

Spracovanie farebného obrazu

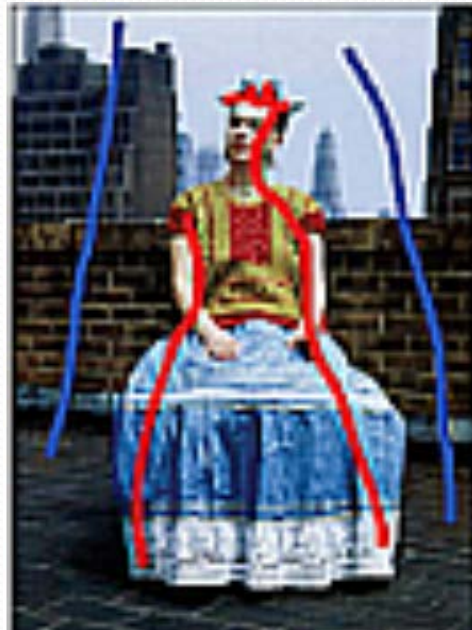
Segmentácia obrazu

Color constancy

6.5.2015

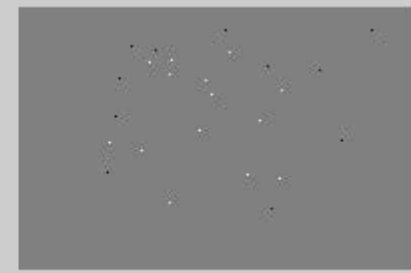
Segmentácia obrazu

- Grab Cut in One Cut
- <http://vision.csd.uwo.ca/code/>



Segmentácia obrazu

- Grow cut
- Alternatíva ku graph-cut
- <http://www.mathworks.com/matlabcentral/fileexchange/19091-growcut-image-segmentation>

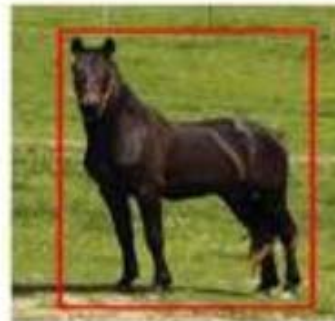


Segmentácia obrazu

- Interactive Segmentation Tool-Box
- <http://www.cs.cmu.edu/~mohitg/segmentation.htm>



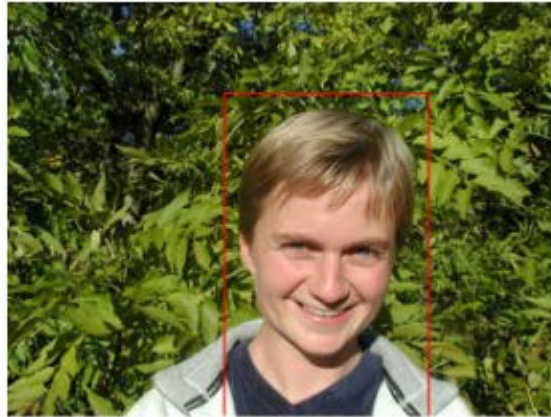
Lazy Snapping



GrabCut

Segmentácia obrazu

- Grab cut
- <http://grabcut.weebly.com/code.html>



- Black and blue
- White and gold
- ?

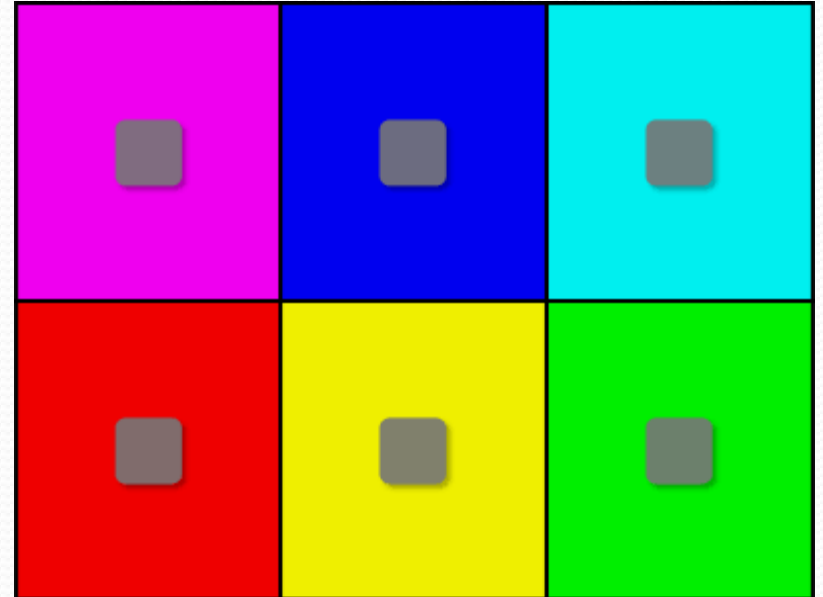


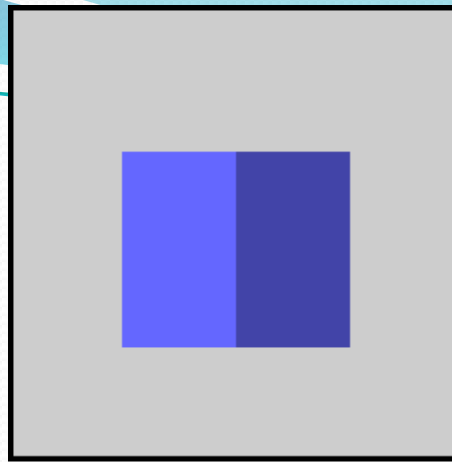
- Black and blue
 - White and gold
 - ?
-
- <https://www.youtube.com/watch?v=AskAQwOBvhc>



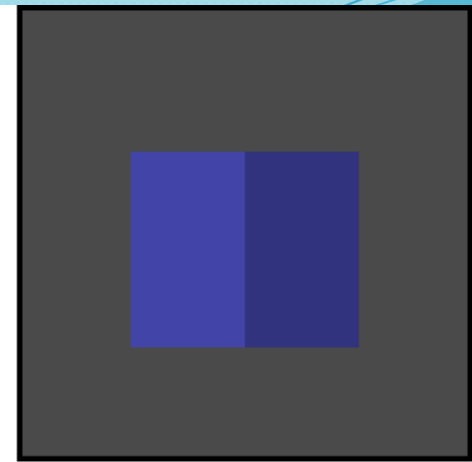
Color constancy

- is a Gestalt principle of perception that suggests that the context in which an object we are viewing appears in, influences the way we perceive the color of that object.

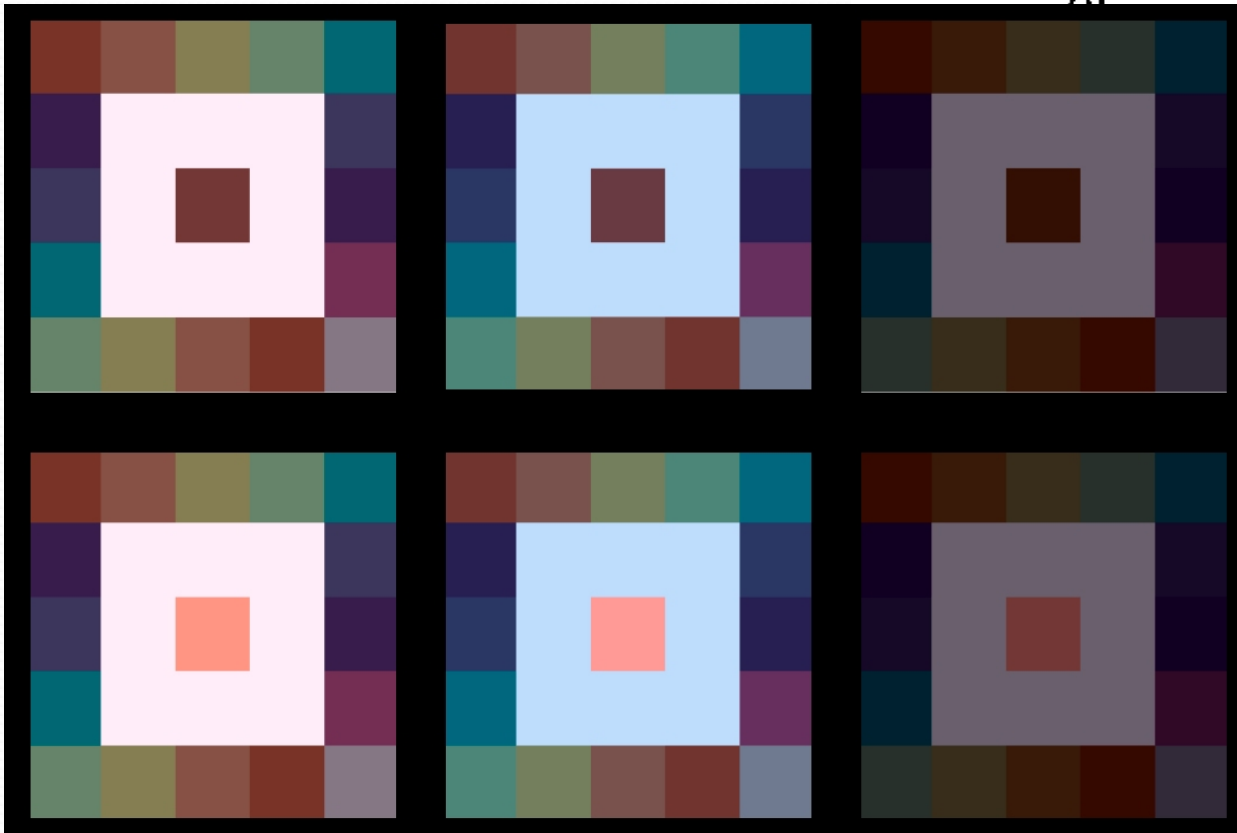




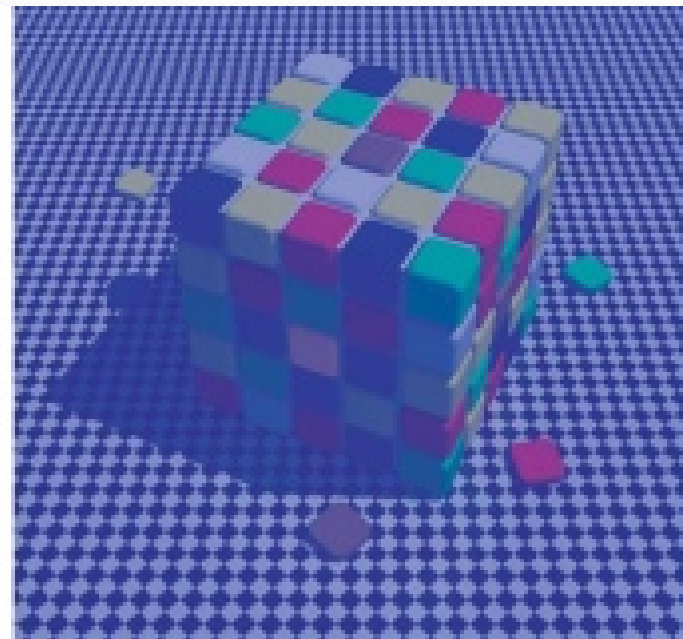
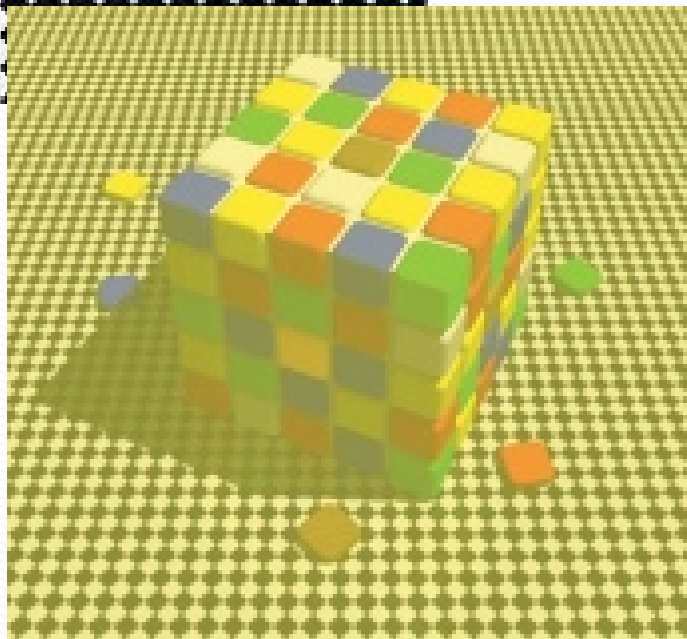
A.



B.







Optické klamy

- <https://www.youtube.com/watch?v=xl1lLze5ZpM>
- <https://www.youtube.com/watch?v=hvgOOKBvyQU>
- Bonus = Is Your Red The Same as My Red?
 - <https://www.youtube.com/watch?v=evQsOFQjuo8>

Prehľad algoritmov

- An Overview of Color Constancy Algorithms
 - http://imaging.utk.edu/publications/papers/2006/jprro6_va.pdf

White patch retinex

- Načítajte IR.jpg, IB.jpg

$$o_i(x, y) = \frac{c_i(x, y)}{L_{i, \max}}$$

- Upravte vstupný obrázok
 - C_i je vstupný obrázok
 - O_i je výsledný obrázok pre každý kanál vstupného obrázka
 - L_i je maximum pre každý kanál

White patch retinex

```
R = imread('IR.jpg');  
B = imread('IB.jpg');  
IR(:, :, 1) = double(R(:, :, 1))/double(max(max(R(:, :, 1))));  
IR(:, :, 2) = double(R(:, :, 2))/double(max(max(R(:, :, 2))));  
IR(:, :, 3) = double(R(:, :, 3))/double(max(max(R(:, :, 3))));  
  
IB(:, :, 1) = double(B(:, :, 1))/double(max(max(B(:, :, 1))));  
IB(:, :, 2) = double(B(:, :, 2))/double(max(max(B(:, :, 2))));  
IB(:, :, 3) = double(B(:, :, 3))/double(max(max(B(:, :, 3))));  
  
figure, imshow(R); figure, imshow(IR);  
figure, imshow(B); figure, imshow(IB);
```