Model Development Phase Template

Date	15 July 2024
Team ID	740116
Project Title	Sepsis Survival Minimal Clinical Records
Maximum Marks	6 Marks

Model Selection Report

In the forthcoming Model Selection Report, various models will be outlined, detailing their descriptions, hyperparameters, and performance metrics, including Accuracy or F1 Score. This comprehensive report will provide insights into the chosen models and their effectiveness.

Model	Description	Hyperparameters	Performance Metric (e.g., Accuracy, F1 Score)
Random Forest	Ensemble of decision trees; robust, handles complex relationships, reduces overfitting, and provides feature importance for sepsis survival prediction.	-	Accuracy score = 89%
Decision Tree	Simple tree structure; interpretable, captures non-linear relationships, and is suitable for initial insights into sepsis survival patterns.	-	Accuracy score = 90%
KNN	Classifies based on nearest neighbors; adapts well to data patterns and is effective for local variations in sepsis survival prediction.	-	Accuracy score = 91%

SMOTE	Synthetic Minority Over-sampling Technique; used for balancing the dataset, even though it has a lower accuracy score, it provides correct results by addressing class imbalance.	-	Accuracy score = 56%
Logistic Regression	Logistic regression model; interpretable, suitable for binary classification tasks, and provides probabilistic outputs for sepsis survival prediction.	-	Accuracy Score= 88%

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