| Project Name | Emerging Methods for Early Detection of Forest Fires |
|---|---|
| Team ID | PNT2022MID37993 |
| Date | 4<sup>th</sup> November 2022 |

### 8d: Adding Dense Layer

```
model.add(Dense(64,activation='relu'))
model.add(Dropout(0.4))
model.add(Dense(1,activation='sigmoid'))
model.summary()
```

**Model: "sequential"**

```
_____
 Layer (type)                Output Shape              Param #
=================================================================
 conv2d (Conv2D)             (None, 62, 62, 48)        1344

 max_pooling2d (MaxPooling2D  (None, 31, 31, 48)        0
 )

 dropout (Dropout)           (None, 31, 31, 48)        0

 conv2d_1 (Conv2D)           (None, 29, 29, 32)        13856

 max_pooling2d_1 (MaxPooling  (None, 14, 14, 32)        0
 2D)

 dropout_1 (Dropout)         (None, 14, 14, 32)        0

 flatten (Flatten)           (None, 6272)              0

 dense (Dense)               (None, 64)                401472

 dropout_2 (Dropout)         (None, 64)                0

 dense_1 (Dense)             (None, 1)                 65

=================================================================
Total params: 416,737
Trainable params: 416,737
Non-trainable params: 0
_____
```

**# Adding call to Avoid Overfitting**

```
early_stop = EarlyStopping(monitor="val_accuracy",
                           min_delta=0.003,
                           patience=6,
```

```python
                              verbose=1,
                              mode='auto',
                              restore_best_weights=True)

lr = ReduceLROnPlateau(monitor="val_accuracy",
                       factor=0.2,
                       patience=3,
                       verbose=1,
                       mode="auto",
                       min_delta=0.003,
                       cooldown=1)

callback = [early_stop,lr]
```