

DIP HW-8 190410102 方尧 自动化一班

Homework(必做): matlab or opencv 对Lena的
图片进行边缘提取, 使用Sobel, Roberts,
Prewitt, LoG, Canny

Matlab 代码:

```
%使用sobel, roberts, prewitt, log, canny进行边缘处理
clc,clear,close all;
I = imread('lena.jpg');
for i=[1,2,3]
    bw1(:,:,i)=edge(I(:,:,i),'sobel'); %Sobel operators
    bw2(:,:,i) = edge(I(:,:,i),'roberts'); %roberts operators
    bw3(:,:,i) = edge(I(:,:,i),'prewitt'); %Prewitt operators
    bw4(:,:,i) = edge(I(:,:,i),'log'); %LOG operators
    bw5(:,:,i) = edge(I(:,:,i),'canny');
end
for i=1:512
    for j=1:512
        bw1(i,j,1) = sum(bw1(i,j));
        bw2(i,j,1) = sum(bw2(i,j));
        bw3(i,j,1) = sum(bw3(i,j));
        bw4(i,j,1) = sum(bw4(i,j));
        bw5(i,j,1) = sum(bw5(i,j));
    end
end
subplot(2,3,1),imshow(I), title('Original Image')
subplot(2,3,2),imshow(bw1(:,:,1)), title('Sobel')
subplot(2,3,3),imshow(bw2(:,:,1)), title('roberts')
subplot(2,3,4),imshow(bw3(:,:,1)), title('Prewitt')
subplot(2,3,5),imshow(bw4(:,:,1)), title('LOG')
subplot(2,3,6),imshow(bw5(:,:,1)), title('canny')
```

结果:

