Machine Vision

HW#5

Deadline: 2023/05/25 23:59

RVL Room 1421

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HW#5

1. Implement Sobel Edge Detection.
   - Output Vertical edge、Horizon edge and Both edge.
2. Implement Prewitt Edge Detection.
   - Output Vertical edge 、Horizon edge and Both.
3. Implement Laplacian Edge Detection using two kernels.

0	1	0
1	-4	1
0	1	0

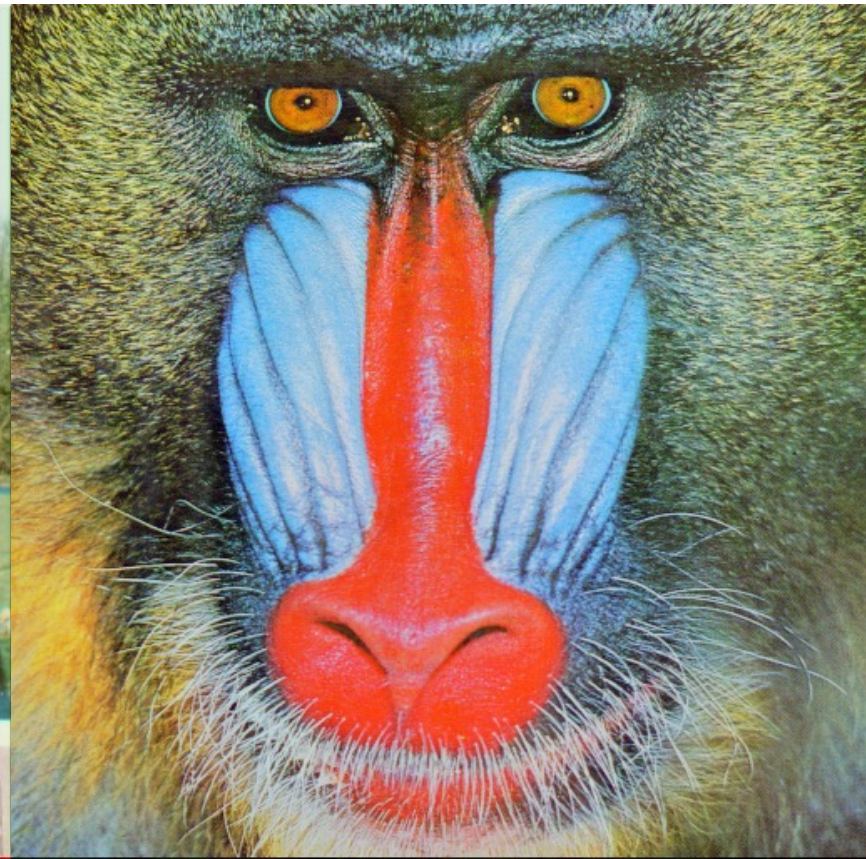
1	1	1
1	-8	1
1	1	1

Laplacian kernels

- Discuss horizontal edge、vertical edge and both edge differences.
- Discuss Laplacian kernels differences.

HW#5

- Download images



HW#5

- **Use OpenCV-2.x version**
- Allow use OpenCV for C/C++
  - Read, load, save, show: cvLoadImage, cvShowImage …
  - Define size of image: cvSize, cvGetSize
  - Define image: IplImage or Mat
- Not Allow use
  - Cannot use the function of OpenCV Lib to do the main part of homework.
  - Example:
    - cvtColor(image, gray, CV_RGB2GRAY); // convert RGB to Gray

HW#5

- Require for program
  - GUI to read, display input and result images is encouraged (but not required).
  - **Use C/C++**
  - Write homework on the one program (using class or subprogram).

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- Grade
  - Program (80%)
    1. 25%
    2. 25%
    3. 30%
  - Report (20%)

HW#5

- Report needs:
  1. Student ID、Name
  2. Describe the main part of your method
  3. Result images (24 pics)
     - 1. 9 images
     - 2. 9 images
     - 3. 6 images

HW#5

- Submit **studentID_hw5.zip** include:
  - The program source code and result images
  - The report (.pdf)
  - Mail to TAs
- **Deadline: 2023/05/25 23:59**
  - For each hour late, 10% of the total possible points will be deducted.
  - Don’t share your code with other students.