

程式作業 (3)

模擬下列 (1), (2), (3) 的 Smoothing 方式, 使用自己的人頭照, 執行後印出結果以比較各種 Smoothing 效果。

(1) Smoothing by spatial lowpass filter with a mask of size 3×3 , 5×5 , 7×7 , 9×9 , 21×21 , respectively. (模擬 教材- Practice-5)

(2) Noise reduction by median filter: (a) image corrupted by impulse noise of noise-ratio 20%; (b) and (c) are results of filtering with a 3×3 mask and a 5×5 , respectively.



(a)

(b)

(c)

(3) Noise reduction by alpha-trimmed mean filter with 3×3 mask: (a) image corrupted by Gaussian noise with mean = 0 and variance = 400 and impulse noise with 5% salt-noise and 5% pepper-noise; (b) the filtered result of (a) by $T=1$; (c) the filtered result of (a) by $T=2$; (d) the filtered result of (a) by $T=4$ (i.e., median filtering). (模擬 教材- Practice-5)