Model Building
Adding CNN Layers

Date	12 November 2022
Team ID	PNT2022TMID026873
Project Name	AI-Powered Nutrition Analyzer For Fitness Enthusiasts

Adding CNN Layers

- For information regarding CNN Layers refer to the link
  https://www.upgrad.com/blog/basic-cnn-architecture/
- As the input image contains three channels, we are specifying the input shape as (64,64,3).
- We are adding a two convolution layer with activation function as “relu” and with a small filter size (3,3) and the number of filters (32) followed by a max-pooling layer.
- Max pool layer is used to down sample the input.(Max pooling is a pooling operation that selects the maximum element from the region of the feature map covered by the filter).
- Flatten layer flattens the input. Does not affect the batch size.

Creating the model

```
[ ] # Initializing the CNN
    classifier = Sequential()

    # First convolution layer and pooling
    classifier.add(Conv2D(32, (3, 3), input_shape=(64, 64, 3), activation='relu'))
    classifier.add(MaxPooling2D(pool_size=(2, 2)))

    # Second convolution layer and pooling
    classifier.add(Conv2D(32, (3, 3), activation='relu'))

    # input_shape is going to be the pooled feature maps from the previous convolution layer
    classifier.add(MaxPooling2D(pool_size=(2, 2)))

    # Flattening the layers
    classifier.add(Flatten())
```