Subject: Re: finding 3rd nearest neighbors in very large data
Posted by JD Smith on Thu, 20 Oct 2005 18:39:38 GMT
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On Thu, 20 Oct 2005 00:56:10 -0700, snfinder@naver.com wrote:

> Hi~!
>
> I read the "My IDL Program Speed Improved by a Factor of 8100!!!"
> (http://www.dfanning.com/code_tips/slowloops.html) I am in the almost same
> situation.
> Although I read that seriously, but I couldn't coding properly for my
> situation.
> My data is 3D data. Therefore each point has x,y and z coordinates. The
> number of points is about 9 million. --; So I had trouble to make array
> for allocate data.
>
> I wanted to use function nearest_neighbors, but I couldn't find how can
> expand triangulate function from 2D to 3D.

I'd follow the link from that page to:

http://www.cs.umd.edu/~mount/ANN/

which is a C++ library for exact and approximate nearest neighbor computation. 3D NN calculations don't typically use a Voronoi diagram (the dual of the Delaunay triangulation I used in the 2D case), but some kind of search tree like a kd-tree. There is an analog to Delaunay triangulation in 3D, called Delaunay tessellation, but I don't think IDL implements it. Rather than attempt to invent this from scratch yourself, you'd probably be better off learning how to use a library created by experts in the field. If you really needed it available in IDL, you could explore linking it in via a DLM.

JD