

---

Subject: Re: Image warping in IDL

Posted by [Wox](#) on Mon, 20 Nov 2006 09:18:07 GMT

[View Forum Message](#) <> [Reply to Message](#)

---

On Sat, 18 Nov 2006 16:22:56 -0700, Jeff Hester <jhester@asu.edu> wrote:

<snip>

> (1) Set up a grid of points  $x_i$ ,  $y_i$  spanning the image that you want to  
> warp, then transform them into  $\eta_i$ ,  $\xi_i$  in space you are warping  
> into. (This is the transformation that you know how to do.)

>

> (2) Do a least squares fit for some function,  $(x_i, y_i) = F(\eta_i,$   
>  $\xi_i)$  using these sample points.

>

> (3) Do the "reverse" transformation in the standard way, marching  
> through the output ( $\eta$ ,  $\xi$ ) space using  $F()$  to map the regularly  
> gridded coordinates back into the original image.

<snip>

Thanks for your reply. The problem has been solved thanks to JD Smith's comments. However I'm not sure whether I understood the method you described:

[1] You are talking about the input and output tie points? If there was a transformation function for this, is there a point in having step [2]? (Sorry if this sounds stupid, I'm a little confused)

[2] This  $F$  is a function from  $R^2 \rightarrow R^2$ ? I'm always looking at this step as two functions from  $R^2 \rightarrow R$

[3] This was a subquestion I had before. This would be something like having  $y=f(x)$  with  $f$  a polynomial from which you know the coeff. and the evaluate  $x$  for a series of  $y$  (without fitting a second polynomial to  $y$ 's calculated from a chosen series of  $x$ 's, as stated in kuyper's reply).

---