

色彩科學導論與應用

逆向色彩轉移練習

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Assignment 5

Purpose: Write a python code to implement the reverse color transfer.

Please write a code in python to implement the **reverse color transfer**, which utilizes the equation 2, where

$$S(x, y) = \left[\frac{d_s}{d_t} [R(x, y) - m_t] + m_s \right] \quad \text{Eq. (2)}$$

d_t : standard deviation in the target image,

d_s : standard deviation in the source image,

m_s : mean in the source image, and

m_t : mean in the target image.

Note: you can modify python code submitted in assignment 3.

Input:

1. A resultant color transfer image (preferred bmp format or png format)
2. The text file **sideinfodeci.txt**.

Output:

1. The recovered source file.

Submission:

Please submit the four following SIX files.

1. Reverse color transfer python program, entitled “**學號-05-reve-color-transfer.py**.”

2. The source file, sou1.bmp or sou1.png (use any one of six cases but rename it as sou1.bmp or sou1.png)
3. The target file, tar1.bmp or tar1.png (use any one of six cases but rename it as tar1.bmp or tar1.png)
4. The color transfer file, ult1.bmp or ult1.png (use any one of six cases but rename it as ult1.bmp or ult1.png)
5. The recovered source file, **yrcsou1.bmp** or **yrcsou.png**
6. The text file **sideinfodeci.txt**

Naming Rules: using a source image as an example. Modifying the sequential number “1” if more than one image.

Source image: sou1.bmp

Target image: tar1.bmp

Color transfer image: ult1.bmp

Recovered source image: yrcsou1.bmp

Decimal side information: sideinfodeci.txt