Subject: pollyfillv, area of a blob, etc...
Posted by JP on Thu, 03 Apr 2008 06:16:04 GMT
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G'day everyone,

I need to create a mask of pixels contained within a polygon. I tried with POLYFILLV, but the problem I have is that my polygons are small compared to the pixel size and in some cases there are no pixel centers within my polygon and POLYFILLV returns -1.

I found the discussions about this, including "POLYFILLV weirdness", "Area of a Blob", etc. For my particular application it doesn't really matter the criteria I use for selecting the pixels, but at least I need to get the array indices for the pixels that "touch" each polygon.

By the way, ENVI's vector to ROI procedure is probably using POLYFILLV as well and I don't get any ROI out of those small polygons.

Any help will be very much appreciated.

JP

Subject: Re: pollyfillv, area of a blob, etc...
Posted by jameskuyper on Fri, 04 Apr 2008 11:03:20 GMT
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JP wrote:
> On Apr 4, 1:16 am, David Fanning <n...@dfanning.com> wrote:
>> I suppose the centroid of the polygon is the average
>> value of it vertices, or maybe the mean if you didn't
>> want to overbias outliers.
>
> I guess you meant "the average value of it vertices, or maybe the
> MEDIAN" ??
>
> In any case, thank you. I didn't realize that the centroid is just the
> mean of the vertices in the two dimensions.

It isn't. David's routine calculates the centroid of the vertices themselves; that's not the same as the centroid of the polygon that they define.

Consider the polygon [[0,0],[1,0],[1,1],[0,1],[0,0.5]]. It's centroid is clearly [0.5,0.5], the same as the one for [[0,0],[1,0],[1,1],[0,1]],

but the vertices have a different average. Taking the mean of the
vertices is at best an approximation.

Subject: Re: pollyfillv, area of a blob, etc...
Posted by David Fanning on Fri, 04 Apr 2008 12:31:24 GMT
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James Kuyper writes:

> Taking the mean of the
> vertices is at best an approximation.

But a pretty darn good one, under the circumstances. :-)

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: pollyfillv, area of a blob, etc...
Posted by pgrigis on Fri, 04 Apr 2008 14:18:51 GMT
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JP wrote:
> G'day everyone,
>
> I need to create a mask of pixels contained within a polygon. I tried
> with POLYFILLV, but the problem I have is that my polygons are small
> compared to the pixel size and in some cases there are no pixel
> centers within my polygon and POLYFILLV returns -1.
>
> I found the discussions about this, including "POLYFILLV weirdness",
> "Area of a Blob", etc. For my particular application it doesn't really
> matter the criteria I use for selecting the pixels, but at least I
> need to get the array indices for the pixels that "touch" each
> polygon.

Then you just need to add to the mask all pixels that contain at least
one vertex and you will have solved your problem with small polygons.

Paolo

>
> By the way, ENVI's vector to ROI procedure is probably using
> POLYFILLV as well and I don't get any ROI out of those small
> polygons.
>
> Any help will be very much appreciated.
>
> JP
