

Project Development Phase
Model Performance Test

Date	19 November 2022
Team ID	PNT2022TMID31229
Project Name	Statistical Machine Learning Approaches To Liver Disease Prediction
Maximum Marks	10 Marks

Model Performance Testing:

Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Values	Screenshot																														
1.	Metrics	<p>Classification Model:</p> <p>Confusion Matrix -</p> <pre>[[130 11] [43 9]]</pre> <p>Accuracy Score- 72%</p> <p>Classification Report -</p> <table><tr><td></td><td>precision</td><td>recall</td><td>f1-score</td><td>support</td></tr><tr><td>0</td><td>0.75</td><td>0.92</td><td>0.83</td><td>141</td></tr><tr><td>1</td><td>0.45</td><td>0.17</td><td>0.25</td><td>52</td></tr><tr><td>accuracy</td><td></td><td></td><td>0.72</td><td>193</td></tr><tr><td>macro avg</td><td>0.60</td><td>0.55</td><td>0.54</td><td>193</td></tr><tr><td>weighted avg</td><td>0.67</td><td>0.72</td><td>0.67</td><td>193</td></tr></table>		precision	recall	f1-score	support	0	0.75	0.92	0.83	141	1	0.45	0.17	0.25	52	accuracy			0.72	193	macro avg	0.60	0.55	0.54	193	weighted avg	0.67	0.72	0.67	193	Attached below
	precision	recall	f1-score	support																													
0	0.75	0.92	0.83	141																													
1	0.45	0.17	0.25	52																													
accuracy			0.72	193																													
macro avg	0.60	0.55	0.54	193																													
weighted avg	0.67	0.72	0.67	193																													
2.	Tune the Model	<p>Hyperparameter Tuning - GridSearchCV</p> <p>Validation Method - GridSearchCV, XGBClassifier</p> <p>Accuracy after Hyperparameter Tuning- 76%</p>	Attached below																														


```
{'n_estimators': 30},
{'n_estimators': 40},
{'n_estimators': 50},
{'n_estimators': 60},
{'n_estimators': 1000},
{'n_estimators': 5000},
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0.58974359]),
'split1_test_score': array([0.66666667, 0.58974359, 0.53846154, 0.61538462, 0.71794872,
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'split3_test_score': array([0.64102564, 0.66666667, 0.76923077, 0.74358974, 0.84615385,
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```

Accuracy After Hyperparameter Tuning :

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'std_fit_time': array([0.00157073, 0.00228115, 0.00260054, 0.01041249, 0.0059753 ,
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```

```
[ ] f*100
```

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75.64766839378238
```