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
> nearest neighbour problem in IDL?
>
> 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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