Subject: Re: Compute Euclidean distances
Posted by cmancone on Fri, 25 May 2007 14:50:41 GMT
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On May 25, 3:46 am, "lbus...@yahoo.it" <lbus...@yahoo.it> wrote:

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>  Hi all,
>
>      I have the following problem: given an image of about 700000
>  pixels, i need to calculate the distance between each pixel and about
>  150 points of known coordinates. Actually, I'm actually using a simple
>  for loop like that:
>
>                ; map_x = array of east coordinates of each pixel (n =
>  700000)
>                ; map_y = array of north coordinate of each pixel  (n
>  = 700000)
>                ; east = array of east coordinates of the each point
>  (n= 150)
>                ; north = array of north coordinates of the each
>  point  (n= 150)
>                ; dist_pt ="results" array (n = 700000*150)
>                ;
>                for point= 0, n_points-1 do begin
>
>                dist_x =  (map_x - East [point])^2
>                dist_y =(map_y - North [point])^2
>                dist_pt [*,point]  = sqrt ( dist_x + dist_y)
>
>          endfor
>
>  but the processing is quite slow (more than one minute on my PC), so
>  i'd like to ask you if there is a way to increase the speed of the
>  process.
>
>  Thanks in advance for the help,
>
>  Lorenzo Busetto
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hmm... I'm afraid I don't have time for a long winded response at the moment, but I can give you a possibly useful reference. I was trying to solve a very similar problem myself recently, and you can read the discussion here:

http://groups.google.com/group/comp.lang.idl-pvwave/browse_t
hread/thread/629cbb2a852c5371/6ada6d1659bc55a7?hl=en#6ada6d1 659bc55a7

I was trying to match up two lists of stars (x&y positions for both lists). I wanted to find the closest star in list one to each star in list two. In order to do that, I first had to calculate distances between each star, which is exactly what you want. So, that discussion (and the links in it) should give you a good idea of where to get started.