

## Model Building

### Adding Dense Layers

#### Adding Dense Layers

❖ 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 of 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		