

### Model Development Phase Template

Date	05-07-2024
Team ID	739733
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
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accelerations	Acceleration is the rate at which an object's velocity changes over time.	Yes	It measures how quickly an object's velocity changes over time.
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fetal_movement	Movements of the fetus in the womb; indicates fetal activity and health.	Yes	Monitoring these movements helps assess the well-being and development of the fetus.
uterine_contractions	Muscle contractions of the uterus; indicate labor or prelabor activity	Yes	Tracking contractions helps in managing labor and diagnosing potential complications.
light_decelerations	Brief reductions in fetal heart rate; usually benign.	Yes	These typically indicate minor stress or a normal fetal response.
severe_decelerations	Significant drops in fetal heart rate; indicate potential distress.	Yes	These are concerning and require immediate medical attention to prevent fetal harm.

prolonged_decelerations	Sustained drops in fetal heart rate; suggest serious issues.	Yes	Prolonged decelerations can indicate fetal hypoxia or other critical conditions.
abnormal_short_term_variability	Unusual fluctuations in fetal heart rate; indicates potential distress.	Yes	Abnormal variability can be a sign of fetal compromise requiring further evaluation.
mean_value_of_short_term_variability	Average of shortterm fluctuations in fetal heart rate; assesses overall heart rate stability.	Yes	This metric helps evaluate fetal autonomic nervous system function and overall well-being.

percentage_of_time_with_abnormal_long_term_variability	Proportion of time fetal heart rate shows abnormal fluctuations; indicates fetal distress.	Yes	Prolonged abnormal variability suggests potential chronic fetal issues needing intervention.
histogram_min	Lowest value in a data set; shows the minimum data point.	Yes	Indicates the lowest observed measure in the dataset, useful for range analysis.

histogram_max	Highest value in a data set; shows the maximum data point.	Yes	Indicates the highest observed measure in the dataset, important for range analysis.
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histogram_number_of_peaks	Number of modes in the data set; indicates data distribution complexity.	Yes	Multiple peaks can signify multimodal distributions or various data clusters.
histogram_number_of_zeroes	Frequency of zero values in the data set; indicates data sparsity.	Yes	High zeros can indicate frequent null or baseline readings.
histogram_mode	Most frequent value in a data set; represents the data's central tendency.	Yes	Indicates the most common occurrence in the dataset, useful for understanding predominant values.
histogram_mean	Average value of data points.	Yes	Indicates the central level of the data.

histogram_median	Middle value of sorted data points.	Yes	Provides a central value less affected by outliers.
histogram_variance	Measure of data spread around the mean.	Yes	Indicates the variability of the data.
histogram_tendency	Overall pattern or trend of the data distribution.	Yes	Helps identify the nature and shape of the distribution.
baseline	The baseline is the initial standard or reference point for measurements and comparisons	Yes	It serves as a starting reference point for comparing data.

Fetal health

Fetal health refers to the condition and development of a fetus during pregnancy, assessed through medical evaluations.

The target variable for predictive modeling – is essential for the project's goal.