▾ Image to Pencil Sketch using Python

The project will use the Python programming language to convert an image into a pencil sketch.
The following steps will be involved:

1. Import the necessary Python libraries, such as OpenCV and matplotlib.
2. Using matplotlib library for some visualizations.
3. Convert the image to grayscale using the cv2.cvtColor() function.
4. Apply a Gaussian blur to the grayscale image using the cv2.GaussianBlur() function.
5. Invert the blurred image using the cv2.bitwise_not() function.

Import Libraries

```
import cv2
import matplotlib.pyplot as plt
```

Read Photo

```
img=cv2.imread("/content/Shashwat Prasad Photo.jpeg")
```

Show Image using OpenCV

```
cv2_imshow(cv2.resize(img, (600, 600)))
cv2.waitKey(0)
cv2.destroyAllWindows()
```

Display using Matplotlib


```
plt.imshow(img)
plt.axis(False)
plt.show()
```


Convert BGR to RGB

```
RGB_img = cv2.cvtColor(img, cv2.COLOR_BGR2RGB)
plt.imshow(RGB_img)
plt.axis(False)
plt.show()
```


Convert Image to a Pencil Sketch

Step-1: Convert to Grey Image

```
grey_img=cv2.cvtColor(img, cv2.COLOR_BGR2GRAY)
```

Step-2: Invert Image

```
invert_img=cv2.bitwise_not(grey_img)
```

Step-3: Blur Image

```
blur_img=cv2.GaussianBlur(invert_img, (111,111),0)
```

Step-4: Invert Blurred Image

```
invblur_img=cv2.bitwise_not(blur_img)
```

Step-5: Sketch

```
sketch_img=cv2.divide(grey_img,invblur_img, scale=256.0)
```

Step-6: Save Sketch

```
cv2.imwrite('sketch.png', sketch_img)
```

    True

Step-7: Display Sketch

```
cv2_imshow(cv2.resize(img, (600, 600)))
cv2.waitKey(0)
cv2.destroyAllWindows()
```

Original Image vs Sketch

Original Image vs Sketch


```python
plt.figure(figsize=(14,8))
plt.subplot(1,2,1)
plt.title('Original image', size=18)
plt.imshow(RGB_img)
plt.axis('off')
plt.subplot(1,2,2)
plt.title('Sketch', size=18)
rgb_sketch=cv2.cvtColor(sketch_img, cv2.COLOR_BGR2RGB)
plt.imshow(rgb_sketch)
plt.axis('off')
plt.show()
```

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