

Project Development Phase Model Performance Test

Date	10 November 2022
Team ID	PNT2022TMID52731
Project Name	Project – AI Powered Food Demand Forecaster
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	Correlation Matrix	<div>Correlation Matrix</div> <table><thead><tr><th></th><th>num_orders</th><th>homepage_featured</th><th>emailer_for_promotion</th><th>op_area</th><th>city_code</th><th>region_code</th><th>week</th><th>base_price</th></tr></thead><tbody><tr><th>num_orders</th><td>1.00</td><td>0.29</td><td>0.28</td><td>0.18</td><td>0.04</td><td>0.03</td><td>-0.02</td><td>-0.22</td></tr><tr><th>homepage_featured</th><td>0.29</td><td>1.00</td><td>0.39</td><td>0.04</td><td>0.01</td><td>0.00</td><td>-0.01</td><td>0.06</td></tr><tr><th>emailer_for_promotion</th><td>0.28</td><td>0.39</td><td>1.00</td><td>-0.02</td><td>-0.01</td><td>-0.01</td><td>0.00</td><td>0.17</td></tr><tr><th>op_area</th><td>0.18</td><td>0.04</td><td>-0.02</td><td>1.00</td><td>0.13</td><td>0.02</td><td>0.00</td><td>0.02</td></tr><tr><th>city_code</th><td>0.04</td><td>0.01</td><td>-0.01</td><td>0.13</td><td>1.00</td><td>0.04</td><td>0.00</td><td>-0.00</td></tr><tr><th>region_code</th><td>0.03</td><td>0.00</td><td>-0.01</td><td>0.02</td><td>0.04</td><td>1.00</td><td>0.00</td><td>-0.00</td></tr><tr><th>week</th><td>-0.02</td><td>-0.01</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>1.00</td><td>0.03</td></tr><tr><th>base_price</th><td>-0.22</td><td>0.06</td><td>0.17</td><td>0.02</td><td>-0.00</td><td>-0.00</td><td>0.03</td><td>1.00</td></tr></tbody></table>		num_orders	homepage_featured	emailer_for_promotion	op_area	city_code	region_code	week	base_price	num_orders	1.00	0.29	0.28	0.18	0.04	0.03	-0.02	-0.22	homepage_featured	0.29	1.00	0.39	0.04	0.01	0.00	-0.01	0.06	emailer_for_promotion	0.28	0.39	1.00	-0.02	-0.01	-0.01	0.00	0.17	op_area	0.18	0.04	-0.02	1.00	0.13	0.02	0.00	0.02	city_code	0.04	0.01	-0.01	0.13	1.00	0.04	0.00	-0.00	region_code	0.03	0.00	-0.01	0.02	0.04	1.00	0.00	-0.00	week	-0.02	-0.01	0.00	0.00	0.00	0.00	1.00	0.03	base_price	-0.22	0.06	0.17	0.02	-0.00	-0.00	0.03	1.00
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2.	Tune the Model	RMSLE Values comparison for Decision Tree Regression, XGB Regression, Linear Regression and Lasso Regression.	<div data-bbox="634 226 1029 264">Decision Tree Regression</div> <div data-bbox="675 338 1490 499"> <pre> KNN = DecisionTreeRegressor() KNN.fit(X_train, Y_train) y_pred = KNN.predict(X_val) y_pred[y_pred<0] = 0 from sklearn import metrics print('RMSLE:', 100*np.sqrt(metrics.mean_squared_log_error(Y_val, y_pred))) </pre> </div> <div data-bbox="639 552 906 573">RMSLE: 89.69506088378594</div> <div data-bbox="634 667 889 705">XGB Regression</div> <div data-bbox="675 758 1490 928"> <pre> XG = XGBRegressor() XG.fit(X_train, Y_train) y_pred = XG.predict(X_val) y_pred[y_pred<0] = 0 from sklearn import metrics print('RMSLE:', 100*np.sqrt(metrics.mean_squared_log_error(Y_val, y_pred))) </pre> </div> <div data-bbox="634 982 1490 1041"> <pre> [07:02:44] WARNING: /workspace/src/objective/regression_obj.cu:152: reg:linear RMSLE: 101.75835240676072 </pre> </div> <div data-bbox="634 1157 915 1194">Linear Regression</div> <div data-bbox="667 1224 1490 1396"> <pre> LR = LinearRegression() LR.fit(X_train, Y_train) y_pred = LR.predict(X_val) y_pred[y_pred<0] = 0 from sklearn import metrics print('RMSLE:', 100*np.sqrt(metrics.mean_squared_log_error(Y_val, y_pred))) </pre> </div> <div data-bbox="626 1453 909 1476">RMSLE: 155.0295463202577</div>
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			<div>Lasso Regression</div> <pre>L = Lasso() L.fit(X_train, Y_train) y_pred = L.predict(X_val) y_pred[y_pred<0] = 0 from sklearn import metrics print('RMSLE:', 100*np.sqrt(metrics.mean_squared_log_error(Y_v</pre> <div>RMSLE: 153.61529213206654</div>
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