

Model Building

Adding Dense Layers

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| Project Name | AI-Powered Nutrition Analyzer For Fitness Enthusiasts |

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 | | |
| ===== | | |