

Table A.2: Overview of all augmentations used in the AdverseAugment framework with parameters and range.

Augmentation	Description	Parameters	Range
AdditiveNoise	Apply random Gaussian noise with shared spatial mode and mean 0.	std	[0.05, 0.5]
AutoContrast	Adjust the contrast by stretching the intensity range.	No params	-
Brightness	Adjust the brightness of the image.	value	[-1.0,1.0]
ChannelDropout	Randomly drop channels in the input image.	No params	-
ChannelShuffle	Randomly rearrange channels of the image.	No params	-
Chrom. Aberration	Adds lateral chromatic aberration by shifting red and blue channels with secondary distortion limit [-0.05,0.05].	P.DistortionLimit	[0.05,5]
Color	Adjust the color balance of the input image.	value	[0.1,1.0]
ColorJitter	Randomly changes the brightness, contrast, saturation, and hue.	Brightness Contrast Saturation	[-1.0,1.0] [-1.0,1.0] [-1.0,1.0]
Contrast	Adjust image contrast of the input image.	value	[-1.0,1.0]
Cutout	Randomly removes rectangular regions from the image.	NumHoles	[1.0,10.0]
Defocus	Apply defocus blur with radius=3	AliasBlur	[5,15]
Drop	Adds raindrops to the input image.	Sigma Size Frequency Shape	[3.0,6.0] [20.0,65.0] [3.0,12.0] [0.9,0.4]
Emboss	Apply embossing effect to the image.	Alpha Strength	[0.05,1.0] [0.05,1.0]
Equalize	Equalize the image histogram.	No params	-
Fog	Adds fog to the image.	Density Wibbleddecay	[1.0,5.5] [1.85,1.6]
GlassBlur	Apply a glass blur effect to the input image.	Sigma	[0.1,1.0]
HueSaturationValue	Randomly change hue, saturation, and value of the input image.	HueShift SatShift ValShift	[10,100] [10,100] [10,100]
Invert	Invert image by subtracting pixels from max value.	No params	-
IsoNoise	Simulates high ISO noise with colorShift in [0.01, 1].	Intensity	[0.1,1.0]
MotionBlur	Apply motion blur using a directional kernel.	BlurLimit	[3.0,25.0]
PixelDropout	PerChannel=True	DropoutProb	[0.1,0.9]
PlasmaBrightness	Modifies brightness and contrast using a plasma fractal with roughness=5.	Brightness Contrast	[-1.0,1.0] [-1.0,1.0]
Posterize	Reduce the number of bits for each color channel.	value	[8,1]
Rain	Adds rain with threshold=0.8, radius=10, sigma=14, alpha=0.9.	Center Std Zoom	[0.2,0.55] [0.3,0.75] [2.0,1.5]
RandomFog	Simulates fog using random artifacts with alphaCoef=0.08.	FogCoef	[0.05, 1.0]
RandomGamma	Applies random gamma correction to the image.	GammaLimit	[80, 200]
RandomGravel	Adds gravel-like artifacts to the input image.	NumberPatches	[5,50]
RandomRain	Adds rain effects to an image.	value	[1,10]
RandomSnow	Applies a random snow effect to the input image.	SnowPoint	[0.1,1.0]
Rotation	Rotate the image.	Angle	[-30,30]
SaltAndPepper	Apply salt and pepper noise to the input image.	Amount	[0.01,0.25]
Sharpness	Sharpens the input image.	value	[1.0,2.0]
ShearX	Apply a shear transformation on the x-axis.	x	[-30.0,30.0]
ShearY	Apply a shear transformation on the y-axis.	y	[-30.0,30.0]
ShotNoise	Adds shot noise (using Poisson) to simulate photon counting.	Scale	[0.05,0.5]
Snow	Center: 0.2, Radius: 6, Sigma: 2, Alpha: 0.95	Threshold Std Zoom	[0.85,1.1] [0.3,1.2] [3.5,4.7]
Solarize	Invert all pixel values above a threshold.	value	[230.0,0.0]
TranslateX	Apply a translation transform on the x-axis.	x	[-0.45,0.45]
TranslateY	Apply a translation transform on the y-axis.	y	[-0.45,0.45]
ZoomBlur	Apply zoom blur transform.	MaxFactor	[1.03,1.3]