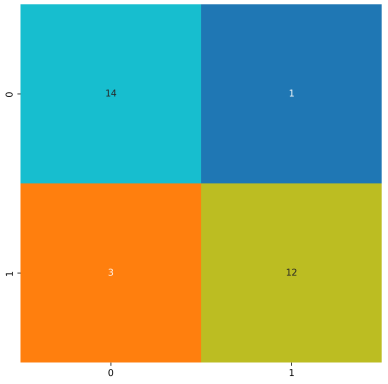
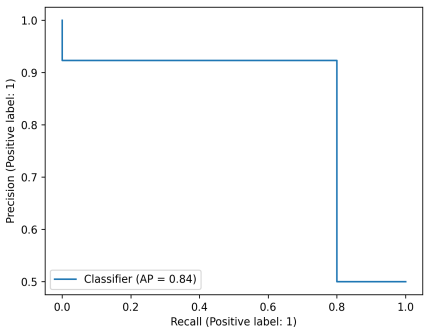
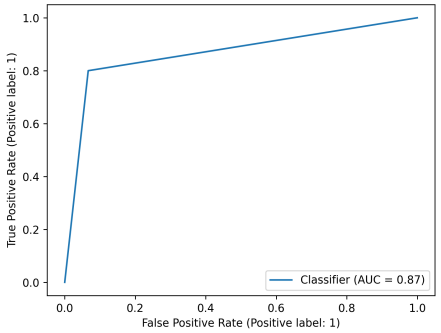
MODEL PERFORMANCE TESTING

Date	10 November 2022
Team ID	PNT2022TMID35637
Project Name	Detecting Parkinsons' Disease Using Machine Learning
Maximum Marks	10 Marks

SPIRAL MODEL → RANDOM FOREST CLASSIFIER

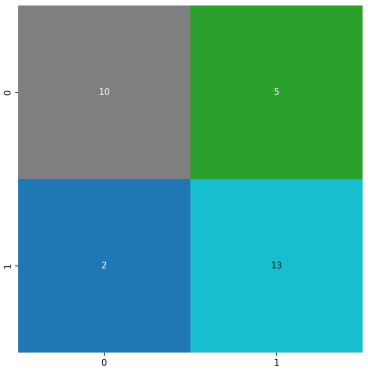
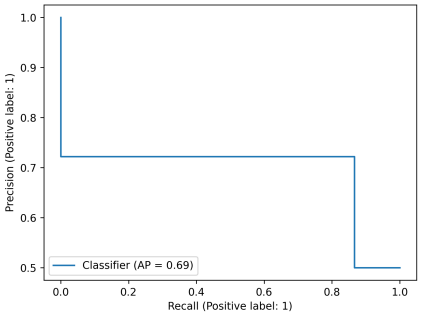
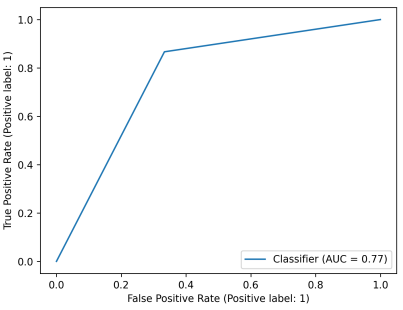
S.No.	Parameter	Value	Screenshot
1	Accuracy	86.667%	Accuracy: 0.8666666666666667
2	Recall	80%	Recall: 0.8
3	Precision	92.308%	Precision: 0.9230769230769231
4	Specificity	93.333%	Specificity: 0.9333333333333333
5	F1 Score	85.714%	F1 score: 0.8571428571428571
6	ROC AUC Score	86.667%	ROC AUC Score: 0.8666666666666667
7	Confusion Matrix	[[14 1] [3 12]]	Confusion Matrix: [[14 1] [3 12]] 

8	Precision-Recall Curve	Precision: [0.5 0.923 1] Recall: [1 0.8 0] Threshold: [0 1]	PR CURVE:- Precision: [0.5 0.92307692 1.] Recall: [1. 0.8 0.] Threshold: [0 1] 
9	ROC Curve	FPR: [0 0.067 1] TPR: [0 0.8 1] Threshold: [2 1 0]	ROC CURVE:- Fpr: [0. 0.06666667 1.] Tpr: [0. 0.8 1.] Threshold: [2 1 0] 

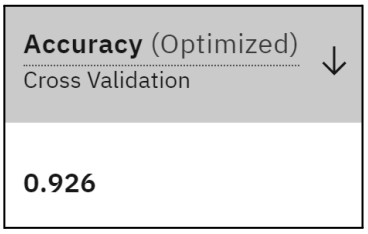
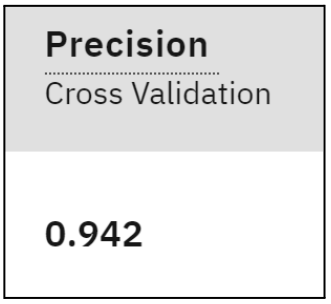
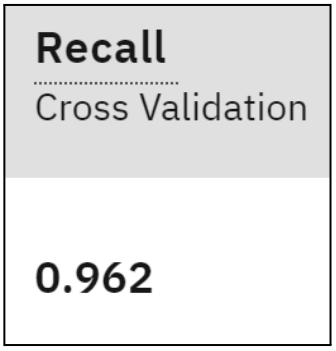
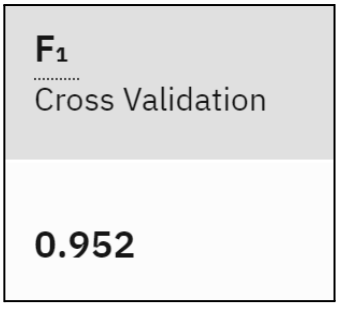
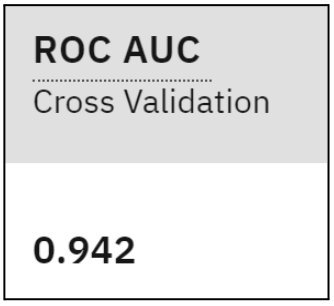
Hyperparameter → n_estimators = 1000

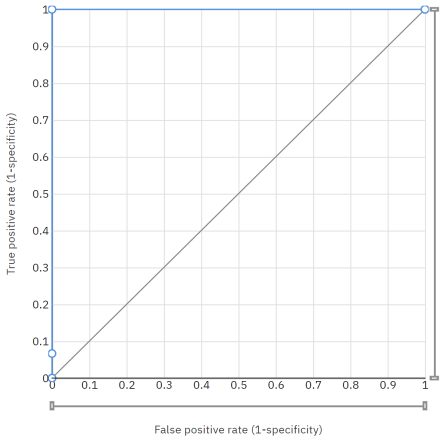
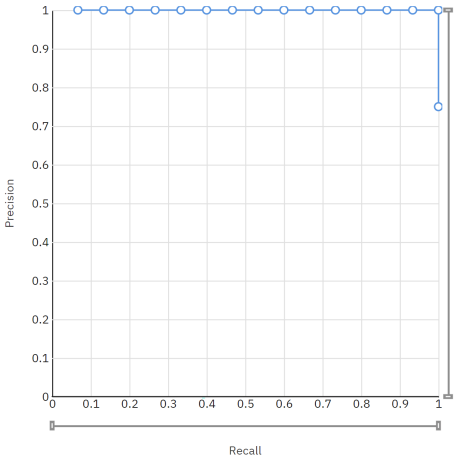
<u>WAVE MODEL</u> → **K-NEIGHBOR CLASSIFIER**

S.No.	Parameter	Value	Screenshot
1	Accuracy	76.667%	Accuracy: 0.7666666666666667
2	Recall	86.667%	Recall: 0.8666666666666667
3	Precision	72.222%	Precision: 0.7222222222222222
4	Specificity	66.667%	Specificity: 0.6666666666666666
5	F1 Score	78.788%	F1 score: 0.7878787878787877

6	ROC AUC Score	76.667%	ROC AUC Score: 0.7666666666666668
7	Confusion Matrix	[[10 5] [2 13]]	Confusion Matrix: [[10 5] [2 13]] 
8	Precision Recall Curve	Precision: [0.5 0.722 1] Recall: [1 0.867 0] Threshold: [0 1]	PR CURVE:- Precision: [0.5 0.72222222 1.] Recall: [1. 0.86666667 0.] Threshold: [0 1] 
9	ROC Curve	FPR: [0 0.333 1] TPR: [0 0.867 1] Threshold: [2 1 0]	ROC CURVE:- Fpr: [0. 0.33333333 1.] Tpr: [0. 0.86666667 1.] Threshold: [2 1 0] 

<u>VOICE MODEL</u> → SNAP BOOSTING MACHINE CLASSIFIER (AUTO AI)

S. No	Parameter	Value	Screenshot
1	Accuracy	92.6%	
2	Precision	94.2%	
3	Recall	96.2%	
4	F1 Score	95.2%	
5	ROC AUC Score	94.2%	

6	Confusion Matrix	[[15 0] [0 5]]	Confusion matrix ⓘ Observed / Predicted: 1, 0, Percent correct 1: 15, 0, 100.0% 0: 0, 5, 100.0% Percent correct: 100.0%, 100.0%, 100.0% Less correct — More correct
7	ROC Curve		
8	Precision Recall Curve		

Hyperparameter → HPO - 1, FE, HPO - 2