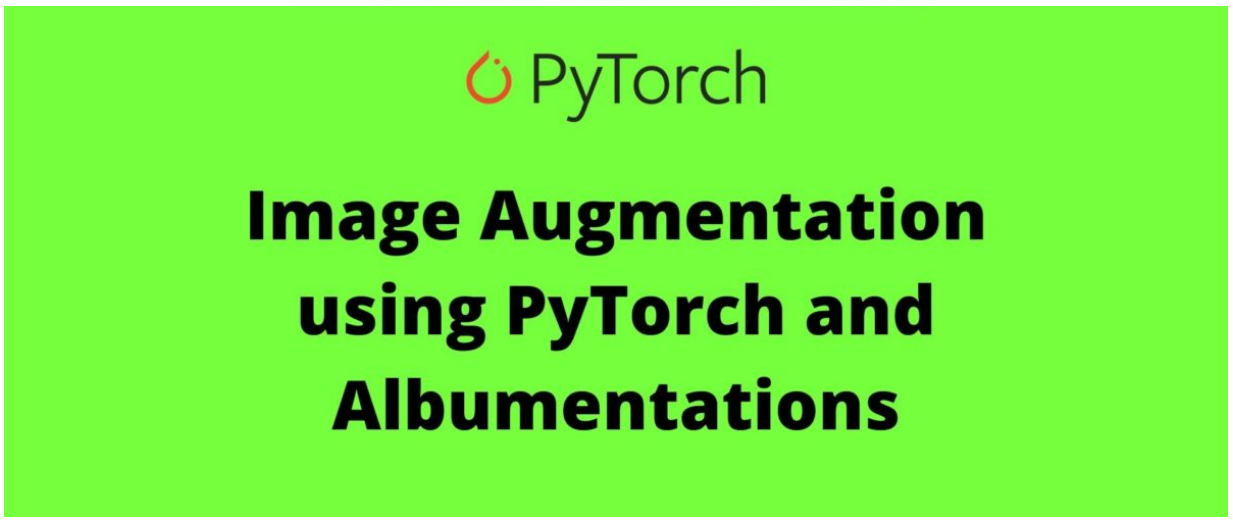


In computer vision based deep learning, the amount of image plays a crucial role in building high accuracy neural network models. When we do not have enough images, we can always rely on image augmentation techniques in deep learning. Image augmentation in deep learning can substantially increase the size of our dataset. This can help to:

- Have a more diverse set of images to train the deep neural network model on.
- Get rid of the problem of less availability of data.

So, in this article, we will see different image augmentations that we can apply while carrying out deep learning training. We will take a practical approach with:

- **PyTorch** image augmentation techniques for deep learning.
- Using **albumentations** library for deep learning image augmentation.

# What Dataset Will We Use?

We will use the **Caltech-256** image dataset in this article.

The dataset contains a total of 30607 images ranging over 256 categories. Although we will not need the knowledge of the categories in this article, as we will not carry any deep learning image recognition task. We will only implement different image augmentation techniques and how they affect the run time of our program.

If you need to download the dataset, then you can do it **here**.

The following are some images from the Caltech-256 dataset.

**Caltech-256 Image Dataset Examples**

After downloading is complete, you will have a `256_ObjectCategories.` this file and you will find photographs of all the categories inside `256_ObjectCategories` folder. Keep this folder in your current working d

***What Will We Cover in This Article?***

- *What are the different types of image augmentation techniques?*
- *Using PyTorch for image augmentation.*
- *Using albumentations library for image augmentation.*
- *Drawing a time comparison for image augmentation.*

# What are the Different Types of Ima Augmentations Techniques?

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