Subject: Re: FG question: retrieve points within polygon
Posted by Helder Marchetto on Thu, 04 Dec 2014 14:32:24 GMT
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On Thursday, December 4, 2014 2:51:28 PM UTC+1, alx wrote:
> On Thursday, December 4, 2014 10:50:42 AM UTC+1, Helder wrote:
>> Hi,
>> I'm looking for an easier way to get the indices inside a polygon or ellipse created in function graphics.
>> So here is a basic example that states what I want to do:
>>
>> ;first generate the graphics
>> img = dist(600)
>> w = window(dimensions=[500,500])
>> im = image(img, current=w)
>> pl = polygon([0.25,0.75,0.75,0.25],[0.25,0.25,0.75,0.75],/norm,ta rget=im)
>> ;make some changes to the polygon
>> pl.rotate, 12
>>
>> ;now extract the mean value of the points of the image that are inside the polygon
>>
>> pl->getData, xx, yy
>> o = obj_new('idlanroi', xx*600d, yy*600d, /double, type=2)
>> mask = o->ComputeMask(dimensions=[600,600])
>> obj_destroy, o
>> pts = where(mask, cnt)
>> meanVal = mean(img[pts])
>> print, 'the mean value inside the polygon is ', meanVal
>>
>>
>>
>> So this method works fine. It's maybe not the most obvious, but works. Now the question is... How do I get the same result for an ellipse?
>> Of course I could calculate the perimeter points of the ellipse and use the same method as above, but that would not really be... well ... cool.
>>
>> Any better way to do this? I couldn't find any FG method to get such info.
>>
>> Thanks,
>> Helder
>
> If you could plot an ellipse with FG, you know its equation from the parameters (center, axes, orientation) you have given in the call. Let it be F(x,y)=0.
> Then the indices of the (x,y) points inside the ellipse are those for which F(x,y) is strictly negative.
> alx.

Hi Alx,

I wanted to avoid doing myself the calculation, but even trying I found that it is not that possible. It seems like the ellipse() function simply generates a polygon() function. Once created, I could not retrieve the center or radius (major or minor) and cannot therefore compute using the ellipse equation. What I can do is use the undocumented getData method as I would for a polygon and then proceed as if it were a polygon.

Still, a mask method would be a nice add to the FG.

Cheers,
Helder
