

**EMERGING METHODS FOR EARLY DETECTION OF
FOREST FIRE**

SPRINT 3

Date	28 October 2022
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Project Name	Emerging Methods for Early Detection of Forest Fires

Executable Program Video Analysis:

```
import cv2
import numpy as np
from keras.preprocessing import image
from keras.models import load_model
from twilio.rest import Client

!pip install twilio

model=load_model('forestfire.h5')

video=cv2.VideoCapture(r'C:\Users\win\Desktop\Project_NT\video.mp4')
name=['forest','with fire']

#predict=model.predict(x)
import keras
from tensorflow.keras.utils import load_img, img_to_array

while(1):
    success,frame=video.read()
    cv2.imwrite("image.jpg",frame)
    img=keras.utils.load_img("image.jpg")
    img= cv2.resize(frame,(128,128))
    x=keras.utils.img_to_array(img)
    x=np.expand_dims(x,axis=0)
    dim=(128,128)
    #
    x=x.reshape(128,128,3)
    # x=
    cv2.resize(x,(128,128))
    pred =
    model.predict(x)
```

```

#pred=model.predict_class
es(x)p=pred[0] print(pred)
    # cv2.putText(frame,"predicted
class="+str(name[p]),(100,100),cv2.FONT_HERSHEY_SIMPLEX,1,(0,0,0),1)
if pred[0]==1:
    account_sid='AC63518ea0e5f8e919ee2a4dc4dc17cdb6'
    auth_token='e5413a0fd6c65647ca88e8cb0cd33fac'
    client=Client(account_sid,auth_token)

    message=client.messages.create(body='Forest Fire is
detected,stay alert',from_='+1 989 762
1639', to='+91 9344394743')
    print(message.sid) print('Fire Detected') print('SMS
sent!')else:
    print("No
Danger")
cv2.imshow("image
",frame)
#if cv2.waitKey(1) &
0xFF==
ord('a'):#break
video.release()
cv2.destroyAllWindows()

```

```

In [37]: #predict=model.predict(x)
if pred[0]==0:
    account_sid='AC63518ea0e5f8e919ee2a4dc4dc17cdb6'
    auth_token='e5413a0fd6c65647ca88e8cb0cd33fac'
    client=Client(account_sid,auth_token)
    message=client.messages.create(body='Forest Fire is detected,stay alert',
from_='+1 989 762 1639',
to='+91 9344394743')
    print(message.sid)
    print('Fire Detected')
    print('SMS sent!')
else:
    print("No Danger")
cv2.imshow("image",frame)
#if cv2.waitKey(1) & 0xFF== ord('a'):
    #break
video.release()
cv2.destroyAllWindows()

```

```

Smb6dd721ea1b8b7da9ef4ced9d83c3294
Fire Detected
SMS sent!

```