Abstract

Apgar scoring is a method which is a fast and an effective way of understanding whether newborn babies are healthy or not. Any intervention to the baby such as resuscitation or intubation is done, if necessary, after evaluating the Apgar score and examining various physiological data. Shortening the response time for medical support is vitally important for babies. In this study, the physiological data gathered from mother and fetus along with the features extracted from FHR (fetal heart rate) and UC (uterus contraction) signals were examined in order to determine whether the newborn will have any immediate problems that will need medical support before the baby was actually born and a study towards Apgar scoring was made. There were two classes (intervention, non-intervention) used in this study. Data was analyzed by using Mann-Whitney U test. The classes were compared in terms of statistical data, FHR and UC signals and according to the obtained the results, intervention and non-intervention classes have been shown to have a significant difference for 5 extracted features. However, no significant changes have been detected in other features.
Statistical Investigation of the Effects of Fetal Heart Rate (FHR) and Uterine Contractions (UC) Signals on Apgar

- J. Fu, N. Li, L. Li, R. Luo and Q. Zhou, The Obtainment of Particle Shape Factor by the Combination of Experimental Data and Fluid-particle Reaction Model, Powder Technology, 2015.
- A. Georgieva, S. J. Payne, M. Moulden and C. W. G. Redman, Artificial Neural Networks Applied to Fetal Monitoring in Labour, Neural Computing and

Index Terms

Computer Science
Signal Processing

Keywords
Apgar Score; Cardiotocography; Fetal Heart Rate (FHR); Uterine Contraction (UC); Mann-Whitney U Test.