Idea/Approach Details

Technology Bucket : Healthcare & Biomedical Devices
Company Name/ Ministry Name: IndiaNeoDesigns
Team Leader Name : Adwait Thattey

Category: Software
Problem Code : AR2
College Code : U-0760

In order to classify into normal/ distressed, we will use ML algorithms like SVM as baseline, and then try to train a complex deep learning architecture.
Example : CNN to extraxt features followed by LSTM followed by few fully connected layers. We will finetune the hyper-paramenters. LSTM will work because it has been shown to perform very well on time series data.

Python3 , keras, sklearn , tensorflow, django

Idea / Approach details

Cardiotocography is one of the most widely used technique for recording changes in fetal heart rate (FHR) and uterine contractions. Assessing cardiotocography is crucial in that it leads to identifying fetuses which suffer from lack of oxygen, i.e. hypoxia. This situation is defined as fetal distress. Hence, a computer-based approach for analyzing cardiotocogram including diagnostic features for discriminating a pathologic fetus would help prevent fetus death or other neurological disease caused by hypoxia

The dataset mentioned in the problem statement is not annotated, and so, getting the ground truth labels will be a challenge. There is no other data which we can use, so getting the labels is very important, because we can’t build the classifier otherwise.