MLDS Project Proposal

Fetal Health Classification

Mentors:

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Background

Fetal health is a critical aspect of pregnancy that requires constant monitoring to ensure a successful outcome. Several factors can affect fetal health, including maternal health, genetics, and environmental factors. Fetal monitoring typically involves regular ultrasound scans and fetal heart rate monitoring. However, the accuracy of these methods can be limited, and some conditions may not be detected until it is too late. Therefore, there is a need for more accurate and efficient methods for fetal health monitoring.

The dataset used in this project is a collection of fetal health signals obtained from cardiotocogram (CTG) exams. The dataset includes 2,126 records, with each record containing accelerations, decelerations, and baseline FHR values. The data is classified into three classes: Normal, Suspect, and Pathological, based on the fetal health status.

Objectives

The objective of this project is to develop a model that can accurately classify fetal health status based on the signals obtained from CTG exams. The model should be able to identify fetal distress accurately and efficiently, reducing the need for unnecessary interventions and improving pregnancy outcomes. The model could be a reliable and automated tool for fetal health monitoring, improving the quality of care provided to pregnant women and their unborn children.

Data Link

https://www.kaggle.com/datasets/andrewmvd/fetal-health-classification