OpenCV For Video Processing

OpenCV is an open-source library that provides us with the tools to perform almost any kind of image and video processing.

Task 1: Capture Video from Camera

Often, we have to capture the live stream with a camera. OpenCV provides a very simple interface to this. Let's capture a video from the camera (I am using the in-built webcam of my laptop), convert it into grayscale video, and display it.

To capture a video, you need to create a **VideoCapture** object. Its argument can be either the device index or the name of a video file. The device index is just the number to specify which camera. Normally one camera will be connected (as in my case). So I simply pass 0 (or -1). You can select the second camera by passing 1 and so on. After that, you can capture frame-by-frame. But in the end, don't forget to release the capture. To read web cam will see the code.

Task 2: Importing the required libraries.

Install Twilio library, run the below command in anaconda prompt,

"pip install twilio".

```
#import opencv library
import cv2
#import numpy
import numpy as np
#import image function from keras
from keras.preprocessing import image
#import load_model from keras
from keras.models  import load_model
#import Client from twilio API
from twilio.rest import Client
#import playsound package
from playsound import playsound
```

Task 3: Loading our saved model file using load_model from Keras library

```
#load the saved model
model = load_model(r'forest1.h5')
#define video
video = cv2.VideoCapture(0)
#define the featues
name = ['forest','with fire']
```