Abstract

Ultrasound is one of the most popular medical imaging technologies that can help a physician evaluate, diagnose and treat medical conditions. Although ultrasound imaging is generally considered good medical tool but the overall detection rate of Congenital Heart Defects (CHD) using ultrasound image remain anomic. Congenital Heart Defects are the heart problem that occurs before birth. Recognizing Congenital Heart Defects at right time is a difficult task for Physicians due to lack of subject specialists or inexperience with the previous cases or even as the children they can’t express their problem in a proper way. In order to improve the diagnosis accuracy and to reduce the diagnosis time, it has become a demanding issue to develop an efficient and reliable medical Decision Support System. Hence machine learning approaches such as neural networks have shown great potential to be applied in the development of medical Decision Support System for Heart Disease. Fetal anomaly detection mainly carried out in four steps. Noise removal, segmentation, feature extraction and classification.

References
Engineering in Medicine,Vol. 223, PP. 1-10, June 2009
C. Reiber, “Automatic segmentation of echocardiographic sequences by active appearance
analysis and malignancy evaluation of ovarian masses using B-scans,” Ultrasound Med. Biol.,
vol. 29, no. 11, pp. 1561–1570, 2003
Processing, 36(4-5):1618–1627, 1988
ofventricular size and contractility during the second and third trimesters of pregnancy in the
7. E. Dougherty. An Introduction to Morphological Image Processing. SPIE Optical
Engineering Press, Bellingham, Wash., USA, 1992
9. V. Ravi H.-J. Zimmermann “Fuzzy rule based classification with FeatureSelector and
modified threshold accepting” Lehrstuhl Unternehmensforschung, RWTH, Templergraben 64,
D-52056, Aachen, Germany Received 8 September 1998; accepted 22 December 1998
10. I. Nedeljkovic “Image Classification Based On Fuzzy Logic” MapSoft Ltd, Zahumska 26
11000 Belgrade, Serbia and Montenegro Commission VI, WG VI/1-3
International Journal of Soft Computing and Engineering (IJSCE) ISSN: 2231-2307, Volume-3,
Issue-4, September 2013 84
38, January, 2012
13. Vanisree K, “Decision Support System for Congenital Heart Disease Diagnosis based on
Signs and Symptoms using Neural Networks “,International Journal of Computer Applications
(0975 – 8887) Volume 19– No.6, April 2011
14. R. Sivakumar “Comparative study of Speckle Noise Reduction of Ultrasound B-scan
Images in Matrix Laboratory Environment” International Journal of Computer Applications (0975
– 8887) Volume 10– No.9, November 2010
15. Marcelo de Carvalho Alves, Edson Ampélio Pozza , João de Cássia do Bonfim Costa,
Luíz Gonsaga de Carvalho , Luciana Sanches Alves ,”Adaptive neuro-fuzzy inference systems
for epidemiological analysis of soybean rust”, Environmental Modelling & Software 26
1089-1096,2011.
Image Denoising Based on Curvelet Threshold”, IJCSNS International Journal of Computer
17. FU Z L. “Some New Methods for Image Threshold Selection.” Computer Application,
Fetal Anomaly Detection in Ultrasound Image


Index Terms

Computer Science

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Keywords

Congenital Heart Defects, Morphological operations, Speckle noise, Ultrasound image, neural network.