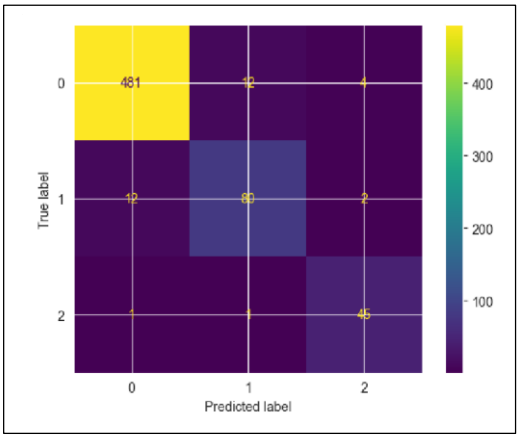
Project Development Phase
Model Performance Test

Project Name	FetalAI: USING MACHINE LEARNING TO PREDICT AND MONITOR FETAL HEALTH
Maximum Marks	10 Marks

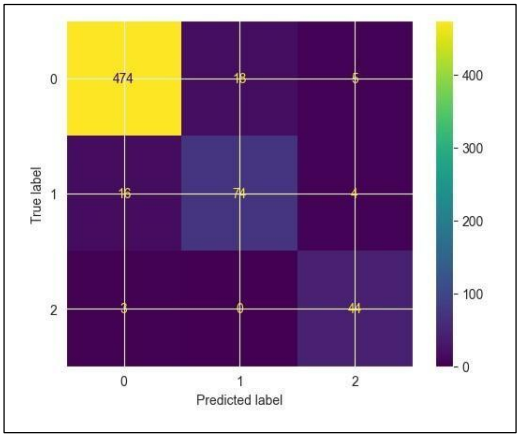
Model Performance Testing:

S.No.	Parameter	Values	Screenshot

1.	Metrics	**Classification Model:** **a) Random Forest** Confusion Matrix Accuracy Score	 **Name** **Score** **0** Random Forest Classifier **0.949843** **1** Decision Tree Classifier **0.927900** **2** Logistic Regression 0.810345 **3** K Neighbors Classifier **0.898119**

b) Decision Tree

Confusion Matrix

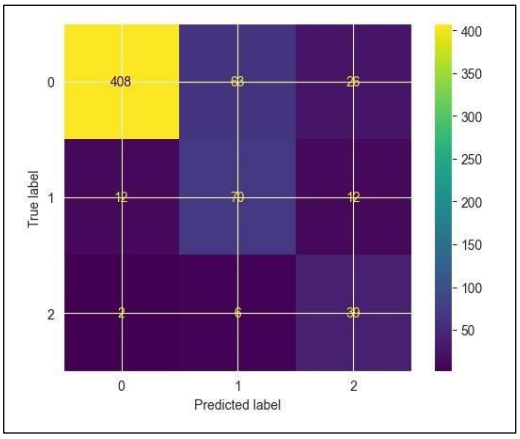


Accuracy Score

	Name	Score
0	Random Forest Classifier	0.949843
1	Decision Tree Classifier	0.927900
2	Logistic Regression	0.810345
3	K Neighbors Classifier	0.898119

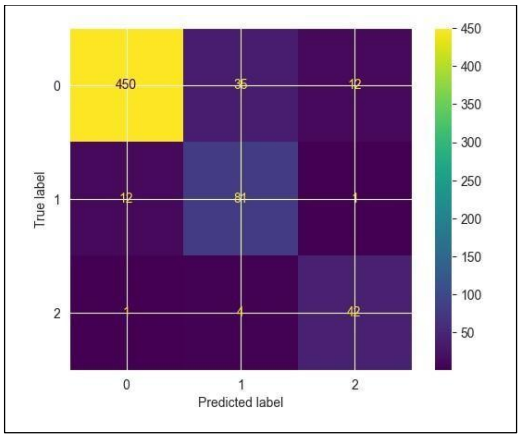
c) Logistic Regression

Confusion Matrix



Accuracy Score

	Name	Score
0	Random Forest Classifier	0.949843
1	Decision Tree Classifier	0.927900
2	Logistic Regression	0.810345
3	K Neighbors Classifier	0.898119

		d) K-Nearest Neighbours Confusion Matrix Accuracy Score	 **Name** **Score** 0 Random Forest Classifier 0.949843 1 Decision Tree Classifier 0.927900 2 Logistic Regression 0.810345 3 K Neighbors Classifier 0.898119
2.	Tune the Model	Validation Method	``` from sklearn.model_selection import train_test_split X_train, X_test, y_train, y_test = train_test_split(X,y, test_size=0.3, random_state=10) X_train.shape, X_test.shape ```

```
1 RF_model.predict([[0.001,26,0,41,132,8.2,133,0.005]])
```

```
array([1.])
```

```
1 RF_model.predict([[0.001,34,0,116,131,12.4,99,0.002]])
```

```
array([2.])
```

```
1 RF_model.predict([[0,87,71.0,0,125,3.4,124,0]])
```

```
array([3.])
```