**CODE FOR FACIAL RECOGNITION**

**Code for Face Recognition – AttendancePorgram.py**

import face\_recognition

import cv2

import numpy as np

import os

from datetime import datetime

path= 'imagesatted'

images=[]

classNames=[]

mylist=os.listdir(path)

print(mylist)

for cls in mylist:

curImg=cv2.imread(f'{path}/{cls}')

images.append(curImg)

classNames.append(os.path.splitext(cls)[0])

print(classNames)

def findEncodings(images):

encodeList =[] for img in images:

img = cv2.cvtColor(img,cv2.COLOR\_BGR2RGB)

encode=face\_recognition.face\_encodings(img)[0]

encodeList.append(encode)

return encodeList

def markAttendence(name):

with open('Attendance.csv', 'r+') as f:

myDataList = f.readlines()

print(myDataList)

nameList=[]

for line in myDataList:

entry= line.split(',')

nameList.append(entry[0])

if name not in nameList:

now = datetime.now()

dtString=now.strftime('%H:%M:%S')

f.writelines(f'\n{name},{dtString}')

encodeListKnown = findEncodings(images)

print('Encoding complete')

cap=cv2.VideoCapture(0)

total\_attempts = 0

correct\_recognitions = 0

while True:

success, img=cap.read()

imgS = cv2.resize(img,(0,0),None,0.25,0.25)

imgS=cv2.cvtColor(imgS,cv2.COLOR\_BGR2RGB)

facesCurFrame =face\_recognition.face\_locations(imgS)#TOP < BOTTOM< LEFT < RIGHT

encodesCurFrame=face\_recognition.face\_encodings(imgS,facesCurFrame)

#print(encodesCurFrame)

for encodeFace,faceLoc in zip(encodesCurFrame,facesCurFrame):

#print(encodeFace)

total\_attempts += 1

matches= face\_recognition.compare\_faces(encodeListKnown,encodeFace)

print(matches)

faceDis=face\_recognition.face\_distance(encodeListKnown,encodeFace)

#print(faceDis)

matchIndex=np.argmin(faceDis)

if matches[matchIndex]:

correct\_recognitions += 1

name= classNames[matchIndex].upper()

# print(name)

y1,x2,y2,x1=faceLoc

y1,x2,y2,x1= y1\*4,x2\*4,y2\*4,x1\*4

print(name)

cv2.rectangle(img,(x1,y1),(x2,y2),(0,255,0),2)

cv2.rectangle(img,(x1,y2-35),(x2,y2),(0,255,0),cv2.FILLED)

cv2.putText(img,name,(x1+6,y2-

6),cv2.FONT\_HERSHEY\_COMPLEX,1,(255,255,255),2) #2- thickness

markAttendence(name)

print("Attendence mark")

#shows live camera image

cv2.imshow('Webcam',img)

cv2.waitKey(1)

if cv2.waitKey(1) & 0xFF == ord('q'):

break