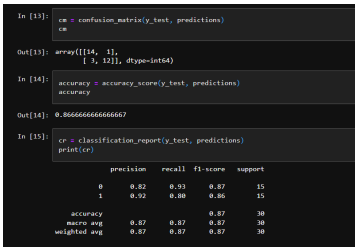



Project Development Phase Model Performance Test

Date	13 November 2022
Team ID	PNT2022TMID22047
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 , Accuray 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]: 0.8656666666666667 In [15]: cr = classification_report(y_test, predictions) print(cr) precision recall f1-score support 0 0.82 0.93 0.87 15 1 0.92 0.88 0.90 15 accuracy macro avg 0.87 0.87 0.87 30 weighted avg 0.87 0.87 0.87 30 </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': [5,10,20,30,35], 'random_state': [0,1,2,3,4], 'n_estimators': [70,100,80,95,110] } 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, 35], 'n_estimators': [70, 100, 80, 95, 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]: 0.79218809521880924 </pre>