

Accepted Manuscript

Fully-Automatic Left Ventricular Segmentation from Long-Axis Cardiac Cine MR Scans

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PII: S1361-8415(17)30056-7
DOI: [10.1016/j.media.2017.04.004](https://doi.org/10.1016/j.media.2017.04.004)
Reference: MEDIMA 1246



To appear in: *Medical Image Analysis*

Received date: 23 January 2017
Revised date: 10 April 2017
Accepted date: 12 April 2017

Please cite this article as: Rahil Shahzad, Qian Tao, Oleh Dzyubachyk, Marius Staring, Boudewijn P.F. Lelieveldt, Rob J. van der Geest, Fully-Automatic Left Ventricular Segmentation from Long-Axis Cardiac Cine MR Scans, *Medical Image Analysis* (2017), doi: [10.1016/j.media.2017.04.004](https://doi.org/10.1016/j.media.2017.04.004)

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Highlights

- A fully-automatic method for left ventricle segmentation from long-axis cine cardiac MR data is presented and extensively validated.
- A combination of atlas-based and spatio-temporal registration approaches is used to accurately segment the left ventricle from cine MR sequence.
- Usage of probabilistic tissue maps in the preprocessing step improves the multi-atlas-based segmentation accuracy.
- Contour refinement steps that make use of local image intensity information further improves the segmentation accuracy.
- Fully-automatic left ventricle segmentation from horizontal and vertical long-axis scans enables accurate and fast analysis of the cardiovascular function.

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