ADDING CNN LAYERS

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Team ID	PNT2022TMID41375
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- For information regarding CNN Layers refer to the link
  Link: **https://victorzhou.com/blog/intro-to-cnns-part-1/**
- As the input image contains three channels, we are specifying the input shape as (64,64,3).

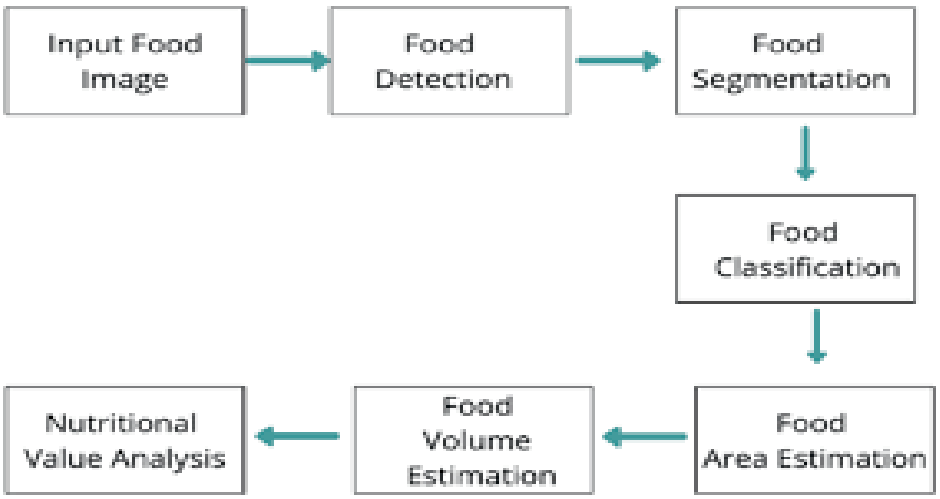
- We are adding a two convolution layer with activation function as “relu” and with a small filter size (3,3) and the number of filters (32) followed by a max-pooling layer.
- Max pool layer is used to down sample the input.(Max pooling is a pooling operation that selects the maximum element from the region of the feature map covered by the filter)
- Flatten layer flattens the input. Does not affect the batch size.

. Amatul Bushra Akhil, Farzana Akter Tania Khatun & Mohammad Shorif Uddin “Recognition and Classification of Fast Food Images” Global Journal of Computer Science and Technology 2018.

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())
```


- shade Gide, Dr. Arati Vyavahare “Dietary Assessment Methods Based on Image Processing: A Review” International Journal of Innovative Research in Science, Engineering and Technology 201


Input Food Image
Food Detection
Food Segmentation
Food Classification
Food Area Estimation
Food Volume Estimation
Nutritional Value Analysis