

Cardio-Spatial Profile Extraction using Optical Flow of Echocardiographic Images

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Abstract—Detection of cardiac movement is very important subject on cardiac image analysis. Cardiologist needs an accurate motion estimation to diagnose the abnormality of cardiac. In this paper, we present the utilization of optical flow technique to estimate the myocardial motion. Then the computed motion vectors are used to provide the cardiac profile, such as its displacement and direction. The proposed implementation provides real-time movement profiles of cardiac with a precision up to 0.11 pixel / 22.50° for their displacements / motion orientations.

Index Terms—Optical flow, myocardial movement, cardiac profile, echocardiography.