Import libaries

In [1]:
```
import numpy as np
import cv2 as cv
import matplotlib.pyplot as plt
```

Read Image

In [34]:
```
def read_image():
    path = "/media/rifat/STUDY/4-1/LAB/Image_Processing/image/tiger.png"
    img = cv.imread(path)
    grayscal = cv.imread(path,0)
    return img, grayscal
```

Noise Add

In [38]:
```
def Noise_add(img):
    print("shape = ",img.shape," size = ",img.size )
    r,c = img.shape
    cnt = 20000;
    img1 = np.copy(img)
    for i in range(cnt):
        p = np.random.randint(0,2)
        g,h = np.random.randint(0,(r,c))
        img1[g][h] = p * 255
    return img1
```

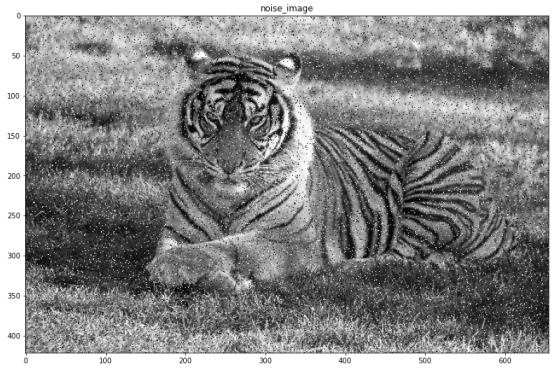
Filtering

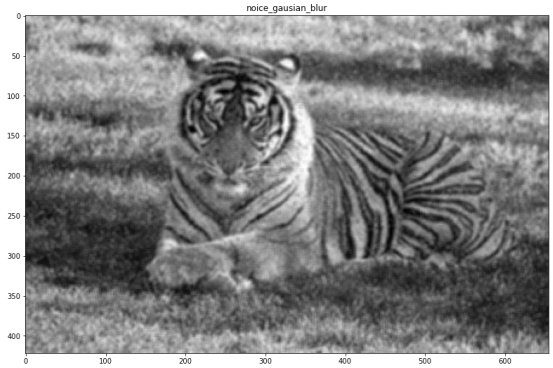
In [39]:
```
def filtering(grayscal,noise_image):
    gray = np.copy(grayscal)

    gray_average = cv.blur(gray,(5,5))
    noise_average = cv.blur(noise_image,(5,5))

    noice_gausian_blur = cv.GaussianBlur(noise_image,(5,5),cv.BORDER_DEF
    noice_median_blur = cv.medianBlur(noise_image,5)



    image = [grayscal,gray_average,noise_image,noise_average,noice_gausi
    titles = ['grayscal','gray_average','noise_image','noise_average','n
    plt.figure(figsize=(30, 30))

    for i in range(1,7):
        plt.subplot(3,2,i)
        plt.imshow(image[i-1],cmap = 'gray')
        plt.title(titles[i-1])

    plt.savefig("Image.jpg")

    plt.show()
```

Main

In [40]:
```
if __name__ == "__main__":
    img, grayscal = read_image()
    noise_image = Noise_add(grayscal)
    filtering(grayscal,noise_image)
```

```
shape =  (422, 655)  size =  276410
```





In [ ]: