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Image Segmentation by Geodesic Active Contour Model Without Re-initialization

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Abstract : The level set algorithm is an example of a geometricactive contour model. Such models begin with a contour inthe image plane defining an initial segmentation. The next stepis to evolve this contour according to some evolution equation order to plot the boundaries of image. There are variousways to define the evolution equation; for example, the contourmight move with a velocity that depends on the local curvatureat a given point. Another idea is to vary the length and surfaceof initial contour to surround the boundaries of image usinggradient information. In this paper, we have used the levelset method without re-initialization in order to speed up theevolutionary process. All models introduced in the paper areimplemented using Mitchell's toolbox. The results were good;the simulation focused on real images.

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