2025	
3/	Study of Classifiers with respect to Statistical Parameter	7/8/2025	
4/	Build a simple feed forward network to recognize handwritten character	14/8/2025	
5/	Study of Activation Functions and its role	9/9/2025	
6/	Implement gradient descent and backpropagation in deep neural network.	13/9/2025	
7/	Build a CNN model to classify Cat & dog image	13/9/2025	
8/	Experiment using LSTM	13/9/2025	
9/	Build a Recurrent Neural Network	13/9/2025.	
10/	Perform compression on MNIST	02/11/25	
11/	Experiment using VAE		
12/	Implement a DCGAN		
13/	Understand pre-trained model		
14/	Transfer Learning		
15/	YOLO Model		

Completed



## Exp-13 - Understanding the Architecture of a Pre-Trained Model

Aim:-

To study and analyze the architecture, working and feature extraction mechanism of a pre-trained deep learning model using transfer learning.

Objective:-

- 1) To load a pre-trained CNN model from a standard library such as torchvision models.
- 2) To visualize and different layers.
- 3) To interpret how pre-trained models extract hierarchical features from images.
- 4) To explore how much models can be fine-tuned for custom classification tasks.

Observation:-

- The pre-trained model contains multiple convolutional and pooling layers stacked sequentially to learn spatial hierarchies of features.
- Early layers capture low-level details, while deeper layers



Capture high-level semantic information.

• Transfer learning enables faster convergence and better accuracy even with limited data, as the model already possesses generalized visual knowledge

Algorithm:

- 1) Import libraries.
- 2) Load pre-trained model  
`resnet18 = models.resnet18(pretrained=True)`
- 3) Set Evaluation mode  
Call `resnet18.eval()`
- 4) Display model architecture.  
Print the model using `print(resnet18)`
- 5) Understand Layers
- 6) Visualize the model Parameters
- 7) Test with sample input

Result: The result was obtained successfully.

& Predicted Label: Golden Retriever  
which also was the input image.