Visualisations:

Train data EDA:

Car count:

Graphical user interface, application

Description automatically generated

Sample listing of particular car:

Graphical user interface, text, application

Description automatically generated

EDA on the original dimensions of images in the train data

DIM1:

Graphical user interface, application, Word

Description automatically generated

DIM2:

Graphical user interface, application, Word

Description automatically generated

Code to print random images of car

import matplotlib.image as mpimg

import matplotlib.pyplot as plt

#Some random images

for i in range( 2, 1000, 100):

    print("=============\n", train\_images.loc[i,'car'])

    plt.imshow(train\_images.loc[i, 'image'].reshape(size\_dim, size\_dim, 3))

    plt.show()

Patch function to plot:

import cv2

import matplotlib.pyplot as plt

import matplotlib.patches as patches

def patch\_fn (ind):

  # Create figure and axes

  fig,ax = plt.subplots(1)

  x0=y\_train[ind][0]

  y0=y\_train[ind][1]

  x1=y\_train[ind][2]

  y1=y\_train[ind][3]

  print("Normalised Bounding box: ", x0, y0, x1, y1)

  # Display the image

  ax.imshow(train\_images.loc[ind,'image\_matrix'].reshape(size\_dim,size\_dim,3))

  # Create a Rectangle patch

  rect = patches.Rectangle((x0, y0), x1 , y1, linewidth=2, edgecolor='r', facecolor='none')

  # Add the patch to the Axes

  ax.add\_patch(rect)

  plt.show()

Patch Function images

Graphical user interface, application

Description automatically generated