MODEL BUILDING

Adding CNN Layers

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Project Name	Emerging methods for the early detection of forest fires

In [1]:
```
import keras from keras.preprocessing.image import ImageDataGenerator
```

In [2]:
```
#Define the parameters/arguments for ImageDataGenerator class
train_datagen=ImageDataGenerator(rescale=1./255,shear_range=0.2,rotation_range=180,zoom_range

test_datagen=ImageDataGenerator(rescale=1./255)
```

In [3]:
```
#Applying ImageDataGenerator functionality to trainset
x_train=train_datagen.flow_from_directory(r'C:\Users\dhine\Downloads\archive\Dataset\Dataset\ target_size=(128,128), batch_size=32, class_mode='binary')
```

```
Found 436 images belonging to 2 classes.
```

In [4]:
```
#Applying ImageDataGenerator functionality to testset
x_test=test_datagen.flow_from_directory(r'C:\Users\dhine\Downloads\archive\Dataset\Dataset\te target_size=(128,128), batch_size=32, class_mode='binary')
```

```
Found 121 images belonging to 2 classes.
```

In [5]:
```
#import model building libraries

#To define Linear initialisation import
Sequential from keras.models import Sequential
#To add layers import Dense
from keras.layers import Dense
#To create Convolution kernel import
Convolution2D from keras.layers import Convolution2D
#import Maxpooling layer
from keras.layers import MaxPooling2D
#import flatten layer
from keras.layers import Flatten import
warnings
warnings.filterwarnings('ignore')
```

In [7]:
```
#initializing the model
model=Sequential()
```

In [8]:
```
#add convolutional layer
model.add(Convolution2D(32,(3,3),input_shape=(128,128,3),activation='relu'))
#add maxpooling layer
model.add(MaxPooling2D(pool_size=(2,2)))
#add flatten layer  model.add(Flatten())
```

In [ ]: