

## Model Building

### Adding Dense Layers

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Team ID	PNT2022TMID43812
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A dense layer is a deeply connected neural network layer. It is the most common and frequently used layer.

```
# Adding a fully connected layer  
classifier.add(Dense(units=128, activation='relu'))  
classifier.add(Dense(units=5, activation='softmax')) # softmax for more than 2
```

The number of neurons in the Dense layer is the same as the number of classes in the training set. The neurons in the last Dense layer, use softmax activation to convert their outputs into respective probabilities.

Understanding the model is a very important phase to properly using it for training and prediction purposes. Keras provides a simple method, a summary to get the full information about the model and its layers.

```
classifier.summary()#summary of our model
```

```
Model: "sequential"
```

Layer (type)	Output Shape	Param #
=====		
conv2d (Conv2D)	(None, 62, 62, 32)	896
-----		
max_pooling2d (MaxPooling2D)	(None, 31, 31, 32)	0
-----		
conv2d_1 (Conv2D)	(None, 29, 29, 32)	9248
-----		
max_pooling2d_1 (MaxPooling2D)	(None, 14, 14, 32)	0
-----		
flatten (Flatten)	(None, 6272)	0
-----		
dense (Dense)	(None, 128)	802944
-----		
dense_1 (Dense)	(None, 5)	645
=====		
Total params: 813,733		
Trainable params: 813,733		
Non-trainable params: 0		
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