LGMVIP - DataScience Intern

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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.

Reference: https://thecleverprogrammer.com/2020/09/30/pencil-sketch-with-python/

Import Libraries

```
!pip install opencv-python
```

```
Collecting opencv-python
  Using cached opencv_python-4.7.0.68-cp37-abi3-win_amd64.whl (38.2
MB)
Requirement already satisfied: numpy>=1.19.3 in c:\users\sharayu\
onedrive\python\envs\tensorflow_env\lib\site-packages (from opencv-
python) (1.23.5)
Installing collected packages: opencv-python
Successfully installed opencv-python-4.7.0.68
```

```
import cv2
from PIL import Image
from IPython.display import display
```

Read The Image:

```
image = cv2.imread('C:\\Users\\Sharayu\\Downloads\\dog image.jpg')
image = cv2.cvtColor(image,cv2.COLOR_BGR2RGB)
display(Image.fromarray(image))
```

Convert image to a grayscale image :

```
gray_image = cv2.cvtColor(image, cv2.COLOR_BGR2GRAY)
display(Image.fromarray(gray_image))
```

Here we can see classic black and white photo. Now we have to invert grayscale image(Negative image):

```
inverted_image = cv2.bitwise_not(gray_image)
display(Image.fromarray(inverted_image))
```

Now convert Negative image into blurry image :

```
inverted_image = cv2.bitwise_not(gray_image)
display(Image.fromarray(inverted_image))
```

Create the pencil sketch by mixing the grayscale image with the inverted blurry image :

```
inverted_blurred = cv2.bitwise_not(blurred_image)
pencil_sketch = cv2.divide(gray_image, inverted_blurred, scale=250.0)
display(Image.fromarray(pencil_sketch))
```