Project Development Phase Model Performance Test

Date	18 November 2022	
Team ID	PNT2022TMID22689	
Project Name	Smart Lender - Applicant Credibility Prediction	
	for Loan Approval	
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	Classification Model: Confusion Matrix: Col_0 Loan_Status 1 0 0 52 0 1 15 118	pd.crosstab(ytest,ypredR) col_0 0 1 Loan_Status
			0 52 0
		Accuracy Score: Random Forest Model Testing Accuracy: 0.918918918918919	1 15 118
		Random Forest Model Training Accuracy: 0.9300699300699301	<pre>print("Random Forest Model Testing Accuracy") print(accuracy_score(ytest,ypredR)) print("Random Forest Model Training Accuracy") print(accuracy_score(ytrain,ypred2R))</pre>
		Classification Report: precision recall f1-score support	Random Forest Model Testing Accuracy 0.918918918918919 Random Forest Model Training Accuracy 0.9300699300699301
		0 0.78 1.00 0.87 52 1 1.00 0.89 0.94 133	
		accuracy 0.92 185 macro avg 0.89 0.94 0.91 185 weighted avg 0.94 0.92 0.92 185	precision recall f1-score support 0 0.78 1.00 0.87 52 1 1.00 0.89 0.94 133 accuracy 0.92 185 macro avg 0.89 0.94 0.91 185 weighted avg 0.94 0.92 185

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2.	Tune the Model	Hyperparameter Tuning:	<pre>Rmodel=RandomForestClassifier(n_estimators=100)</pre>
	No tuning is necessary as we have more than 90% accuracy. Parameters used:	No tuning is necessary as we have more than 90% accuracy.	Rmodel.fit(x_res,y_res) RandomForestClassifier()
		<pre>ypredR=Rmodel.predict(xtest)</pre>	
		n_estimators=100	<pre>ypred2R=Rmodel.predict(xtrain)</pre>
		Validation Method: In-Simple Validation	<pre>print("Random Forest Model Testing Accuracy") print(accuracy_score(ytest,ypredR)) print("Random Forest Model Training Accuracy") print(accuracy_score(ytrain,ypredZR))</pre>
			Random Forest Model Testing Accuracy 0.918918918918919 Random Forest Model Training Accuracy 0.9300699300699301
			demons, and separate and seed, splitting, seed, stated a seeman, raterials depth Seed)
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			415 1 0 1 0 77263 20310 1930 2640 10 C
			1889 1 1 0 0 1 634 52960 19800 3660 1.0 C
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			286 1 0 0 0 0 3150 2050 1300 1300 1300 1300 1300 1300 1300 1
			482 1 1 0 0 6 2000 2100 1200 3000 1002000 1
			699 1 0 0 0 4503 19110 1850 3630 1,000000