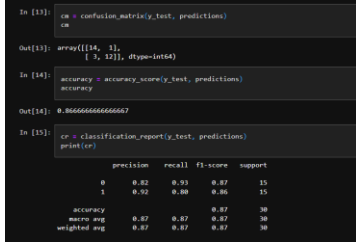



Project Development Phase Model Performance Test

Date	13 November 2022
Team ID	PNT2022TMID53604
Project Name	Project - Detecting Parkinson's Disease 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 [13]: cm = confusion_matrix(y_test, predictions) cm Out[13]: array([[14, 1], [3, 12]], dtype=int64) In [14]: accuracy = accuracy_score(y_test, predictions) accuracy Out[14]: 0.8666666666666667 In [15]: cr = classification_report(y_test, predictions) print(cr) precision recall f1-score support 0 0.82 0.93 0.87 15 1 0.78 0.88 0.83 15 accuracy 0.87 macro avg 0.87 weighted avg 0.87 </pre>
2.	Tune the Model	Hyperparameter Tuning - GridSearchCV	 <pre> In [7]: from sklearn.model_selection import GridSearchCV In [22]: model = RandomForestClassifier() In [23]: parameters = { 'max_depth': [5,10,20,30,50], 'random_state': [0,1,2,3,4], 'n_estimators': [70,100,80,60,110] } In [24]: grid = GridSearchCV(model,parameters,cv=5) In [25]: grid.fit(X_train, y_train) Out[25]: GridSearchCV(cv=5, estimator=RandomForestClassifier(), param_grid=[{'max_depth': [5, 10, 20, 30, 50], 'n_estimators': [70, 100, 80, 60, 110], 'random_state': [0, 1, 2, 3, 4]}], In [26]: grid.best_params_ Out[26]: {'max_depth': 5, 'n_estimators': 100, 'random_state': 2} In [27]: grid.best_estimator_ Out[27]: RandomForestClassifier(max_depth=5, random_state=2) In [28]: grid.best_score_ Out[28]: 0.792888922889524 </pre>