Digital Image Processing Lab

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Enhancement using Arithmetic and Logic Operation

CODE:

```
import cv2

import numpy as np

# Load original image

img = cv2.imread('D:/downloads/forest.jpg')

# Create list to store noisy images

images = []

# Generate noisy images using cv2.randn. Can use your own mean and std.

for _ in range(20):

    img1 = img.copy()

    cv2.randn(img1,(0,0,0),(50,50,50))

    images.append(img+img1)

# For averaging, create an empty array, then add images to this array.

img_avg=np.zeros((img.shape[0],img.shape[1],img.shape[2]),np.float32)

for im in images:

    img_avg=img_avg+im/20

# Round the float values. Always specify the dtype

img_avg=np.array(np.round(img_avg),dtype=np.uint8)

# Display the images

cv2.imshow('average_image',img_avg)

cv2.imshow('original_image',img)

cv2.imshow('noise_image',images[1])
```

```
cv2.waitKey(0)
```

```
e',images[1])
cv2.waitKey(0)
```

OUTPUT:

Noisy

Averaged