Subject: Re: Need Some Good Ideas
Posted by dw on Thu, 21 Feb 2002 15:22:58 GMT
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Hi David,

This is almost exactly the same problem I'm working on (except not very skillfully and only part-time....). I found some help in a couple of articles on imaging of snow particles:
Computation of 3D curvatures on a wet snow sample, by Brzoska et al., Eur. Physical Journal, Applied Physics, 7, 45-57, 1999
Three-dimensional snow images by x-ray microtomography by Coleou et al., Annals of Glaciology, 32, 2001, 75-81.

The main idea of their model is to use the medial axes (or alternatively chamfer distances) of the object to locate the normal vectors of the points on the curve and then compute the local curvature in a point as C=ï¿½[(1/R1)+(1/R2)] where R1 and R2 are the radii of curvature of the two planes orthogonal to each other and containing the normal vector to the surface.

So now it just has to coded....
Don't know if this is of help to you? Are you working only in 2D?
Cheers,
Dorthe

David Fanning <david@dfanning.com> wrote in message news:<MPG.16de0d88b1cdeb82989813@news.frii.com>...
> Folks,
>
> Do you have your thinking caps on? I'm looking for
> a few good ideas.
>
> I have a bunch of blobs. (Think spots on the
> Gateway cow.) I would like to analyze the curvature
> and bends in the perimeter of the blobs. I have
> the indices of the points that make up the blob, and
> I have obtained the "perimeter" points by contouring
> the blob. Unfortunately, these perimeter points are
> not evenly distributed. (Think of a blob that has a
> long, straight side. The contour command will put a
> point at either end of the straight bit, so the points
> on that side of the blob are sparse, while the points
> along a tight bend on the other side of the blob
> are dense.)

>
> I say "unfortunately" because we have a method that
> uses the derivative of the perimeter at each point
> and the FFT transform of the derivative distribution,
> but it seems to be giving funny results because of this
> point distribution problem.
>
> Has anyone heard of this kind of curvature analysis
> before? Any pointers to literature? I've heard that
> IDL can be used to solve these kinds of problems. :-)
>
> Thanks,
>
> David
