Model Development Phase Template

Date	10 JULY 2024
Team ID	FACULTY
Project Title	Fetal AI: Using Machine Learning To Predict And Monitor Fetal Health.
Maximum Marks	5 Marks

Feature Selection Report Template

In the forthcoming update, each feature will be accompanied by a brief description. Users will indicate whether it's selected or not, providing reasoning for their decision. This process will streamline decision-making and enhance transparency in feature selection.

Feature	Description	Selected (Yes/No)	Reasoning
Baseline Value	The normal value of a fetal heart rate.	Yes	Allows for tracking of changes and detection of deviations from normal.
Accelerations	Increases in fetal heart rate.	Yes	Monitoring fetal heart rate to identify potential distress.
Fetal Movement	The baby's movement in the womb.	Yes	Used to assess fetal well-being.
Uterine Contractions	Muscle tightness in the uterus during labor.	Yes	Detect potential complications.
Light Decelerations	Temporary decreases in fetal heart rate.	Yes	Early indication of any issues.
Severe Decelerations	More significant and prolonged decreases in fetal heart rate.	Yes	Early indication of any issues and complications.

Prolonged Decelerations	Decreases in fetal heart rate lasting more than 2 minutes.	Yes	Representing the central tendency of the distribution, such as the average fetal heart rate or birth weight.
Abnormal Short-Term Variability	Changes in fetal heart rate over a short period.	Yes	Use to relate to the distribution of fetal heart rate values
Mean Value Of Short-Term Variability	Average changes in fetal heart rate over a short period.	Yes	Use to relate to the distribution of fetal heart rate values, providing insights into the data's shape and characteristics.
Percentage Of Time With Abnormal Long-Term Variability	Percentage of time with changes in fetal heart rate over a longer period.	Yes	Use to relate to the distribution of fetal heart rate values, providing insights into the data's shape and characteristics.
Mean Value Of Long-Term Variability	Average changes in fetal heart rate over a longer period.	Yes	Use to relate to the distribution of fetal heart rate values, providing insights into the data's shape and characteristics.
Histogram Width	Refer to the range or distribution of fetal health data, fetal heart rate or growth measurements	Yes	A narrower histogram is normal range of values, while a wider is a greater variability or deviation from normal fetal health parameters.
Histogram Min, Max	Refers to the minimum and maximum values in the dataset, representing the range of the data.	Yes	The lowest and highest fetal heart rates or birth weights recorded.
Histogram Number Of Peaks	Refers to the count of distinct maximum values , indicating the number of dominant features or patterns in the data.	Yes	Representing different fetal health characteristics or outcomes.
Histogram Number Of Zeroes	Refers to the count of data points or values that fall exactly at zero.	Yes	Indicating zero fetal movement or zero abnormality detected.

Histogram Mode, Histogram Median,	When sorted in order both describing central tendencies of the data, like typical fetal heart rate or birth weight.	Yes	Mode: Most frequent value, Median: Middle value of the dataset
Histogram Variance	Dispersion from the mean value.	Yes	Measure of data spread
Histogram Tendency	Refers to the direction or inclination of the data distribution	Yes	Tendency for fetal growth to be above or below average.
Histogram Mean	Refers to the average value of the data points in the histogram,	No	Not required.
Fetal Health	Refers to the overall well-being and condition of a developing fetus during pregnancy, encompassing physical, emotional, and developmental aspects, such as growth, development, and vital signs.	Yes	The target variable for predictive modeling is essential for the project's Goal.