

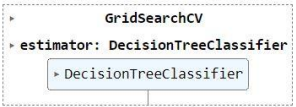
Project Development Phase Model Performance Test

Date	10 November 2022
Team ID	PNT2022TMID23887
Project Name	Project - Developing a Flight Delay Prediction Model using Machine Learning
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 , Accuracy Score & Classification Report	<pre> In [24]: #Model Evaluation from sklearn.metrics import accuracy_score, confusion_matrix, classification_report print(accuracy_score(y_test, pred)) 0.9163899788711138 In [26]: print(confusion_matrix(y_test, pred)) [[2732 164] [113 304]] In [27]: print(classification_report(y_test, pred)) precision recall f1-score support 0.0 0.96 0.94 0.95 2896 1.0 0.65 0.73 0.69 417 accuracy 0.92 macro avg 0.80 0.84 0.82 weighted avg 0.92 0.92 0.92 </pre>

2.	Tune the Model	Hyperparameter Tuning , Validation Method	<pre>In [31]: from sklearn.model_selection import cross_val_score, KFold, GridSearchCV kf = KFold(n_splits = 6, shuffle = True, random_state = 25) params = {'max_depth': [4,5,6], 'min_samples_split': [2,3,4], 'criterion': ['gini', 'entropy', 'log_loss']}</pre> <pre>In [32]: grid_cv = GridSearchCV(clf, params, cv = kf) grid_cv.fit(X_train,y_train)</pre> <pre>Out[32]:</pre>  <pre>In [35]: grid_cv.best_params_</pre> <pre>Out[35]: {'criterion': 'entropy', 'max_depth': 6, 'min_samples_split': 2}</pre> <pre>In [34]: cv_results = cross_val_score(clf, X_train,y_train, cv = kf) print(cv_results)</pre> <pre>[0.92552366 0.9193173 0.91925466 0.92934783 0.92313665 0.9060559]</pre>
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