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Subject: Re: x-y offsets

Posted by [Jeremy Bailin](#) on Thu, 20 May 2010 20:11:17 GMT

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> I think once you have a set of plausible distance pairs, it becomes  
> a minimization problem. How about if, once you have a set of  
> possible pairs from the "distogram" reverse\_indices, you construct  
> a function that calculates the total distance squared between  
> all of the pairs and use something like POWELL to minimize it?

To be more specific, I would go with calculating the mean offset  
using the reverse\_indices to get you close, then use  
MATCHALL\_2D using the offset coordinates to get neighbours of  
each x1,y1 pair. Then you can minimize the following function  
for xoff,yoff:

$$\text{Sum}_i ( \min( (x1\_i - x2 + xoff)^2 + (y1\_i - y2 + yoff)^2 ) )$$

where i runs over x1,y1 and the minimization is over all x2,y2  
points that are neighbours of x1\_i,y1\_i.

-Jeremy.

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