

# MODEL BUILDING

## Adding Dense layers

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<b>Project Name</b>	Emerging Methods for Early Detection of Forest Fires.

### ##Importing The ImageDataGenerator Library

```
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:\archive\Dataset\Dataset\train_set',
target_size=(128,128), batch_size=32, class_mode='binary')
```

### ###Applying ImageDataGenerator Functionality to testset

```
x_test=test_datagen.flow_from_directory(r'C:\archive\Dataset\Dataset\test_set',
target_size=(128,128), batch_size=32, class_mode='binary')
```

### ##Import model building libraries

**#To Define linear initialization import Sequential**

from keras.models import Sequential

**#To add layers import Dense**

from keras.layers import Dense

**#To create Convolution kernel import Convolution 2D**

from keras.layers import Convolution2D

**#import maxpooling layers**

from keras.layers import MaxPooling2D

**#import flatten Layer**

from keras.layers import Flatten import

warnings

warnings.filterwarnings('ignore')

**#Initializing the Model**

model=Sequential()

**##adding CNN layers**

model.add(Convolution2D(32,(3,3),input\_shape=(128,128,3),activation='relu'))

**##adding maxpooling layer**

model.add(MaxPooling2D(pool\_size=(2,2)))

**##adding flatten Layer** model.add(Flatten())

**##add hidden layer**

model.add(Dense(150,activation='relu'))

**##add output layer** model.add(Dense(1,activation='sigmoid'))