

Abstract

Image Segmentation is an important process in image processing that can be use in medical images analysis to getting an effective and accurate diagnosis. In segmentation process, there are several techniques that can be used. This final project used Watershed and Region Merging method to find fetus region on ultrasound images with fetus length and age for the last result. This process analysis had done by using quantitative and qualitative test. Therefore, Quantitative test is done by counting the similarity distance between the ultrasound image from segmentation with ultrasound image from doctor. And Mean Opinion Score for the qualitative test. Watershed is one of the right methods to segment ultrasound images. In spite of that, the weakness in Watershed are the over segmented result. These problems can be solve by using the color quantization and multiscale morphological gradient for the pre-segmentation and Region Merging for the post-segmentation.

Keywords: *watershed, region merging, segmentation, ultrasound, multiscale morphological gradient, quantization.*