**Project Development Phase**

**Sprint-1**

**Image Preprocessing**

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| Date | 08 November 2022 |
| Team ID | PNT2022TMID36535 |
| Project Name | Intelligent Vehicle Damage Assessment and Cost Estimator for Insurance Companies |
| Maximum Marks | 4 Marks |

# Installing the packages

pip install tensorflow

pip install keras

pip install livelossplot

!pip install scikit-image

# Importing libraries for Data Augmentation

import tensorflow as tf

from tensorflow.keras.preprocessing.image import ImageDataGenerator

from keras.applications.vgg16 import VGG16, preprocess\_input

# Defining the parameters / arguments for ImageDataGenerator class

# Data Augmentation on training variable Initialize

train\_datagen = ImageDataGenerator(rescale=1./255,

zoom\_range=0.2,

rotation\_range=40,

horizontal\_flip=True)

# Data Augmentation on testing variable Initialize

test\_datagen = ImageDataGenerator(rescale=1./255)

# For Body Damage

BATCH\_SIZE = 32

# Data augmentation on training data

body\_train\_generator = train\_datagen.flow\_from\_directory(r'D:\Nalaiya Thiran Project\Juypter\dataset\Car damage\body\training',

target\_size = (224,224),

batch\_size = BATCH\_SIZE,

class\_mode = 'categorical')

# Data augmentation on testing data

body\_test\_generator = train\_datagen.flow\_from\_directory(r'D:\Nalaiya Thiran Project\Juypter\dataset\Car damage\level\validation',

target\_size = (224,224),

batch\_size = BATCH\_SIZE,

class\_mode = 'categorical')

# For Level Damage

BATCH\_SIZE = 32

# Data augmentation on training data

level\_train\_generator = train\_datagen.flow\_from\_directory(r'D:\Nalaiya Thiran Project\Juypter\dataset\Car damage\level\training',

target\_size = (224,224),

batch\_size = BATCH\_SIZE,

class\_mode = 'categorical')

# Data augmentation on testing data

level\_test\_generator = train\_datagen.flow\_from\_directory(r'D:\Nalaiya Thiran Project\Juypter\dataset\Car damage\level\validation',

target\_size = (224,224),

batch\_size = BATCH\_SIZE,

class\_mode = 'categorical')