## **EXECUTABLE CODE:**

from keras.models import load\_model from time import sleep

from tensorflow.keras.preprocessing.image import img\_to\_array from keras.preprocessing import image

import cv2

import numpy as np

face\_classifier = cv2.CascadeClassifier(r"C:\Users\vanit\Downloads\Emotion\_Detection\_CNN- main\Emotion\_Detection\_CNN-main\haarcascade\_frontalface\_default.xml") classifier = load\_model(r"C:\Users\vanit\Downloads\Emotion\_Detection\_CNN- main\Emotion\_Detection\_CNN-main\model.h5")

emotion\_labels = ['Angry','Disgust','Fear','Happy','Neutral', 'Sad', 'Surprise']

cap = cv2.VideoCapture(0) while True:

\_, frame = cap.read() labels = []

gray = cv2.cvtColor(frame,cv2.COLOR\_BGR2GRAY) faces = face\_classifier.detectMultiScale(gray)

for (x,y,w,h) in faces: cv2.rectangle(frame,(x,y),(x+w,y+h),(0,255,255),2) roi\_gray = gray[y:y+h,x:x+w]

roi\_gray = cv2.resize(roi\_gray,(48,48),interpolation=cv2.INTER\_AREA) if np.sum([roi\_gray])!=0:

roi = roi\_gray.astype('float')/255.0 roi = img\_to\_array(roi)

roi = np.expand\_dims(roi,axis=0)

prediction = classifier.predict(roi)[0] label=emotion\_labels[prediction.argmax()] label\_position = (x,y)

cv2.putText(frame,label,label\_position,cv2.FONT\_HERSHEY\_SIMPLEX,1,(0,255,0),2) else:

cv2.putText(frame,'No Faces',(30,80),cv2.FONT\_HERSHEY\_SIMPLEX,1,(0,255,0),2)

cv2.imshow('Emotion Detector',frame) if cv2.waitKey(1) & 0xFF == ord('q'): break

cap.release() cv2.destroyAllWindows()