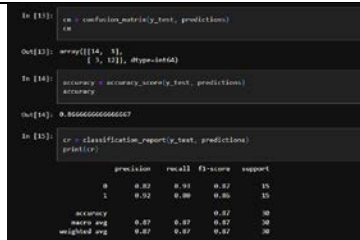
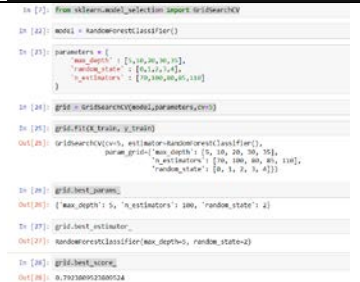


Project Development Phase Model Performance Test

Date	10 November 2022
Team ID	PNT2022TMID08567
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 [11]: cm = confusion_matrix(y_test, predictions) cm Out[11]: array([[14, 0], [0, 12]], dtype=int64) In [14]: accuracy = accuracy_score(y_test, predictions) accuracy Out[14]: 0.9555555555555557 In [15]: cr = classification_report(y_test, predictions) print(cr) precision recall f1-score support 0 0.83 0.91 0.87 14 1 0.92 0.88 0.90 12 accuracy 0.87 0.87 0.87 26 macro avg 0.87 0.87 0.87 26 weighted avg 0.87 0.87 0.87 26 </pre>
2.	Tune the Model	Hyperparameter Tuning - GridSearchCV	 <pre> In [7]: from sklearn.model_selection import GridSearchCV In [42]: model = RandomForestClassifier() In [21]: parameters = { 'max_depth': [1, 10, 20, 50], 'random_state': [0, 1, 2, 3], 'n_estimators': [50, 100, 200, 500, 1000] } In [48]: gscv = GridSearchCV(model, parameters, cv=5) In [49]: gscv.fit(X_train, y_train) Out[49]: GridSearchCV(cv=5, estimator=RandomForestClassifier(), param_grid={'max_depth': [1, 10, 20, 50, 100], 'n_estimators': [50, 100, 200, 500, 1000], 'random_state': [0, 1, 2, 3, 4]}) In [50]: gscv.best_params_ Out[50]: {'max_depth': 5, 'n_estimators': 100, 'random_state': 2} In [27]: grid_best_estimator = RandomForestClassifier(max_depth=5, random_state=2) In [46]: gscv.best_score_ Out[46]: 0.7973880921880524 </pre>