How to Combine pyWavelet and openCV for image processing?

I need to do an image processing in python. i want to use wavelet transform as the filterbank. Can anyone suggest me which one library should i use? I had pywavelet installed, but i don't know how to combine it with opencv. If i use wavedec2 command, it raise ValueError("Expected 2D input data.")

Can anyone help me?

python opencv image-processing dwt

asked Jul 2 '14 at 16:36
rizkie
21 2 6

2 Answers

Hope this helps

```
import numpy as np
import pywt
import cv2

def w2d(img, mode='haar', level=1):
    imArray = cv2.imread(img)
    #Datatype conversions
    #convert to grayscale
    imArray = cv2.cvtColor( imArray,cv2.COLOR_RGB2GRAY )
    #convert to float
    imArray =  np.float32(imArray)
    imArray /= 255;
    # compute coefficients
    coeffs=pywt.wavedec2(imArray, mode, level=level)

    #Process Coefficients
    coeffs_H=list(coeffs)
    coeffs_H[0] *= 0;

    # reconstruction
    imArray_H=pywt.waverec2(coeffs_H, mode);
    imArray_H *= 255;
    imArray_H =  np.uint8(imArray_H)
    #Display result
    cv2.imshow('image',imArray_H)
    cv2.waitKey(0)
    cv2.destroyAllWindows()

w2d("test1.png",'db1',10)
```

answered Jul 14 '14 at 23:39
Navaneeth
106 2

it works well and give me some ideas, Thank you very much! – rizkie Aug 4 '14 at 14:06

Answer of **Navaneeth** is correct but with two correction:

1- Opencv read and save the images as BGR not RGB so you should do `cv2.COLOR_BGR2GRAY` to be exact.

2- Maximun level of `_multilevel.py` is 7 not 10, so you should do : `w2d("test1.png",'db1',7)`

answered Jul 21 '17 at 14:55
comey macdonald
43 7