

Review of the Software Used for 3D Volumetric Reconstruction of the Liver

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Abstract : In medical imaging, segmentation of different areas of human body like bones, organs, tissues, etc. is an important issue. Image segmentation allows isolating the object of interest for further processing that can lead for example to 3D model reconstruction of whole organs. Difficulty of this procedure varies from trivial for bones to quite difficult for organs like liver. The liver is being considered as one of the most difficult human body organ to segment. It is mainly for its complexity, shape versatility and proximity of other organs and tissues. Due to this facts usually substantial user effort has to be applied to obtain satisfactory results of the image segmentation. Process of image segmentation then deteriorates from automatic or semi-automatic to fairly manual one. In this paper, overview of selected available software applications that can handle semi-automatic image segmentation with further 3D volume reconstruction of human liver is presented. The applications are being evaluated based on the segmentation results of several consecutive DICOM images covering the abdominal area of the human body.

Keywords : image segmentation, semi-automatic, software, 3D volumetric reconstruction

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