MODEL BUILDING

ADDING DENSE LAYER

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Team ID	PNT2022TMID13480
Project Name	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'/content/drive/MyDrive/Dataset/train_set',
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'/content/drive/MyDrive/Dataset/test_set' , target_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 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')

Initializing the model model=Sequential()
Add CNN 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 Dense Layer

#add hidden layer
model.add(Dense(150,activation='relu'))
#add output layer
model.add(Dense(1,activation='sigmoid'))