Model Development Phase Template

Date	27th July 2024
Team ID	739919
Project Title	FETAL AI: USING MACHINE LEARNING TO PREDICT AND MONITOR FETAL HEALTH
Maximum Marks	5 Marks

Feature Selection Report Template

This report outlines the feature selection process employed for the Fetal AI project, focusing on the identification of the most relevant variables to enhance predictive accuracy and model performance. By utilizing advanced statistical methods and machine learning techniques, we have narrowed down the features to those that provide the greatest contribution to fetal health predictions. This strategic selection not only improves computational efficiency but also aids in better interpretability and clinical applicability.

Feature	Description	Selected (Yes/No)	Reasoning
Heart Rate	The fetal heart rate measured in beats per minute	Yes	Strong predictor of fetal well-being
Uterine Contractions	Number and intensity of uterine contractions	Yes	Correlates with labor progress and fetal stress
Fetal Movement	Frequency and intensity of fetal movements	Yes	Indicative of fetal health and activity levels
Maternal Blood Pressure	Mother's blood pressure during pregnancy	No	Less direct impact on fetal condition in model context
Amniotic Fluid Index	Volume of amniotic fluid surrounding the fetus	Yes	Critical for assessing fetal environment
Gestational Age	Age of the fetus in weeks	Yes	Essential for contextualizing other measurements

Smoking Status	Whether the mother smokes during pregnancy	No	Indirect effect, already accounted for by other features
Fetal Position	Position of the fetus within the womb	Yes	Affects delivery method and fetal stress levels
Placental Location	Location of the placenta within the uterus	No	Not a strong direct predictor of immediate fetal health
Maternal Age	Age of the mother at the time of delivery	No	Lesser direct impact compared to other physiological factors