PROJECT DEVELOPMENT PHASE
SPRINT-IV

VIDEO ANALYSIS

Date	18 November 2022
Team ID	PNT2022TMID51523
Project Name	Emerging Methods for Early Detection of Forest Fires
Maximum Marks	4 Marks

Creating_an_Account_in_Twilio_Service

```
pip install twilio
pip install playsound
pip install pygobject

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

#Creating An Account in Twilio Service
account_sid='AC0afda001ba5aa2b403089ca32a4c99e1'
auth_token=' 3e77b28531775087fc2d28baf53659f5'
client=Client(account_sid,auth_token)
message=client.messages \
.create(
    body='forest fire is detected,stay alert',
#use twilio free number
```

```
    from_='+13465675410',
#to number
    to='+918870822569')
print(message.sid)
```

Sending_Alert_Message

```
from logging import WARNING
#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

import cv2
import numpy as np
from google.colab.patches import cv2_imshow
from matplotlib import pyplot as plt
import librosa
from tensorflow.keras.preprocessing import image
from keras.models import load_model


# Create a VideoCapture object and read from input file
# If the input is the camera, pass 0 instead of the video file name
cap = cv2.VideoCapture('/content/drive/MyDrive/Forest with fire.mp4')

# Check if camera opened successfully
```

```
if (cap.isOpened()== False):
  print("Error opening video stream or file")

# Read until video is completed
while(cap.isOpened()):
  # Capture frame-by-frame
  ret, frame = cap.read()
  if ret == True:
    x=image.img_to_array(frame)
    res=cv2.resize(x,dsize=(128,128),interpolation=cv2.INTER_CUBIC)
    #expand the image shape
    x=np.expand_dims(res,axis=0)
    model=load_model("/content/forest1.h5")
    cv2_imshow(frame) pred=model.predict(x)
    pred = int(pred[0][0])
    pred
    int(pred)
    if pred==0:
      print('Forest fire')
      break
    else:
      print("danger")
      break

# When everything done, release the video capture object
cap.release()

# Closes all the frames
cv2.destroyAllWindows()
from twilio.rest import Client
from playsound import playsound
if pred==0:
  account_sid='AC0afda001ba5aa2b403089ca32a4c99e1'
  auth_token='3e77b28531775087fc2d28baf53659f5'
```

```
client=Client(account_sid,auth_token)
message=client.messages \
.create(
    body='forest fire is detected,stay alert',
    #use twilio free number
    from_='+13465675410',
    #to number
    to='+918870822569')
print(message.sid)
print("Fire detected")
print("SMS Sent!")
```