Here, we are displaying the popular augmentation techniques which we found till now. Our goal is to get more impact on the performance of the model with a smaller number of augmentations. So, we are trying different combinations of techniques and checking the performance of the model

Technique	Description
Resize	It is used to change the size of an image. It can be used to resize images for deep learning models.
Brightness	It is a function used in image processing to adjust the brightness of an image. It can be used to generate images with varied brightness levels with deep learning models.
Contrast	It is a technique used in image processing to improve the contrast of an image. It can be used to generate images with varied contrast levels for feeding deep-learning models.
Gamma	To adjust the brightness of an image. It can be used to generate images with varied brightness levels for feeding deep-learning models. In image augmentation, gamma correction is used to adjust the brightness of an image by applying a power function to each pixel value.
Hue	It is an image augmentation technique that randomly alters the color channels of an input image. And it is a term used to describe a color or shade.
Jpeg quality	JPEG is a lossy compression format that can be used to reduce the size of an image file. But basically, in image augmentation JPEG quality refers to the level of compression applied to an image.
Saturation	It describes the intensity of a color A highly saturated color appears more intense and brighter, while a less saturated color appears more greyish.

Central Crop	To crop an image by removing pixels from around its edges. In central cropping, an equal number of pixels is removed from each side of the image so that the center of the image remains the same.
Combined non-max suppression	mainly in object detection that aims at selecting the best bounding box out of a set of overlapping boxes It is used to remove duplicate detections and select only the most accurate one.
Convert image dtype	it converts an image to a specified data type.
Crop and resize	it crops an image to a specified bounding box and resizes it to a specified size.
Crop to bounding box	It is an image augmentation technique that crops an image to a specified bounding box.
Flip left and right	It is an image augmentation technique that flips an image horizontally.
RGB to HSV	It is an image augmentation technique that converts an image from RGB color space to HSV (Hue, Saturation, Value) color space.
RGB to YIQ	It is an image augmentation technique that converts an image from RGB color space to YIQ color space.
RGB to YUV	It is an image augmentation technique that converts an image from RGB color space to YUV color space.
Rotation	Rotation is an image augmentation technique that rotates an image by certain degrees with a specific center point.
Stateless random brightness	To adjust the brightness of images by a random factor deterministically.
Stateless random contrast	It is a method used in image augmentation to adjust the contrast of images by a random factor deterministically. This method is used to generate images with varied contrast levels for feeding deep-learning models.

Stateless random jpeg quality	It is a function in TensorFlow that adjusts the quality of JPEG-encoded images by a random factor deterministically.
Stateless random saturation	It is another function in TensorFlow that adjusts the saturation of RGB images by a random factor deterministically.
Stateless sample distorted bounding box	It generates a randomly distorted localization of an object, and a bounding box, given an image size and bounding boxes.
Total variation	It is a technique used in image processing to reduce noise and improve image quality. It is a mathematical concept that measures the amount of variation or change in an image. The YIQ and YUV color spaces are used to represent images in digital form. They are used for color image processing transformations such as applying histogram equalization directly to the channels in an RGB image.
Yiq to RGB	It is a function that converts an image from YIQ color space to RGB color space.
Yuv to RGB	It is a function that converts an image from YUV color space to RGB color space.
Resize with padding	It is a function used in image processing to resize an image to a specified size while keeping its aspect ratio. The shorter dimension of the image is resized to match the specified size and the rest of the image is padded with what is specified in padding mode. It can be used to resize images for deep learning models.

Random Erasing	Random erasing is a data augmentation method used for training convolutional neural networks (CNNs) which randomly selects a rectangle region in an image and erases its pixels with random values. This process generates training images with various levels of occlusion, which reduces the risk of over-fitting and makes the model robust to occlusion.
GAN Based Augmentation	GAN-based augmentation is a data augmentation technique that produces new data samples. **It consists of two simultaneously trained neural networks:** Generator Discriminator GANs take random noise from a latent space and produce unique images that mimic the feature distribution of the original dataset.
Kernal Filters	kernel filters can be applied to create new images within a sample space. Filters are often used to sharpen or blur images. For example, Gaussian blur kernel size can range from 1 to 353.
Neural style transfer	For reconstructing images by changing their style. Neural style transfer algorithms can apply the artistic style of one image to another image without changing the latter's high-level semantic content, which makes it feasible to employ neural style transfer as a data augmentation method to add more variation to the training dataset.