

MODEL BUILDING

ADDING DENSE LAYERS

Team ID	PN2022TMID20850
Project Name	Emerging Methods for Early Detection of Forest Fires

```
import keras
```

```
from keras.preprocessing.image import ImageDataGenerator
```

```
#Define the parameters/ arguments for ImageDataGenerator class
```

```
train_datagen= ImageDataGenerator (rescale=1./255,shear_range=0.2, rotation_range=180,  
zoom_range=0.2, horizontal_flip=True)
```

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

```
#Applying ImageDataGenerator functionality to trainset
```

```
x_train=train_datagen.flow_from_directory(r'C:\Users\dhine\Downloads\archive\Dataset\train_s  
et'target_size=(128,128),batch_size=32,class_mode='binary')
```

Found 436 images belonging to 2 classes.

```
#Applying ImageDataGenerator functionality to testset
```

```
x_test=test_datagen.flow_from_directory(r'C:\Users\dhine\Downloads\archive\Dataset\test_set't  
arget_size=(128,128),batch_size=32,class_mode='binary')
```

Found 121 images belonging to 2 classes.

```
#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
```

```
#import flatten layer
from keras. layers import Flatten
import warnings
warnings.filterwarnings('ignore')
#initializing the model
model=Sequential( )
#add convolution 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( ))
#add hidden layer
model . add (Dense (150, activation='relu'))
#add output layer
model . add (Dense(1,activation='sigmoid'))
```