

CVT: Lecture 2

Novitoll

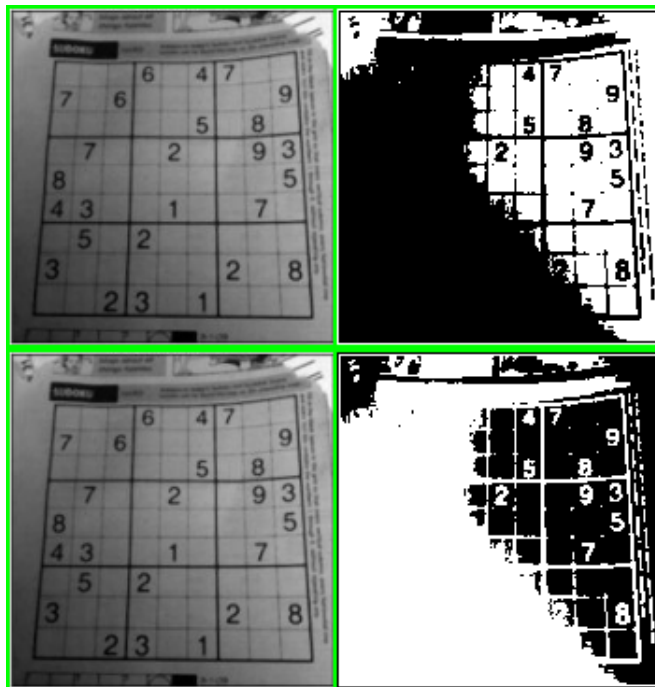
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1 Image Binarization

1. basic
2. adaptive
3. otsu

1.1 Basic

- thresholding, like everything < 127 is black etc.
 - `cv2.THRESH_BINARY`
 - `cv2.THRESH_BINARY_INV`

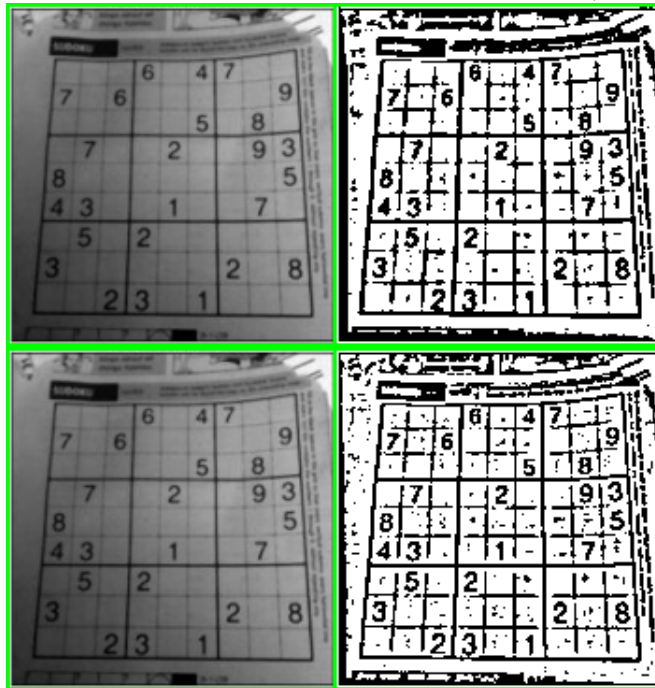


1.2 Adaptive

More interesting. No hard thresholding like in basic, e.g. usage of mean, Gaussian distrib etc. Take some region of the image, like top-left corner 11x11 and use the mean of it. (filtering?)

- adaptive mean thresholding
- adaptive Gaussian thresholding

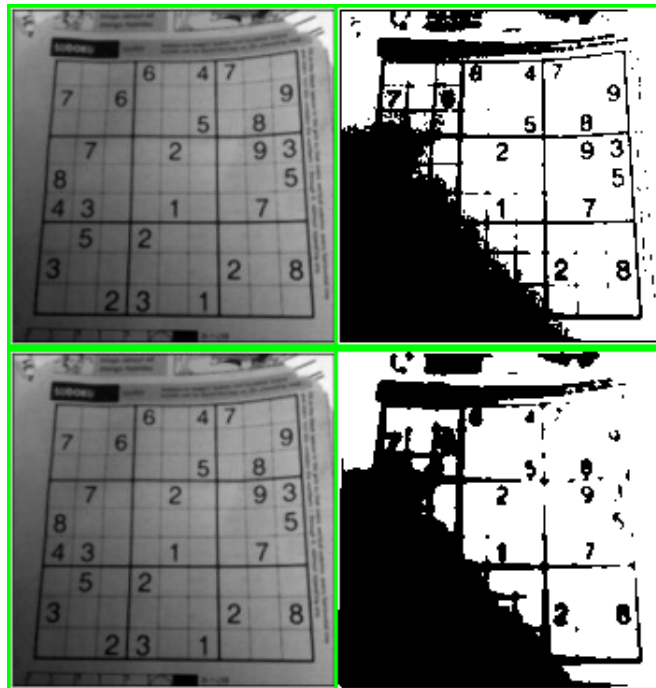
Take some region of the image and get Gaussian and get weights per pixel (more pixel is far away of region center - lower weight)



1.3 Otsu

Using histogram of pixels count distribution, we can find the boundaries that may binary classify. Useful when you have bi-modal distribution.

1. Otsu thresholding
2. Gaussian blur + Otsu thresholding



2 Morphology

- Erosion

Go near the border of the pixel and remove it Iteration = 1



- Dilation

Go near the border of the pixel and add it Iteration = 1



- Opening

First do the erosion, then do dilation to remove the noise of white Iteration = 2



- Closing

First do dilation, then erosion to remove the noise of black Iteration = 2

Morphology

Morphology