

Two images were used thumb0000yes.bmp & thumb0000no.bmp.

The top row is the cracked, hor,ver, and sobel.

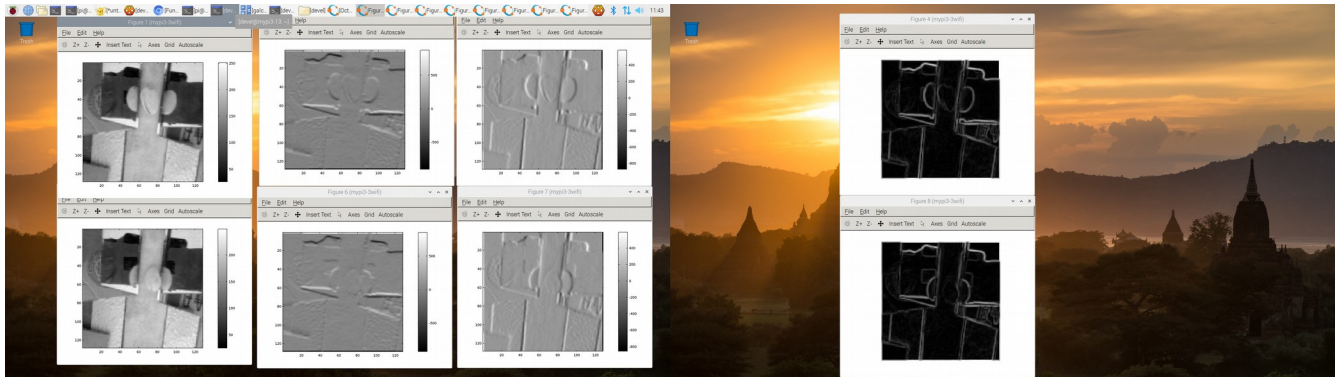
The lower is not cracked, hor, ver, and sobel.

$kx = [1, 0, -1; 2, 0, -2; 1, 0, -1];$

$ky = [1, 2, 1; 0, 0, 0; -1, -2, -1];$

hor is obtained with the ky filter

ver is obtained with the kx filter



clear

w = 128;

h = 128;

$kx = [1, 0, -1; 2, 0, -2; 1, 0, -1];$

$ky = [1, 2, 1; 0, 0, 0; -1, -2, -1];$

$I = \text{imread}('thumb0000no.bmp');$

for i = 1:w

for j = 1:h

im1(i,j) = I(i,j,1);

endfor

endfor

figure

imagesc(im1)

colormap 'gray'

colorbar

hor = conv2(double(im1),ky,'same');

figure

imagesc(hor)

colormap 'gray'

colorbar

ver = conv2(double(im1),kx,'same');

figure

imagesc(ver)

colormap 'gray'

colorbar

```
EE = sqrt(hor.*hor + ver.*ver); % or sqrt(H.^2+V.^2)
figure
imshow(EE, [])
```