

Adding Dense Layers

Date	29 October 2022
Team ID	PNT2022TMID36519
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

```
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		

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