

## Project Development Phase Model Performance Test

Date	10 November 2022
Team ID	PNT2022TMID18010
Project Name	Project – Smart Lender
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	<div><div>Classification Model:</div><div>Confusion Matrix – <math>\begin{bmatrix} 18 &amp; 25 \\ 2 &amp; 75 \end{bmatrix}</math>, Accuracy Score – 79% &amp; Classification Report –</div><table><thead><tr><th></th><th>precision</th><th>recall</th><th>f1-score</th><th>support</th></tr></thead><tbody><tr><td>0</td><td>0.90</td><td>0.42</td><td>0.57</td><td>43</td></tr><tr><td>1</td><td>0.76</td><td>0.97</td><td>0.85</td><td>80</td></tr><tr><td>accuracy</td><td></td><td></td><td>0.78</td><td>123</td></tr><tr><td>macro avg</td><td>0.83</td><td>0.70</td><td>0.71</td><td>123</td></tr><tr><td>weighted avg</td><td>0.81</td><td>0.78</td><td>0.75</td><td>123</td></tr></tbody></table></div>		precision	recall	f1-score	support	0	0.90	0.42	0.57	43	1	0.76	0.97	0.85	80	accuracy			0.78	123	macro avg	0.83	0.70	0.71	123	weighted avg	0.81	0.78	0.75	123	<div><pre>In [18]: randomforest(train_x,test_x,train_y,test_y)  **** Random Forest Classifier **** Confusion Matrix [[18 25]  [ 2 75]] Classification Report precision    recall  f1-score   support 0           0.90    0.42    0.57         43 1           0.76    0.97    0.85         80  accuracy          0.83    0.70    0.78        123  macro avg         0.83    0.70    0.71        123  weighted avg      0.81    0.78    0.75        123</pre></div> <div><pre>In [22]: f1_score(y_pred,test_y,average='weighted')  Out[22]: 0.7977251487129455</pre></div> <div><pre>In [23]: cv = cross_val_score(rf,x,y,cv=5)  In [24]: np.mean(cv)  Out[24]: 0.79153671866458749</pre></div>
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