

DATA ANALYTICS

LGM VIRTUAL INTERNSHIP
PROGRAM 2021

- BEGINNER LEVEL
- INTERMEDIATE LEVEL
- ADVANCE LEVEL

>Beginner Level Task...

TASK -4 Image to Pencil Sketch with Python:

We need to read the image in RBG format and then convert it to a grayscale image. This will turn an image into a classic black and white photo. Then the next thing to do is invert the grayscale image also called negative image, this will be our inverted grayscale image. Inversion can be used to enhance details. Then we can finally create the pencil sketch by mixing the grayscale image with the inverted blurry image. This can be done by dividing the grayscale image by the inverted blurry image. Since images are just arrays, we can easily do this programmatically using the divide function from the cv2 library in Python.

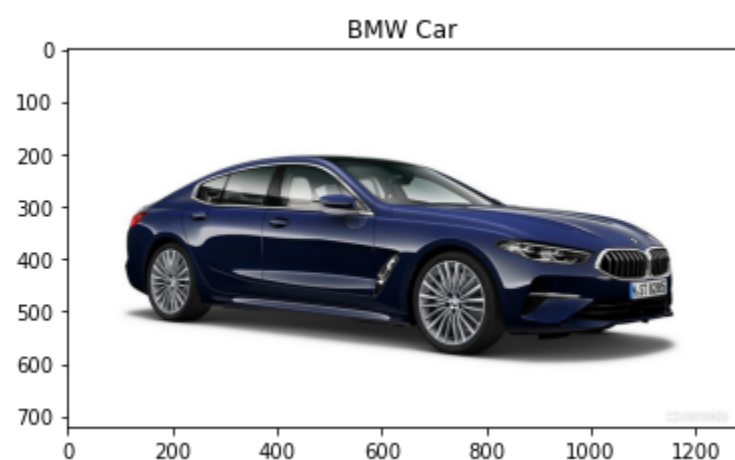
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1. Importing Required Libraries

```
In [2]: import cv2
import matplotlib.pyplot as plt
%matplotlib inline
def show(title, img, cmap='RdGy'):
    plt.imshow(img, cmap=cmap)
    plt.title(title)
```

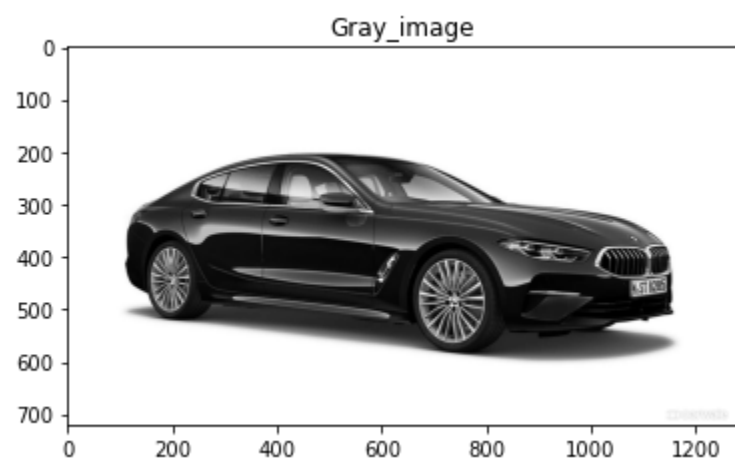
2. Loading Image

```
In [3]: image=plt.imread("BMW Car.jpg")
show("BMW Car",image, 'RdGy')
```



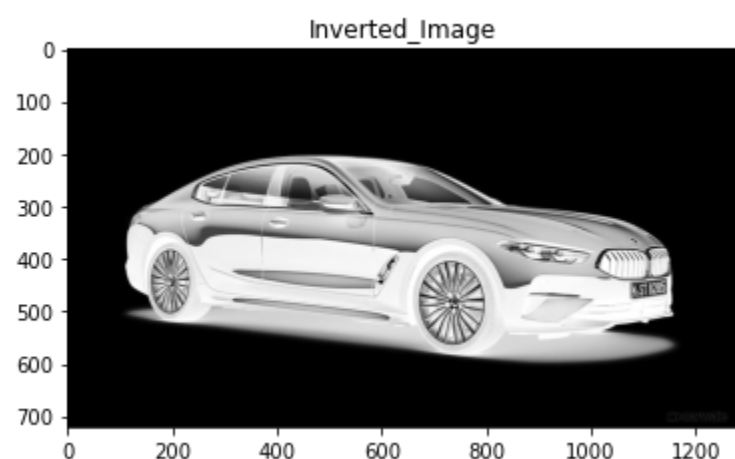
3. Convert Into GrayScale Image

```
In [4]: gray_image=cv2.cvtColor(image,cv2.COLOR_RGB2GRAY)
show("Gray_image",gray_image, 'gray')
```



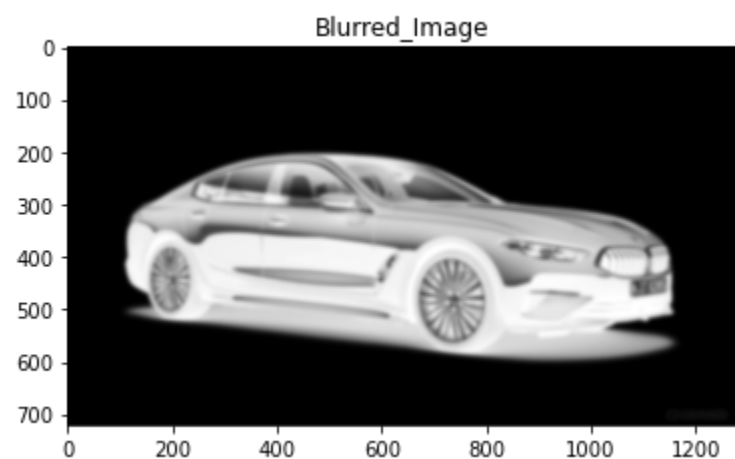
4. Invert The GrayScale Image

```
In [5]: Inverted_Image =255-gray_image
show("Inverted_Image",Inverted_Image, 'gray')
```



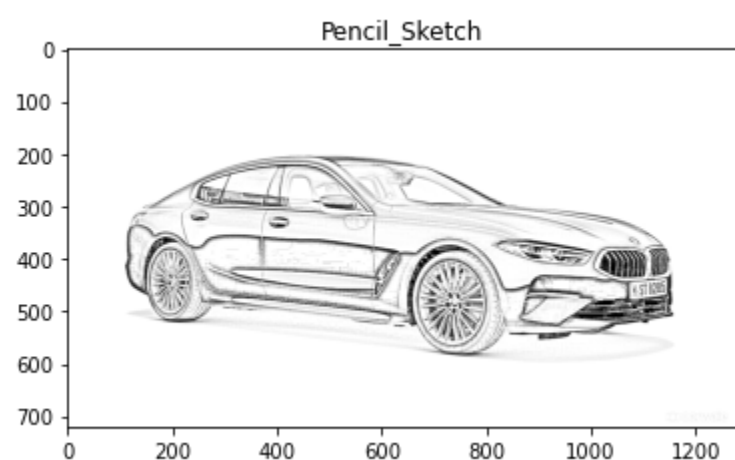
4. Blur The Inverted Image

```
In [6]: Blurred_Image =cv2.GaussianBlur(Inverted_Image,(21,21),0)
show("Blurred_Image",Blurred_Image, 'gray')
```



5. Create Pencil Sketch Image

```
In [8]: Inverted_Blurred=255-Blurred_Image
Pencil_Sketch=cv2.divide(gray_image,Inverted_Blurred,scale=256.0)
show("Pencil_Sketch",Pencil_Sketch, 'gray')
```



THANK YOU!