Project Development Phase Model Performance Test

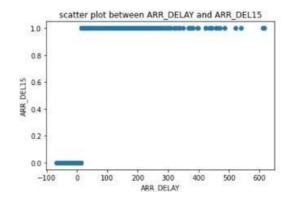
Date	19 November 2022
Team ID	PNT2022TMID25913
	Exploratory Analysis of Rain Fall Data in India for Agriculture
Maximum Marks	10 Marks

Model Performance Testing:

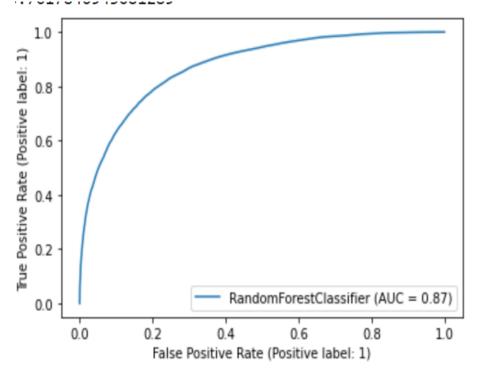
Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Values	Screenshot								
1.	Metrics	Classification Model: Random Forest	<pre>In [28]: decisiontree = classifier.predict(x_test)</pre>								
		Confusion Matrix – [[21393 1324]	<pre>In [29]: from sklearn.metrics import accuracy_score acc = accuracy_score(y_test,decisiontree) acc</pre>								
		[2855 3520]] Accuracy Score-	Out[29]: 0.965287049399199								
		0.8563522617901829	<pre>In [30]: from sklearn.metrics import confusion_matrix cm=confusion_matrix(y_test,decisiontree)</pre>								
		Classification Report – Accuracy:	In [31]: cm								
		0.856352261790182 9 Precision: 0.7641309659553673 Recall: 0.49814165870234683 F1-score: 0.6031113396760092	Out[31]: array([[1755, 47],								

VISUALIZATION CHARTS:



ROC - AUC Curve



Plot Heat Map

Location -	- 1	-0.062	0.22	-0.084	0.15	0.092	0.11	-0.058	0.11	-0.018	-0.039	-0.11	-0.25	-0.44	0.028	-0.024	-0.13	-0.094	0.043	0.23	-0.15	-0.15	-0.00230.0001
MinTemp -	-0.06 <u>2</u>		0.73	0.1										0.0061						0.7			-0.2 0.0024
MaxTemp -		0.73	1	-0.074										-0.5		-0.4			0.88	0.97			-0.16 0.0006
Rainfall -	-0.084	0.1	-0.074	1			-0.0029						0.22	0.25					0.011	-0.077	0.5		-0.031 0.0018
Evaporation -	0.15			-0.028	1	0.15											-0.086				-0.1		-0.014 -0.0028
Sunshine -	0.092				0.15	1	0.077			0.044						-0.0095							
WindGustDir -	0.11			-0.0029		0.077	1	-0.16	0.48	0.59	0.0035	-0.088	-0.082	-0.048									
WindGustSpeed -	-0.058						-0.16	1	-0.088	-0.15	0.58	0.66			-0.43		0.042						0.059 -0.0087
WindDir9am	0.11						0.48	-0.088	1	0.39	0.11	-0.049			0.1								
WindDir3pm -	-0.018								0.39	1	-0.0065	-0.068										-0.089	
WindSpeed9am	-0.039						0.0035	0.58	0.11	-0.0065	1	0.51								0.0048			0.051 -0.0087
WindSpeed3pm	-0.11						-0.088	0.66	-0.049	-0.068	0.51	1	-0.14										0.06 -0.0099
Humidity9am -	-0.25		-0.5	0.22				-0.21			-0.27	-0.14	1	0.66					-0.47	-0.49			
Humidity3pm -	-0.44	0.0061	-0.5	0.25			-0.048						0.66	1	-0.026					-0.56			-0.019 0.013
Pressure9am	0.028	-0.42	-0.31	-0.16				-0.43					0.13	-0.026	1	0.96	-0.08	-0.088	-0.4	-0.27	-0.18	-0.23	0.033 -0.02
Pressure3pm	-0.024	-0.43				-0.0095								0.049	0.96	1	-0.038		-0.44				
Cloud9am -	-0.13	0.049													-0.08	-0.038	1	0.34	-0.084				-0.00610.0044
Cloud3pm	-0.094				-0.084										-0.088		0.34	1	-0.075				
Temp9am -	0.043	0.9	0.88	0.011		0.15							-0.47	-0.22		-0.44	-0.084	-0.075	1	0.85			-0.14 0.0002
Temp3pm	0.23	0.7	0.97	-0.077							0.0048		-0.49	-0.56					0.85	1			-0.17 -0.0002
RainToday -	-0.15	0.055	-0.23	0.5									0.35	0.37		-0.099			-0.096	-0.23	1	0.31	0.01 0.0034
RainTomorrow -	-0.15			0.23						-0.089											0.31	1	0.0077 0.0055
Date_month	-0.0023													-0.019			-0.0061	-0.0019				0.0077	1 0.0092
Date_day -	0.0001	70.0024	0.0006		0.0028	80.00073		-0.0087			-0.0087	-0.0099					0.0044		0.0002	10.0002	80.0034		0.0092 1
	Location -	MinTemp -	MaxTemp -	Rainfall -	Evaporation -	Sunshine -	WindGustDir -	WindGustSpeed -	WindDir9am -	WindDir3pm -	WindSpeed9am -	WindSpeed3pm -	Humidity9am -	Humidity3pm -	Pressure9am -	Pressure3pm -	Cloud9am -	Cloud3pm -	Temp9am -	Temp3pm -	RainToday -	RainTomorrow -	Date_month -