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Subject: solutions for the nearest neighbour problem in IDL

Posted by [Uwe Nolte](#) on Thu, 10 Jun 1999 07:00:00 GMT

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Hi,  
does anyone know if, there are solutions for the  
nearest neighbour problem in IDL?

Many thanks in advance.

with kind regards,

Uwe Nolte

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Subject: Re: solutions for the nearest neighbour problem in IDL

Posted by [David Foster](#) on Fri, 11 Jun 1999 07:00:00 GMT

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Uwe Nolte wrote:

>  
> Hi,  
> does anyone know if, there are solutions for the  
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>  
> Many thanks in advance.  
>  
> with kind regards,  
>  
> Uwe Nolte

Uwe -

The easiest way to use nearest-neighbor sampling is to compute and/or transform your coordinates first, and then use them to index your original data, using the ROUND() function to give you the "nearest neighbors". An example of this is the following:

```
slice[*] = volume[0 > round(vol_ind[*],0) < (xdim-1), $  
                0 > round(vol_ind[*],1) < (ydim-1), $  
                0 > round(vol_ind[*],2) < (zdim-1)]
```

where SLICE is a 2D array which is "extracted" from VOLUME using transformed coordinates already computed and stored in VOL\_IND.

I've written a C routine that does a special-case nearest-neighbor sampling in which zero-valued voxels are "ignored", avoiding aliasing effects at the interface between zero-valued and non-zero-

valued voxels. Email me if you're interested in it.

Dave Foster

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David S. Foster      Univ. of California, San Diego  
Programmer/Analyst   Brain Image Analysis Laboratory  
foster@bial1.ucsd.edu   Department of Psychiatry  
(619) 622-5892      8950 Via La Jolla Drive, Suite 2240  
                         La Jolla, CA 92037  
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