

Title: Organ Segmentation

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Our goal was to use results presented in Mgr. Václav Krajíček's diploma thesis, who experimented with organ segmentation algorithms, which can be applied to volume measurement in CT data – specially kidneys and lien.

We applied these results during development of practically deployable application, build on the Medv4D framework, which provides intuitive interface for interaction with segmentation algorithms.

We extended original 3D segmentation algorithm, based on 2D B-spline segmentation method, by statistical organ model, which should increase robustness of the mentioned method and decrease number of its parameters.

Model was designed in order to be reusable in other segmentation algorithm.

Keywords: volume data, segmentation, active contours, parametric snakes, volume measurement, optimization, medical imaging, B-splines