

SEGMENT: NEW AI-BASED LV ANALYSIS

Segment version 3.1 is now released and includes a new AI-based LV segmentation algorithm and an improved vessel tracking algorithm.

AI-BASED LV SEGMENTATION ALGORITHM

The new segmentation algorithm is based on machine learning in 1100 patients, and in careful validation show high agreement with reference standard. To make the tool as accessible as possible we provide three different variants dependent on your computer setup according to:

Automatic LV segmentation in all time frames

To run the fully automatic LV segmentation in all time frames, a CUDA enabled NVIDIA graphics card is required. The algorithm runs in less than 10 seconds and provides high quality LV segmentation in all time frames.

Automatic LV segmentation in ED and ES

For those not having a CUDA enabled NVIDIA graphic card, the fully automatic LV segmentation is provided for segmentation in ED and ES. The algorithm then runs in about 1 minute and provides high quality LV segmentation in ED and ES.

Semi-automatic LV segmentation

The semi-automatic algorithm is provided for all computer setups. The user manually selects most basal and most apical slice and bounding box around LV. The algorithm then runs in 5-30 seconds and provides high quality LV segmentation in all time frames.

Guidance how to use the new LV tools is provided in video tutorials and User Manual:

Video tutorial automatic LV analysis: http://medviso.com/tutorial/segmentcmr/SegmentCMR_AILV.mp4

Video tutorial semi-automatic LV analysis:

http://medviso.com/tutorial/segmentcmr/SegmentCMR_LVtools.mp4

Instructions for Use, Chapter 11.2 LV segmentation: <http://medviso.com/documents/segment/manual.pdf>

To access the new features in an optimal way you need a GPU enabled NVIDIA graphics card. Read the full system requirements for Segment here:

<http://medviso.com/documents/segment/SegmentSystemRequirements.pdf>

BATCH LV SEGMENTATION

In Segment there is an option to perform LV segmentation in a batch process. This option enables LV segmentation with the fully automated LV segmentation algorithm in all time frames, independent if there are a CUDA enabled NVIDIA graphics card on the computer or not. You find the tool in the Utility menu in Segment.

IMPROVED VESSEL TRACKING ALGORITHM

The automatic vessel tracking algorithm is updated for improved tracking. You access the algorithm in the same way as before and it provides vessel segmentation in all time frames.

STRAIN ANALYSIS MODULE

In Segment research version there is an additional module for cardiac strain analysis including both feature tracking and tagging analysis in one package. Other features are LV/RV strain analysis, long and short axis strain analysis, batch script analysis, dyssynchrony, and strain rate analysis. Contact sales@medviso.com for a free 2 weeks trial of the module. More information can be found in the Segment Strain brochure: http://medviso.com/wp-content/uploads/Brochures/Strain_brochure.pdf

SEGMENT NEWSLETTER

You are receiving this newsletter since you are registered as a user of the medical image analysis software Segment. The software Segment is brought to you by Medviso AB in close collaboration with Lund Cardiac MR Group, Lund University, Sweden and Region of Scania, Skåne University Hospital. Segment is freely available for research purposes, provided that you properly refer to the software according to instructions on <http://medviso.com/research/how-to-refer/>

Best regards

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