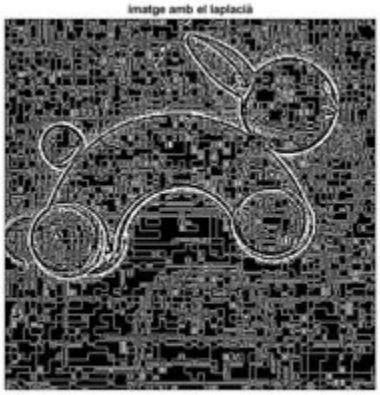
Practica 12. David Morais

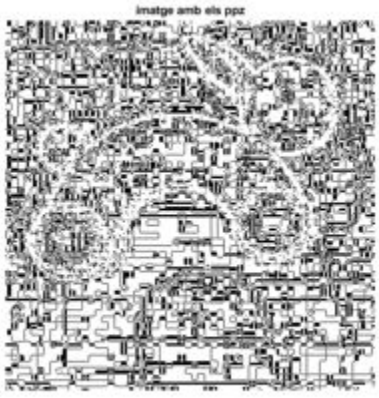
```
im=imread('rabbit.jpg');
figure, imshow(im), title('input image');

% Canny
tl=0.1;
th=0.8;
s=5; % Quant mes gran la s, mes soroll i mes deformada
res=edge(im,'canny',[tl,th],s);
figure, imshow(res), title('Canny');
test=imfuse(res,im);
figure, imshow(test), title('Canny');
clear all;
```

Exercici

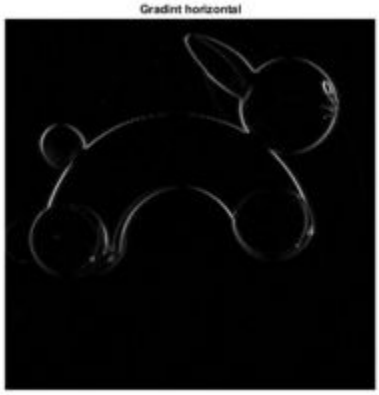
```
im=imread('rabbit.jpg');
figure,imshow(im),title('input image');

% 1. Pasar el laplacia per la imatge
lap=fspecial('laplacian');
lap=imfilter(double(im), lap, 'conv');
figure, imshow(lap), title('imatge amb el laplacià');

% 2. Buscar els pasos per 0 (fer l'algoritme) buscar transicions positiu
% negatiu
one=ones(461);
for i=2:460
    for j=2:460
        pixel=lap(i,j);
        right=lap(i,j+1);
        left=lap(i,j-1);
        up=lap(i-1,j);
        low=lap(i+1,j);
        if pixel > 0 && (right < 0 && left < 0) ||  pixel < 0 && (right > 0
&& left > 0) || pixel < 0 && (up > 0 && low > 0 ) || pixel > 0 && (up < 0 &&
low < 0 )
            one(i,j) = 0;
        end
    end
end

figure, imshow(one), title('imatge amb els ppz');

% 3. Fer servir el modul del gradient utilitzar els pasos per 0 amb un
% gradient important

Sy=[-1,-2,-1;0,0,0;1,2,1]/4;

Gy=imfilter(double(im),Sy,'conv');
figure, imshow(Gy), title('Gradint vertical');
```

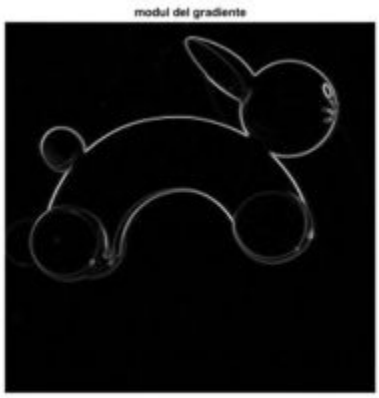
```
Sx=Sy';
Gx=imfilter(double(im),Sx,'conv');
figure, imshow(abs(Gx),[]), title('Gradint horizontal');

% Unimos los dos gradientes
mod=sqrt(Gx.^2+Gy.^2);
figure, imshow(abs(mod),[]), title('modul del gradiente');

for i=1:461
    for j=1:461
        pixel=lap(i,j);
        if mod(i,j) < 15
            one(i,j)=0;
        end
    end
end
figure, imshow(one), title('imatge resutat');
```




Imatge amb els ppz


Gradint vertical


Gradint horitzontal



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