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The **Data\_Augmentation.py** is a script for the initial data augmentation of our project. First, it simply reads the .csv file then using the count\_ships function it count how many ships exist in each image. Later it goes through the directory of the images and deletes 40,000 images having no ships to achieve 60/40 ships to no ships ratio.

The **Data\_exploration.py** is a script for getting the statistics of the augmented dataset. First, it creates a new dataframe from the existing images using the csv then it finds the number of ships and no ships within the images. After it counts the number of ships and plots a histogram. The function rle\_decode is for decoding the .csv file to create a numpy array having 1 for masks and 0 for the background for training purposes.

The **dl.384.py** script is the script for our latest model using 384x384 dimensional images. The functions are explained in the script with the comments.

The **Test.py** script first loads the weights of the trained model and tests for the different images to see how system evaluates semantic segmentation. It also plots the outputs of the intermediate up and down blocks to get an idea how system learns through out the forward propagation.

**Name of the model file:** UNet\_aws\_2\_384\_adam.h5 **size**: 1.6 MB