

# 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='AC793bc11a38751a7b2a8c3fc7f18105c5'  
auth_token=' 26391d62b2b327c5a97725cad8a769ef'  
client=Client(account_sid,auth_token)  
message=client.messages \  
.create(  
    body='forest fire is detected,stay alert',  
#use twilio free number
```

```
from_='+18176708550',  
#to number  
to='+918754125453')  
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='AC793bc11a38751a7b2a8c3fc7f18105c5'
    auth_token='26391d62b2b327c5a97725cad8a769ef'

```

```
client=Client(account_sid,auth_token)
message=client.messages \
.create(
    body='forest fire is detected,stay alert',
    #use twilio free number
    from_='+18176708550',
    #to number
    to='+918754125453')
print(message.sid)
print("Fire detected")
print("SMS Sent!")
```