Subject: Re: Active Contours and Snakes! Oh, my!
Posted by David Fanning on Thu, 04 Dec 2003 15:03:49 GMT
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Haje Korth writes:

> I tested your program and found the subject interesting, too. Presently I
> have no use for the algorithm, but it is always good to know what is out
> there already. Just out of curiosity, which part is crippled. I had some
> trouble snaking the contours directly along the edges. Is that because the
> code is crippled, or did I not play enough with the settings?

Nothing in the snaking algorithm is crippled. I just don't allow you to pass images to the object directly (you have to read images from a file) and I don't allow you to specify the scale factors that would allow you to report contour perimeter and area in physical values. These are reported strictly in pixel values in the demo. Pretty lame crippling (if you enjoy puns).

I'm not sure what you mean by "directly along the edges". In the application I was working with originally (the motivation for building an active contour capability), we first "clipped" the image with a rectangular mask. This resulted in some extremely straight edges, which I thought would be perfect for the algorithm. Not so. The snake almost always undulates in these areas instead of converging on a straight line. These kinds of undulations can be dampened, to some extent, by increasing either the viscosity (the difficulty the snake has moving through the medium), or the elasticity (making it hard to "stretch" the snake).

There is no question you have to play with the parameters. In fact, that is why the darn application got so elaborate. You need an infrastructure that allows you to interact with the algorithm or you are never going to get it right. I really didn't understand what I was doing (the bulk of those 100+ hours) until I had a GUI to play with it.

With some of the snaking algorithms I played with, if you didn't get the snake parameters just right, the snake would zip itself up and disappear! Disconcerting after all those hours making it a pet. :-)

The GVF algorithm was the best of the ones I used

in producing reliable results...well... let me
say *understandable* results most of the time.

Cheers,

David

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