Adding Dense Layers

Date	12 november 2022
Team ID	PNT2022TMID36454
Project Name	AI-powered Nutrition Analyzer for FitnessEnthusiasts

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

```
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 (MaxPooling2 (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
_________________________________________________________________
```

training and prediction purposes. Keras provides a simple method, a summary to get the full information about the model and its layers.