

Deep Generative Models to Enhance
Segmentation of 2-dimensional Echocardiography
Images

William Hewitt

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1 Background

Two-dimensional echocardiography plays a critical role in the clinical routine as a low-cost, non-radiating and non-invasive method of assessing cardiac structure and function. The analysis of echocardiography generally involves the extraction of clinical measures, generally by manual or only semi-automated techniques.

An example of one such clinical measure is left ventricular ejection fraction (LVEF), a ratio between the volume of the heart at End Systole (ES) and End Diastole (ED). Heart volume measurements rely on the accurate segmentation of the left ventricular myocardium, from the left ventricular cavity, at both ES and ED. In the present typical clinical routine, these segmentations are made manually by clinicians leading to poor accuracy and a lack of reproducibility of measurements between readers.

2 Literature Review

3 Methods

4 Results and Discussion

5 Conclusion

6 Ethics