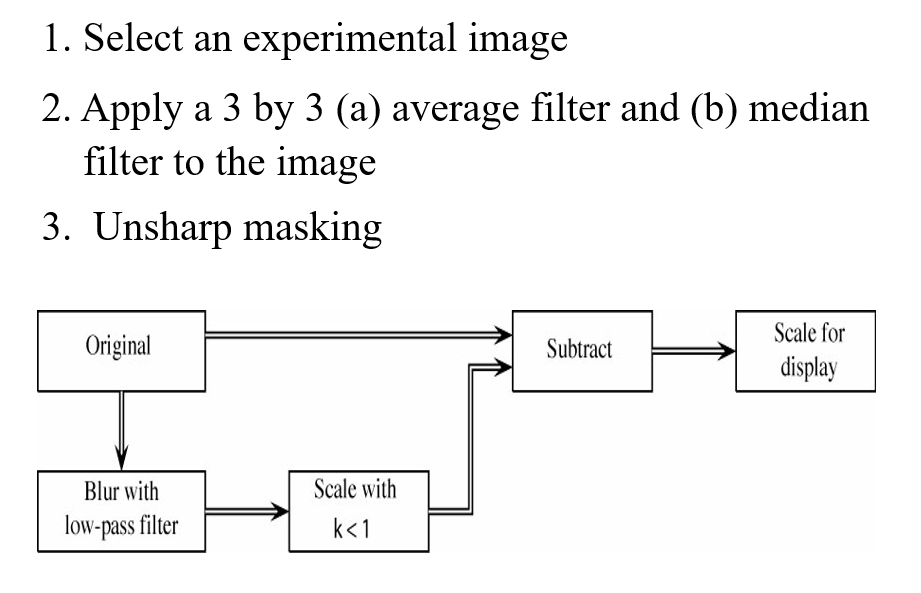
**40847041S朱自宇 hw3**

**Problem statement:**



**Experimental results:**

* **Input/Output images:**

**Input grayscale image:**

****

**Output average filter unsharp masking image:**



**Output median filter unsharp masking image:**



* **Source code:**

"""

110-2 NTNU CSIE

ImageProcessing

Assignment4

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"""

import numpy as np

import cv2

import matplotlib as plt

# Load the image

img = cv2.imread("me.png")

grayImg = cv2.cvtColor(img, cv2.COLOR\_BGR2GRAY)

# do the average filter

averageFilter = cv2.blur(grayImg, (3,3))

# do the median filter

medianFilter = cv2.medianBlur(grayImg, 3)

# do the unsharp masking

k = 0.6

averageImg = ( grayImg - k\*averageFilter ) / ( 1 - k )

averageImg = averageImg.astype(np.uint8)

medianImg = ( grayImg - k\*medianFilter ) / ( 1 - k )

medianImg = medianImg.astype(np.uint8)

# show the results

cv2.imshow("origin picture", grayImg)

cv2.imshow("average filter", averageImg)

cv2.imshow("median filter", medianImg)

# wait until the user press any button to close the img window

cv2.waitKey(0)

cv2.destroyAllWindows()

* **Comments:**

I made a few mistakes, so it took longer than I expect ☹