Homework 2 solution template

CMPSCI 370 Spring 2019, UMass Amherst

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Here is a template that your solutions should roughly follow. Include outputs as figures, and code should be included in the end.

1 Light

(a) Formula for S_{TOTAL}.

(b) Tristimulus theory.

(1) Value of the matrix R

$$R = \begin{bmatrix} 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix}$$

(2) Coefficient for the colors

turquoise: b_1: _____, b_2: _____, b_3:_____

goldenrod: b_1: _____, b_2: _____, b_3:_____

2 White balance

1. Proof for the formula of L

2. Value of L.

   Light l_r: _____, l_g: _____, l_b:_____

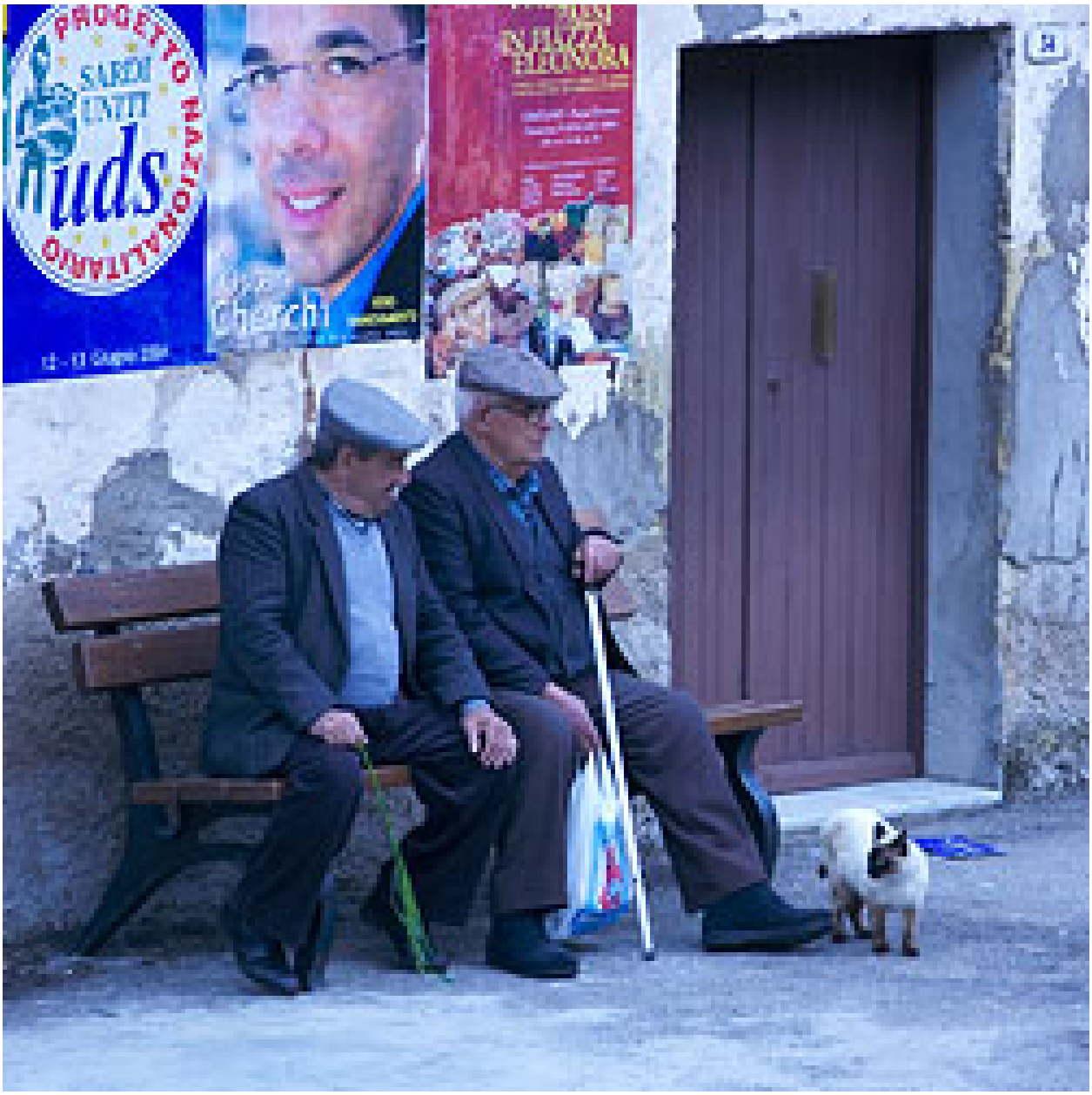

Figure 1: Output for the white balance

3 Hybrid images

σ_1 = _____, σ_2 = _____

dog image cat image

Figure 2: Source images.

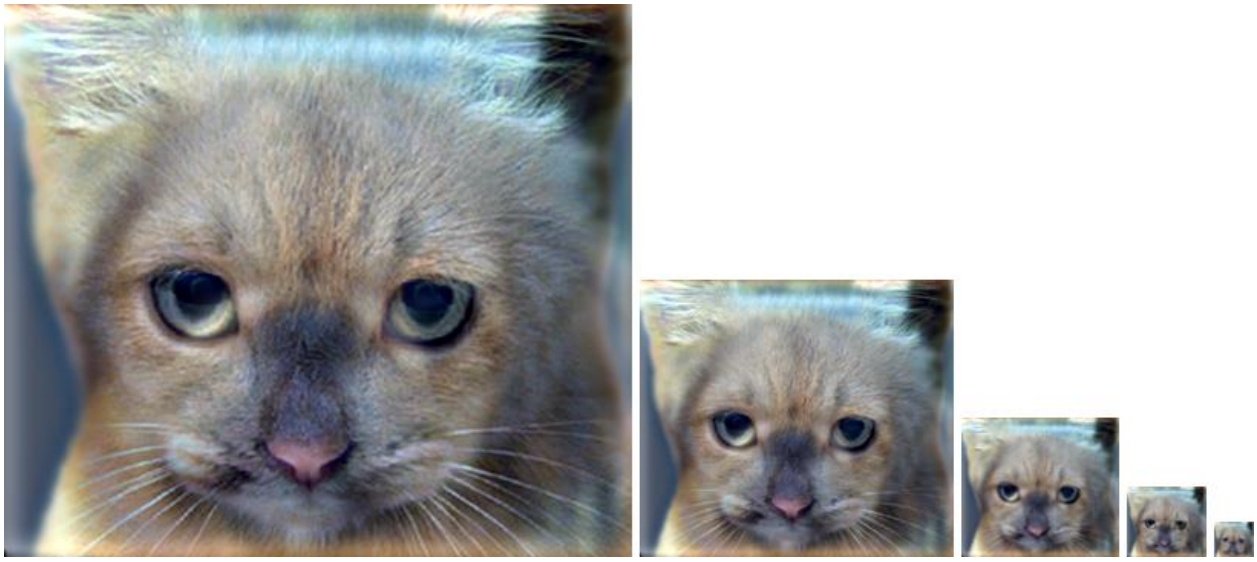

Figure 3: Output of hybid image of the dog and cat. The image was created with $\sigma_1 = 4$ and $\sigma_2 = 10$.

4 Solution code

Include the source code for your solutions as seen below (only the files you implemented are necessary). In latex the command `verbatiminput{alignChannels.m}` allows you to include the code verbatim as seen below. Regardless of how you do this the main requirement is that the included code is readable (use proper formatting, variable names, etc.) A screenshot of your code works too provided you include a link to source files.

4..1 Computing matrix R

4..2 Solving the multiplier b

4..3 grayworld.m

4..4 hybridImagem