

Image Segmentation by Geodesic Active Contour Model Without Re-initialization

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Abstract : The level set algorithm is an example of a geometric active contour model. Such models begin with a contour in the image plane defining an initial segmentation. The next step is to evolve this contour according to some evolution equation in order to plot the boundaries of image. There are various ways to define the evolution equation; for example, the contour might move with a velocity that depends on the local curvature at a given point. Another idea is to vary the length and surface of initial contour to surround the boundaries of image using gradient information. In this paper, we have used the level set method without re-initialization in order to speed up the evolutionary process. All models introduced in the paper are implemented using Mitchell's toolbox. The results were good; the simulation focused on real images.

Keywords : Surface evaluation, level set without reinitialization, image segmentation.