

Variational Level Set Algorithm in Image Segmentation for Foetus Ultrasound Imaging System

Abstract

Segmentation on ultrasound image is difficult when the image is not clear and contains unwanted noise. Since the object to be segmented out can be changing in shape for a period of time, there is a need to apply a computerised segmentation method for future analysis without any assumptions about the object's topology is made. In general, when performing pregnancy ultrasound scanning, seeking a snapshot with best position or angle of the foetus is often a task done by obstetrician. This snapshot is useful for the obstetrician to locate the crown and the rump of the foetus for specific measurement. In this paper, a computerized segmentation using variational level set algorithm (VLSA) is proposed here. Results showed the variational level set contour evolved well on the low contrast and noise consisting ultrasound image.