

ModelDevelopmentPhase

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TeamID	LTVIP2025TMID41362
ProjectTitle	RevolutionizingLiverCare:PredictingLiver CirrhosisUsingAdvancedMachineLearning Techniques.
MaximumMarks	

ModelSelectionReport

In the forthcoming Model Selection Report, various models will be outlined, detailing their descriptions,hyperparameters,andperformancemetrics,includingAccuracyorF1Score.This comprehensive report will provide insights into the chosen models and their effectiveness.

ModelSelectionReport:

Model	Description	Hyperparameters	Performance Metric (e.g., Accuracy,F1 Score)
Logistic Regression	Alinearmodelforbinaryclassification, effective for datasets where classes are linearly separable.	-	79.47 %

Logistic Regression CV	Logistic regression with built-in cross-validation, optimizes regularization parameter.	cv=5	86.49%
Naive Bayes	A probabilistic classifier based on Bayes' theorem, assumes feature independence.	-	35.79%
XGBoost	Gradient boosting with trees, optimizes predictive performance, handles complex relationships.	-	35.79%
Ridge Classifier	Linear classifier with L2 regularization, helps to prevent overfitting.	-	84.21%
Random Forest	Ensemble of decision trees, robust, handles complex relationships, reduces overfitting, provides feature importance.	-	38.21%
Support Vector Classifier	Classifier using hyperplanes to separate classes, effective for high-dimensional spaces.	-	35.79%
K-Nearest Neighbors (KNN)	Classifies based on nearest neighbors, adapts well to data patterns, effective for local variations.	n_neighbors=<best_param>	86.32%