CS663 Assignment 2

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Contents

Question 7

Here are the original and the noisy versions of the images:

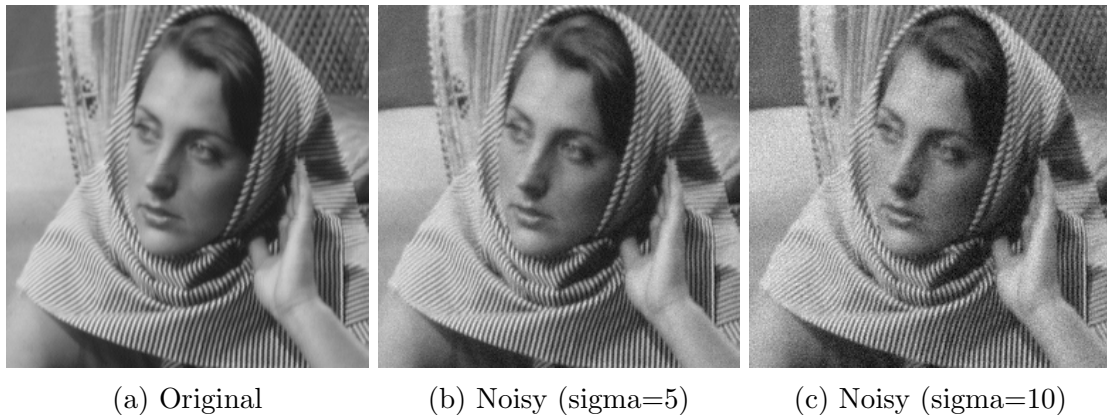(a) Original   (b) Noisy (sigma=5)   (c) Noisy (sigma=10)

Figure 1: Versions of barbara image

(a) Original   (b) Noisy (sigma=5)   (c) Noisy (sigma=10)

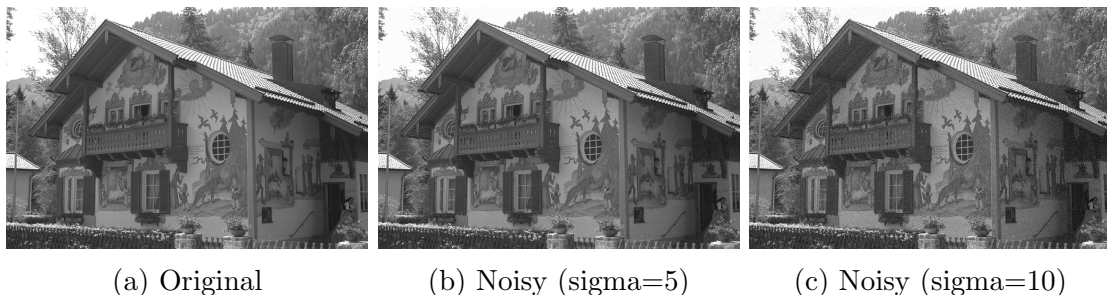Figure 2: Versions of kodak image

The code for this question is present in ../code/myMainScript.m and ../code/mybilateralfilter.m.

Here are the results of applying bilateral filter on noisy ($\sigma = 5$) barbara image with various values of σ_s and σ_r:

(a) sigma=5   (b) $\sigma_s = 2; \sigma_r = 2$ (c) $\sigma_s = 0.1; \sigma_r = 0.1$ (d) $\sigma_s = 3; \sigma_r = 15$
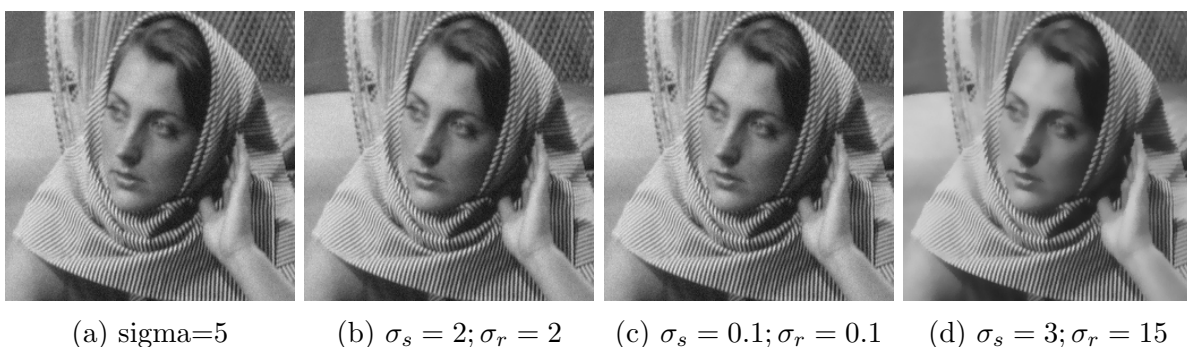
Figure 3: Versions of barbara image (sigma=5)

Here are the results of applying bilateral filter on noisy ($\sigma = 10$) barbara image with various values of σ_s and σ_r:

Here are the results of applying bilateral filter on noisy ($\sigma = 5$) kodak image with various values of σ_s and σ_r:
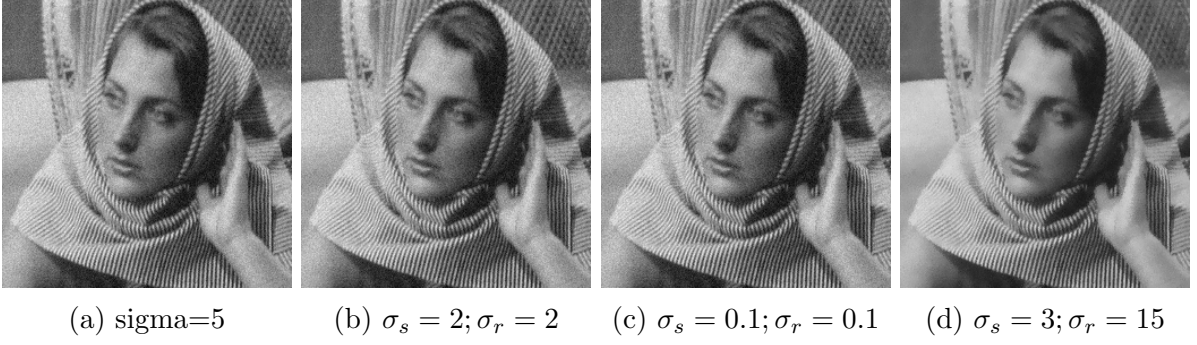
(a) sigma=5   (b) $\sigma_s = 2; \sigma_r = 2$ (c) $\sigma_s = 0.1; \sigma_r = 0.1$ (d) $\sigma_s = 3; \sigma_r = 15$

Figure 4: Versions of barbara image (sigma=10)

(a) sigma=5   (b) $\sigma_s = 2; \sigma_r = 2$ (c) $\sigma_s = 0.1; \sigma_r = 0.1$ (d) $\sigma_s = 3; \sigma_r = 15$
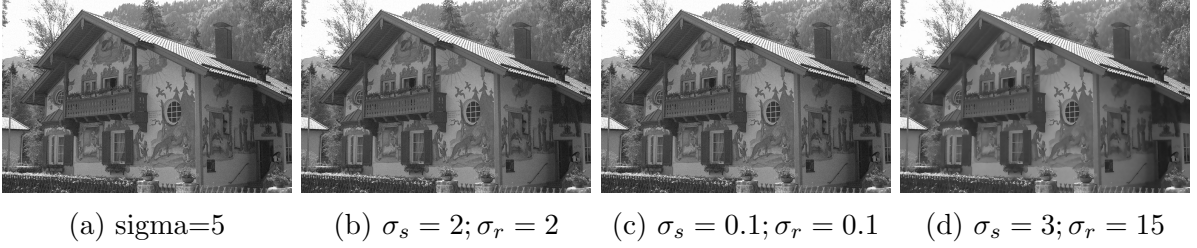
Figure 5: Versions of kodak image (sigma=5)

Here are the results of applying bilateral filter on noisy ($\sigma = 10$) kodak image with various values of σ_s and σ_r:

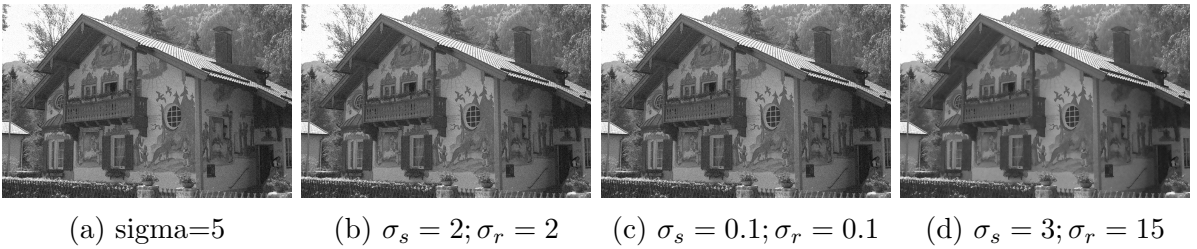(a) sigma=5   (b) $\sigma_s = 2; \sigma_r = 2$ (c) $\sigma_s = 0.1; \sigma_r = 0.1$ (d) $\sigma_s = 3; \sigma_r = 15$

Figure 6: Versions of kodak image (sigma=10)