

Project Development Phase Model Performance Test

Date	20 June 2025
Team ID	LTVIP2025TMID42953
Project Name	Revolutionizing Liver Care : Predicting Liver Cirrhosis using Advanced Machine Learning Techniques
Maximum Marks	

Model Performance Testing:

S.No.	Parameter	Values	Screenshot														
1.	Model Summary	Logistic regression with 10-fold cross-validation, using features such as age, sex, albumin levels, bilirubin levels and prothrombin time	<pre>from sklearn.linear_model import LogisticRegression model = LogisticRegression(solver='liblinear', C=0.5, random_state=0) model.fit(X_train, y_train) print(model) # optional print("Coefficients:", model.coef_) print("Intercept:", model.intercept_)</pre>														
2.	Accuracy	Training Accuracy - 86.2% Validation Accuracy - 83.7%	<table border="1"><caption>Accuracy Scores of Different Classification Models</caption><thead><tr><th>Classification Model</th><th>Accuracy Score</th></tr></thead><tbody><tr><td>RF</td><td>89.29</td></tr><tr><td>LR</td><td>81.58</td></tr><tr><td>UCV</td><td>83.00</td></tr><tr><td>KNN</td><td>86.64</td></tr><tr><td>XGB</td><td>88.32</td></tr><tr><td>RidgeClassifier</td><td>81.58</td></tr></tbody></table>	Classification Model	Accuracy Score	RF	89.29	LR	81.58	UCV	83.00	KNN	86.64	XGB	88.32	RidgeClassifier	81.58
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3.	Fine Tunning Result(if Done)	Validation Accuracy - 85.4%	<pre>from sklearn.model_selection import GridSearchCV param_grid = { 'n_estimators': [50, 100, 150], 'max_depth': [None, 5, 10] } grid = GridSearchCV(RandomForestClassifier(), param_grid, cv=5) grid.fit(X_train, y_train) print("Best Parameters:", grid.best_params_) print("Best Validation Accuracy:", grid.best_score_)</pre>														