

Project Development Phase Model Performance Test

Date	9 th November,2023
Team ID	Team - 593038
Project Name	ML Model For Occupancy Rates And Demand In The Hospitality Industry
Maximum Marks	10 Marks

Model Performance Testing:

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

S.No.	Parameter	Screenshot
1)Metrics	<p>Regression Model:</p> <p>Mean Square Error</p> <p>Root Mean Square Error</p> <p>r2_score:-</p>	<pre> In [72]: from sklearn import metrics In [73]: # MSE (Mean square Error) print(metrics.mean_squared_error(Y_test,X_test_predict)) 0.008594229588704727 0.008594229588704727 In [74]: # RMSE (Root Mean Square Error) print(np.sqrt(metrics.mean_squared_error(Y_test,X_test_predict))) 0.09270506776171801 In []: In [48]: from sklearn.metrics import r2_score In [49]: r2_acu_score=r2_score(Y_test,X_test_predict) r2_acu_score Out[49]: 0.9505678862493497 </pre>

	<div>Classification Report</div> <div>Classification Model:-</div> <div>Confusion Matrix:-</div> <div>Accuracy Score :-</div>	<div><div>In [69]:</div><div>from sklearn.metrics import classification_report</div></div> <div><div>In [71]:</div><div>print(classification_report(Y_test,X_test_predict))</div></div> <div><table><tr><th></th><th>precision</th><th>recall</th><th>f1-score</th><th>support</th></tr><tr><td>0</td><td>1.00</td><td>0.99</td><td>0.99</td><td>1264</td></tr><tr><td>1</td><td>0.98</td><td>0.99</td><td>0.98</td><td>365</td></tr><tr><td>accuracy</td><td></td><td></td><td>0.99</td><td>1629</td></tr><tr><td>macro avg</td><td>0.99</td><td>0.99</td><td>0.99</td><td>1629</td></tr><tr><td>weighted avg</td><td>0.99</td><td>0.99</td><td>0.99</td><td>1629</td></tr></table></div> <div><div>In [48]:</div><div>cm=confusion_matrix(Y_test,X_test_predict)</div></div> <div><div>In [49]:</div><div>cm</div><div><table><tr><th>#FN</th><th>#FP</th></tr><tr><th>#TN</th><th>#TP</th></tr><tr><td>1255</td><td>9</td></tr><tr><td>5</td><td>360</td></tr></table></div></div> <div><div>Out[49]:</div><div>array([[1255, 9], [5, 360]], dtype=int64)</div></div> <div><div>In [45]:</div><div>from sklearn.metrics import accuracy_score</div></div> <div><div>In [46]:</div><div>acc=accuracy_score(Y_test,X_test_predict)</div></div> <div><div>In [47]:</div><div>acc</div></div> <div><div>Out[47]:</div><div>0.9914057704112953</div></div>		precision	recall	f1-score	support	0	1.00	0.99	0.99	1264	1	0.98	0.99	0.98	365	accuracy			0.99	1629	macro avg	0.99	0.99	0.99	1629	weighted avg	0.99	0.99	0.99	1629	#FN	#FP	#TN	#TP	1255	9	5	360
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2)	Encoding	<div>Label Encoding</div> <div><pre>In [30]: le1=LabelEncoder() le2=LabelEncoder() le3=LabelEncoder() In [31]: X["Year"]=le1.fit_transform(datatrain.Year) X["Month"]=le2.fit_transform(datatrain.Month) X["Day"]=le3.fit_transform(datatrain.Day) In [32]: X.head() Out[32]:</pre><table><thead><tr><th></th><th>Temperature</th><th>Humidity</th><th>Light</th><th>CO2</th><th>HumidityRatio</th><th>Year</th><th>Month</th><th>Day</th></tr></thead><tbody><tr><td>1</td><td>23.18</td><td>27.2720</td><td>426.0</td><td>721.25</td><td>0.004793</td><td>0</td><td>0</td><td>0</td></tr><tr><td>2</td><td>23.15</td><td>27.2675</td><td>429.5</td><td>714.00</td><td>0.004783</td><td>0</td><td>0</td><td>1</td></tr><tr><td>3</td><td>23.15</td><td>27.2450</td><td>426.0</td><td>713.50</td><td>0.004779</td><td>0</td><td>0</td><td>2</td></tr><tr><td>4</td><td>23.15</td><td>27.2000</td><td>426.0</td><td>708.25</td><td>0.004772</td><td>0</td><td>0</td><td>3</td></tr><tr><td>5</td><td>23.10</td><td>27.2000</td><td>426.0</td><td>704.50</td><td>0.004757</td><td>0</td><td>0</td><td>4</td></tr></tbody></table></div>		Temperature	Humidity	Light	CO2	HumidityRatio	Year	Month	Day	1	23.18	27.2720	426.0	721.25	0.004793	0	0	0	2	23.15	27.2675	429.5	714.00	0.004783	0	0	1	3	23.15	27.2450	426.0	713.50	0.004779	0	0	2	4	23.15	27.2000	426.0	708.25	0.004772	0	0	3	5	23.10	27.2000	426.0	704.50	0.004757	0	0	4
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