School of Computer Science Engineering and Technology

Course-B. Tech	**Type**- General Elective
Course Code- CSET-335	**Course Name**- Deep Leaning
Year- 2025	**Semester**- Even
Date- 18/02/2025	**Batch**- 2024-2025

CO-Mapping

Exp. No.	Name	CO1	CO2	CO3
03	**To create a pipeline for training, testing and inference for detection** **&** **Implement CNN as a feature extractor**	✔	✔	-✔-

Objectives

CO1: To explain the fundamentals of deep learning, Convolution neural network.

CO2: To articulate different problem of classification, detection, segmentation, generation and understand existing solutions/ deep learning architectures.

CO3: To implement a solution for the given problem and improve it using various methods transfer learning, hyperparameter optimization.

Assignment-3(wk 5 and wk-6)

Goal 1: To create a pipeline for training, testing and inference for detection.

For the models mentioned below, create a pipeline for training and testing on the mask wearing data set.

Data set: Mask wearing data set:

(https://public.roboflow.com/object-detection/mask-wearing)

Models: YOLO5, Faster RCNN

Help:
RCNN: https://arxiv.org/abs/1506.01497
YOLO: https://ultralytics.com/yolov5

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Goal 2: **Task is to implement CNN as a feature extractor.**

To do: Write a code that takes an input image, extract features using any one pretrained CNN model at any 3 different layers and display the extracted features as image. Do it for 5 randomly chosen images from the below given data set.

Data set: Stanford Car Data set

http://ai.stanford.edu/~jkrause/cars/car_dataset.html

Models: ResNet-50, VGG-16, VGG-19, InceptionNetv3

Framework: TensorFlow Keras

Help: https://keras.io/api/applications/