

# Configure Image Data Generator Class

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Project Name	AI-POWERED NUTRITION ANALYZER FOR FITNESS ENTHUSIASTS
Maximum Marks	4 MARKS

- ✓ ImageDataGenerator class is instantiated and the configuration for the types of data augmentation
- ✓ There are five main types of data augmentation techniques for image data; specifically:
  - ✓ Image shifts via the width\_shift\_range and height\_shift\_range arguments.
  - ✓ The image flips via the horizontal\_flip and vertical\_flip arguments. Image rotations via the rotation\_range argument Image brightness via the brightness\_range argument.
  - ✓ Image zoom via the zoom\_range argument.
- ✓ An instance of the ImageDataGenerator class can be constructed for train and test.

## Image Data Agumentation

```
#setting parameter for Image Data agumentation to the traing data
train_datagen = ImageDataGenerator(rescale=1./255,shear_range=0.2,zoom_range=0.2,horizontal_flip=True)
#Image Data agumentation to the testing data
test_datagen=ImageDataGenerator(rescale=1./255)
```

- ✓ Image data augmentation is a technique that can be used to artificially expand the size of a training dataset by creating modified versions of images in the dataset.
- ✓ Training deep learning neural network models on more data can result in more skillful models, and the augmentation techniques can create variations of the images that can improve the ability of the fit models to generalize what they have learned to new images.
- ✓ The Keras deep learning neural network library provides the capability to fit models using image data augmentation via the *ImageDataGenerator* class.
- ✓ In this tutorial, you will discover how to use image data augmentation when training deep learning neural networks.

