Model Optimization and Tuning Phase Template

Date	14 July 2024
Team ID	739963
Project Title	Blood Donation Prediction
Maximum Marks	10 Marks

Model Optimization and Tuning Phase

The Model Optimization and Tuning Phase involves refining machine learning models for peak performance. It includes optimized model code, fine-tuning hyperparameters, comparing performance metrics, and justifying the final model selection for enhanced predictive accuracy and efficiency.

Hyperparameter Tuning Documentation (6 Marks):

Model	Tuned Hyperparameters	Optimal Values
Logistic Regression	-	-
Random Forest	-	-
Support Vector Machine	-	-

Performance Metrics Comparison Report (2 Marks):

Model	Optimized Metric
Logistic Regression	-
Random Forest	-
Support Vector Machine	-

Final Model Selection Justification (2 Marks):

Final Model	Reasoning
Logistic Regression	The Logistic Regression model was selected for its superior performance, exhibiting high accuracy during accuracy. Its ability to handle complex relationships, minimize overfitting, and optimize predictive accuracy aligns with project objectives, justifying its selection as the final model.