

Image to Pencil Sketch with Python

1. Importing Modules

```
In [1]: import cv2
import matplotlib.pyplot as plt
plt.style.use('seaborn')
```

2. Loading and Plotting Original Image

```
In [2]: img = cv2.imread("C:\\Users\\User\\Downloads\\demi.jpg")
img = cv2.cvtColor(img, cv2.COLOR_BGR2RGB)
plt.figure(figsize=(8,8))
plt.imshow(img)
plt.axis("off")
plt.title("Original Image")
plt.show()
```

Original Image



3. Converting Image to GrayScale

```
In [3]: img_gray = cv2.cvtColor(img, cv2.COLOR_BGR2GRAY)
plt.figure(figsize=(8,8))
plt.imshow(img_gray, cmap="gray")
plt.axis("off")
plt.title("GrayScale Image")
plt.show()
```

GrayScale Image



4. Inverting the Image

```
In [4]: img_invert = cv2.bitwise_not(img_gray)
plt.figure(figsize=(8,8))
plt.imshow(img_invert,cmap="gray")
plt.axis("off")
plt.title("Inverted Image")
plt.show()
```

Inverted Image



```
In [5]: img_smoothing = cv2.GaussianBlur(img_invert, (21, 21),sigmaX=0, sigmaY=0)
plt.figure(figsize=(8,8))
plt.imshow(img_smoothing,cmap="gray")
plt.axis("off")
plt.title("Smoothen Image")
plt.show()
```

Smoothen Image



5. Converting images to pencil sketches

```
In [8]: final = cv2.divide(img_gray, 255 - img_smoothing, scale=255)
plt.figure(figsize=(8,8))
plt.imshow(final,cmap="gray")
plt.axis("off")
plt.title("Final Pencil Sketch Image")
plt.show()
```



6. The Final Output

```
In [7]: plt.figure(figsize=(20,20))
plt.subplot(1,5,1)
plt.imshow(img)
plt.axis("off")
plt.title("Original Image")
plt.subplot(1,5,2)
plt.imshow(img_gray,cmap="gray")
plt.axis("off")
plt.title("GrayScale Image")
plt.subplot(1,5,3)
plt.imshow(img_invert,cmap="gray")
plt.axis("off")
plt.title("Inverted Image")
plt.subplot(1,5,4)
plt.imshow(img_smoothing,cmap="gray")
plt.axis("off")
plt.title("Smoothen Image")
plt.subplot(1,5,5)
plt.imshow(final,cmap="gray")
plt.axis("off")
plt.title("Final Pencil Sketch Image")
plt.show()
```



