Subject: correlation images please help!
Posted by Fabinho on Wed, 22 Apr 2009 06:43:04 GMT
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Pleeeease someone can help me??? this is the sequence of the messages:

1. Fabinho

I need to compare two images. I would like to use a photo as a reference, in this photo i will define a point that im interested in. With this image of reference and this point, I would like to compare this image with a second image, very simillar, and I need that the program finds this point im interested in this second image.

To give an example really simple, its kinda like I have a picture oh a dark room with one led, so i will define the position of this led as a point of reference, then in the second image i will have the same room with a led, but the led is in other position, that i want that the program compares the two images and give me the position of the led in this second image.

Thanks a lot if everyone can help me

Fabio V. Coelho

2. Brian Larsen
Afficher le profil Translate to Français Translated (View Original)
Autres options 21 avr, 00:20
Groupes de discussion : comp.lang.idl-pvwave
De : Brian Larsen <balar...@gmail.com>
Date : Mon, 20 Apr 2009 15:20:22 -0700 (PDT)
Date/heure locale : Mar 21 avr 2009 00:20
Objet : Re: image correlation
Répondre | Répondre à l'auteur | Transférer | Imprimer | Message individuel | Afficher l'original | Signaler ce message | Rechercher les messages de cet auteur
I would start with a read through this post and see if that provides a starting point.

http://groups.google.com/group/comp.lang.idl-pvwave/browse_f rm/thread...

Cheers,

Brian

3. Fabinho

thanks a lot! I will read it and get started!
thks

4. Fabinho

I dont know why but im still having a lot of trouble with pvwave.
Honnestly, im not an expert in programming. First I tryed to open the
apple routine at http://people.bu.edu/balarsen/Home/IDL/Entries/2009/4/6_Imag e_registr....
It didnt work at all! What should I do with the two routines, do I
have to put in the same file? the routine "wheretomulti" before, and
than the image-registration. Right? I tryed to do it, I also tryed to
have 2 differents files in the same folder, but when i tryed to
compile there was a lot of synthax problems. Maybe im not using the
software correctly? It seems that the software finds the file he is
supposed to compile, but he doesnt understand it at all.
After i tryed to run the code that wox made, but also didnt work, i
changed the name of the rose picture to one picture that i had, didnt
work.
I would be really thankful if someone are able to help me. Im working
for a multinational company in france, my boss gave this part to me as
a challenge!

thanks
ps: wox's code
CODE:

```
;-----------------------
pro test
path = Filepath(Subdir=['examples', 'data'], 'rose.jpg')
read_jpeg, path, img, /true
img = 0.3*Reform(img[0,*,*]) + 0.59*Reform(img[1,*,*]) +
0.11*Reform(img[0,*,*])

kernelSize = [10,10]
kernel = REPLICATE((1./(kernelSize[0]*kernelSize[1])), $
  kernelSize[0], kernelSize[1])
img2= CONVOL(img, kernel, /CENTER, /EDGE_TRUNCATE)

print,image_equal(img,img2,/outid)
end;pro test
```

```
;-----------------------
function
 image_equal,img1,img2,npix=npix,shifttol=shifttol,Rtol=Rtol, outid=outid
; Image offsets or scales don't matter
; npix: subimage pixels for cross-correlation
; shifttol: subimage shift tollerance
; Rtol: cross-correlation tollerance

s1=size(img1,/dim)
s2=size(img2,/dim)
msize=s1[0]<s1[1]<s2[0]<s2[1]

if not keyword_set(npix) then npix=fix(msize*0.4)>10 ; 40% of the size
npix<=msize

if n_elements(shifttol) eq 0 then shifttol=(msize*0.01)>1 ; 1% of the
size
if not keyword_set(Rtol) then Rtol=0.9

; Subimages in img2
nsub=s2/npix
nx=nsub[0]
ny=nsub[1]
x0=npix*indgen(nx)
x1=[x0[1:*],s2[0]]-1
y0=npix*indgen(ny)
y1=[y0[1:*],s2[1]]-1

; img2 subimages in img1
xoff=lonarr(nsub)
yoff=xoff
xyccor=fltarr(nsub)
if keyword_set(outid) then img2recon=img1*0

; Cross-correlate subimages of img2 with img1
for i=0,nx-1 do $
        for j=0,ny-1 do begin
                sub=img2[x0[i]:x1[i],y0[j]:y1[j]]
                ssub=size(sub,/dim)-1

                ; Number of sub-shifts in img1
                noffx=s1[0]-ssub[0]
                noffy=s1[1]-ssub[1]
                ccor=fltarr(noffx,noffy)

                ; Correlate sub with img1
                for k=0,noffx-1 do $
                        for l=0,noffy-1 do $
```

```
 ccor[k,l]=c_correlate(sub,img1[k:k+ssub[0],l:l+ssub[1]],0)

            ; Sub image offset and cross-correlation
            mccor=max(ccor,moff)
            k=moff mod noffx
            l=moff/noffx

            xoff[i,j]=k
            yoff[i,j]=l
            xyccor[i,j]=mccor

            if keyword_set(outid) then begin
                  img2recon[k,l]=sub
                  print,'Progress: ',(i*ny+j+1.)/(nx*ny)*100,'%'
            endif
      endfor

; Check whether img2 and img1 are equal
bsame=total(xyccor lt Rtol,/pres) eq 0
bsame and= total(rebin(total(xoff,2)/ny,nx,ny)-xoff gt shifttol,/pres)
eq 0
bsame and= total(rebin(reform(total(yoff,1),1,ny)/nx,nx,ny)-yoff gt
shifttol,/pres) eq 0

if keyword_set(outid) then begin
      window
      tvscl,img1,0
      tvscl,img2,1
      tvscl,img2recon,2
      tvscl,img2-img2recon,3

      xyouts,0.1,0.7,'img1',/normal,color=100
      xyouts,0.3,0.7,'img2',/normal,color=100
      xyouts,0.5,0.7,'reconstructed img2',/normal,color=100
      xyouts,0.7,0.7,'img1 - reconstructed img2',/normal,color=100
      isurface,xyccor
endif

return,bsame
end;function image_equal
```