Supervised classification of 3D left ventricle shapes to detect Myocardial infarction.

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Abstract. Abstract

Keywords: statistical shape model,myocardial infarction, left ventricle, random forest

1 Introduction

Impact of cardiovascular disease on world health Cardiovascular disease*mention myocardial infarction in particular*

*talk about how ejection fraction is the standard way of assessing function*We look to improve on this and see how properties of the shape that are not related to ejection fraction directly can help classify.
relevance of being able to classify hearts with infarction *remodelling of the heart after MI*

2 Method

2.1 Volume calculations

Myocardium thickness

Endocardium and epicardium volumes

Ejection fractions

Mesh areas

2.2 Statistical shape model

General Procrustes analysis

Principal component analysis

2.3 Classification

Random forests

Fig. 1.

3 Results

Bullseye plots

3.1 Classification

Graph of feature importance
Graph of classification error

4 Conclusion

5 Discussion

References