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CONTOUR ESTIMATION OF FETAL BIOMETRY BY USING WAVELET BASED MLE

U. D. TAPI[1] AND AARTI SHARMA[2]
[1] SGSITS 23, Park Road, Indore, India
[2] Acropolis Institute of Technology and Research
Mangliya By-pass, Indore, India

Abstract

This article describes a new method for the automatic segmentation of fetal anatomic structures from ultrasound images. More specifically, we estimate the contours of the femur and of cranial cross-sections of fetal bodies.Contour estimation is formulated as a statistical estimation, where both the contour and the observation model parameters are unknown.This observation model(or likelihood function)is derived from a region-based image model using wavelet.This method provides completely automatic segmentation of head and femur parameters and contours according to the maximum likelihood estimation(MLE) criterion, via unsupervised deterministic iterative algorithms.

Key Words : *Fetal biometry, Maximum likelihood estimation (MLE), Wavelets.*

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