Model Development Phase Template

Date	27th July 2024
Team ID	739822
Project Title	FETAL AI:USING MACHINE LEARNING TO PREDICT AND MONITOR FETAL HEALTH
Maximum Marks	6 Marks

Model Selection Report

The model selection process for Fetal AI involved comparing various algorithms, including logistic regression, random forest, and neural networks, to determine the most effective model for predicting fetal health outcomes. The random forest model was chosen based on its superior accuracy, interpretability, and ability to handle complex interactions among features, making it well-suited for clinical applications.

Model Selection Report:

Model	Description	Hyper parameters	Performance Metric (e.g., Accuracy, F1 Score
Random Forest	Random Forest is an ensemble learning method that constructs multiple decision trees and combines their outputs for improved accuracy and reduced overfitting in classification and regression tasks.	-	

Decision Tree	Decision Tree is a machine learning model that splits data into branches based on feature values, making decisions at each node until a final classification or regression outcome is reached.	-	For the amounts of training data is: 3474 Accuracy of DecisionTreeClassifier: 0.9184952978056427
Logistic regression	Logistic regression is a statistical method used for binary classification tasks, where it predicts the probability that a given input belongs to a particular category. By applying a logistic function to a linear combination of input features, it models the relationship between the dependent binary variable and one or more independent variables.	-	For the amounts of training data is: 3474 Accuracy of LogisticRegression: 0.7899686520376176