

# Segmenting The Left Ventricle Tissues In SPECT Images By Means Of Image Registration Software Programmes

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## Abstract

**Background:** The diagnosis, assessment, and monitoring of the treatment of cardiac diseases have all been done using medical imaging extensively. An important part of evaluating the morphology and physiological state of cardiac tissues is nuclear medicine imaging. The effectiveness of the left ventricular muscles was assessed by employing series of gated studies (rest and stress tests).

**Methods:** In this study, cardiac tissues were segmented and the left ventricular dysfunction was measured using a semi- and fully automated registration approach.

**Conclusion:** The authors are appreciative for the funding for this work, which was supplied by Majmaah University's Deanship of Scientific Research. No declared conflicts of interest existed that could have impacted this article.

## Discussion

This experimental study's objective was to describe cardiac illnesses in Sudan using image processing in conjunction with other methods. When contrasted to the original data, linear interpolators produce visually unsettling distortions. The B-spline interpolator generated the best results and was the most accurate of the three interpolators due to the curve fit and interactive curve design. The system has a respectable capacity for abnormality identification, with a detection rate of roughly 70%, according to Bayesian classification. According to the system's accuracy and precision properties, myocardial illnesses may be accurately diagnosed in 83% and 88% of cases, respectively. Each step of the process, especially the capture of picture templates and patient photographs, has been visually reviewed and is adjustments should be made to achieve an average error rate of 12.4%, which is

more likely to be recognised as having variability. Due to the classifier's high specificity and accuracy, it is essential to enhance image gathering methods in order to increase sensitivity while reducing calculation time. This is crucial for raising the classifier's sensitivity and error rate.

## Conclusions

The Deanship of Scientific Research at Majmaah University provided money for this study, which the authors are grateful for. There were no declared conflicts of interest that would have affected this article.

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