
Subject: Three dimensional Polyfillv

Posted by [twhaw](#) on Tue, 19 Feb 2008 06:54:30 GMT

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Good day.

I have been following this newsgroup for a while and it is really very helpful in solving many problems that I have encountered in IDL programming.

Currently I am writting an IDL procedure to sample some points on the surface of a 3D blob (from a 3D volume). This is later used to construct 3D point distribution model (PDM) of the blob. The PDM is actually a (3, n) array of rectangular coordinates. I would like to reconstruct the blob by using the PDM. To do this, I need the subscripts of the array elements contained inside the PDM. This can be done by using Polyfillv for in the case of 2D array. Is there any similar function for 3D volume?

Your kind assistance in this matter is highly appreciated.

Thank you in advance.

Subject: Re: Three dimensional Polyfillv

Posted by [Spon](#) on Sat, 23 Feb 2008 12:11:53 GMT

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On Feb 19, 6:54 am, twhaw <wooihaw....@gmail.com> wrote:

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> for 3D volume?

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> Thank you in advance.

I'm guessing by the silence that the answer is 'no'. But you could start with SHADE_VOLUME and code up your own function, I suppose.

Chris

Subject: Re: Three dimensional Polyfillv
Posted by [twhaw](#) on Mon, 25 Feb 2008 02:21:07 GMT
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Dear Chris,

Thanks. I guess there is no similar function or routine for 3D.
Anyway, I am evaluating the possibility of using of IDLanROI and other functions.

Many thanks again for your kind response.

Cheers.

On Feb 23, 8:11 pm, Spon <christoph.b...@gmail.com> wrote:

> On Feb 19, 6:54 am, twhaw <wooihaw....@gmail.com> wrote:

>

>

>

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>

> Chris

Subject: Re: Three dimensional Polyfillv

Posted by [David Fanning](#) on Tue, 26 Feb 2008 12:46:31 GMT

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twhaw writes:

> Thanks. I guess there is no similar function or routine for 3D.
> Anyway, I am evaluating the possibility of using of IDLanROI and other
> functions.

I'm wondering if some combination of SEARCH3D and a function to find the inside of a surface volume (I don't know what this would be, exactly) would work.

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: Three dimensional Polyfillv

Posted by [Mike\[2\]](#) on Tue, 26 Feb 2008 19:35:14 GMT

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What if you took your (3,n) values and, for each slice in your data volume, find the subset of the n points that fall on (or near enough to be considered "on") that slice? Then you could use polyfillv on that slice. I haven't done this with quite the data you have, but that is the method that I use to create 3D ROIs out of multiple 2D ROIs.

Mike

Subject: Re: Three dimensional Polyfillv

Posted by [twhaw](#) on Wed, 27 Feb 2008 01:58:28 GMT

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Dear all,

Thanks for your kind replies.

The reason why I can't use the 2D polyfillv is that the points are not sampled as 2D slices in the rectangular coordinate system. Instead, it is instead sampled in the spherical coordinate system (every 5 deg longitudinally) and converted back to rectangular coordinates using CV_COORD. I am sampling the blobs in the spherical coordinate system so that I can get the same number of sample points regardless of the size of the blobs (some are slightly small, some are slightly bigger).

I have checked out IDLanROI. It seems that we can defined a 3D ROI by loading a (3, n) array. Maybe I can throw in my (3, n) array of sample points and check whether a point in the 3D space is inside the ROI. In this way, I might be able to get the points in the volume. But then again, this method might be quite slow.

Many thanks again for your advices.

Cheers.

On Feb 27, 3:35 am, Mike <Michael.Mill...@gmail.com> wrote:

> What if you took your (3,n) values and, for each slice in your data
> volume, find the subset of the n points that fall on (or near enough
> to be considered "on") that slice? Then you could use polyfillv on
> that slice. I haven't done this with quite the data you have, but
> that is the method that I use to create 3D ROIs out of multiple 2D
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>
> Mike
