



An interactive medical image segmentation system based on the optimal management of regions of interest using topological medical knowledge

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Résumé en anglais	<p>This paper presents an original interactive system for efficient medical image segmentation in computer aided diagnosis. The main originality concerns the method used to manage, according to an a priori topological-based structural model, regions of interest (ROIs) within which computations can be constrained. The goal is then to avoid the processing of irrelevant image points, therefore improving and accelerating segmentations. In the case of a hierarchical modeling procedure, our ROI management method enables, for delineating a given medical structure, to optimally determine image points of interest by taking previously segmented structures into account. We propose a mathematical formulation of the method as well as a possible implementation within an interactive system. We also detail an experience report focussing on the segmentation of several abdominal structures from a CT image. It illustrates the behavior and the potential of our method.</p>
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Liens

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