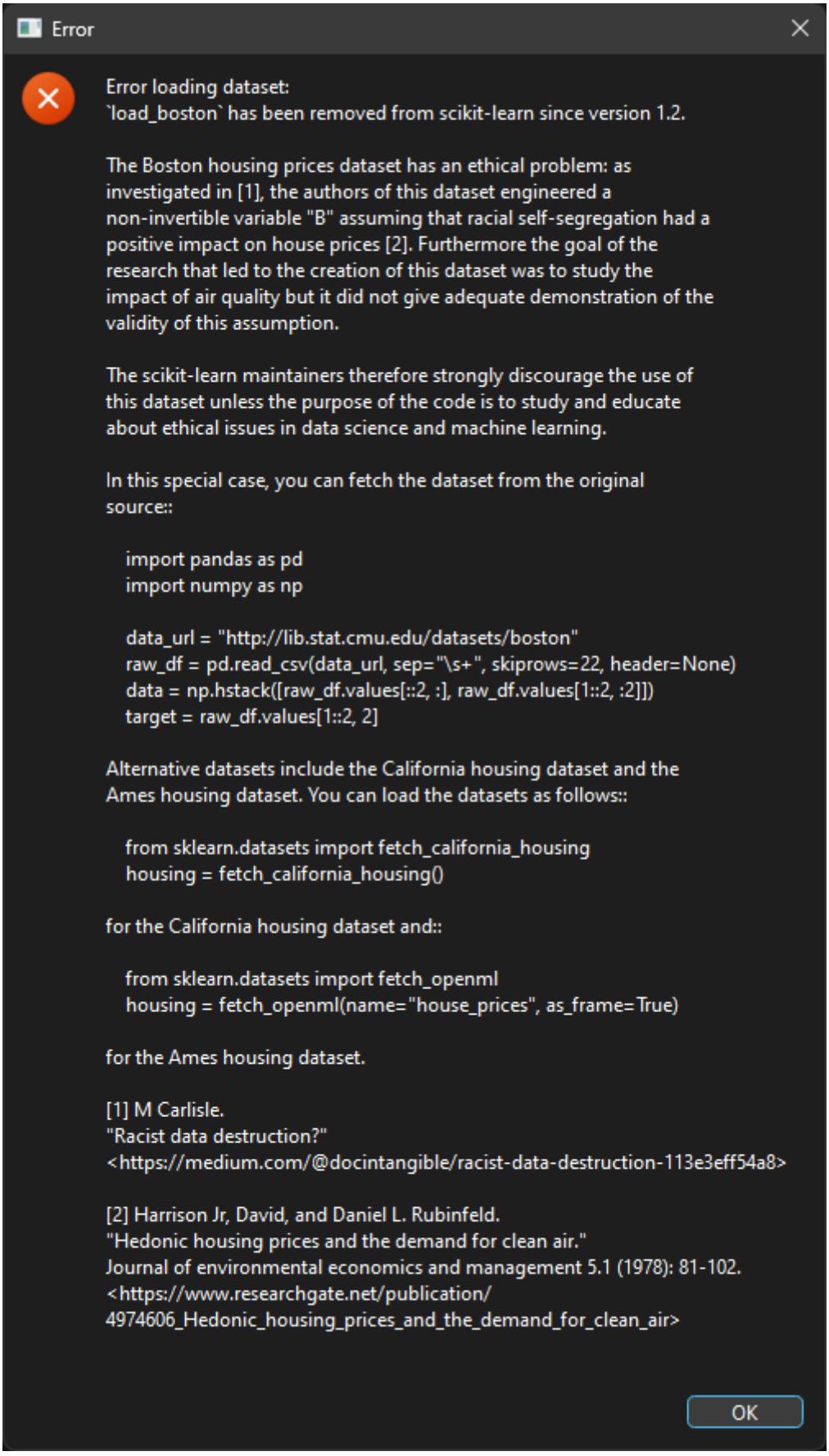
21067011 Furkan Karstarlı

- **Python 3.10 is used.**
- **Examples conducted with two types of datasets as iris and breast cancer for every special function such as (iris-regression, iris-svm, iris-classification...).**
- **While conducting experiment, the value of scaling is also changed for every iteration.**

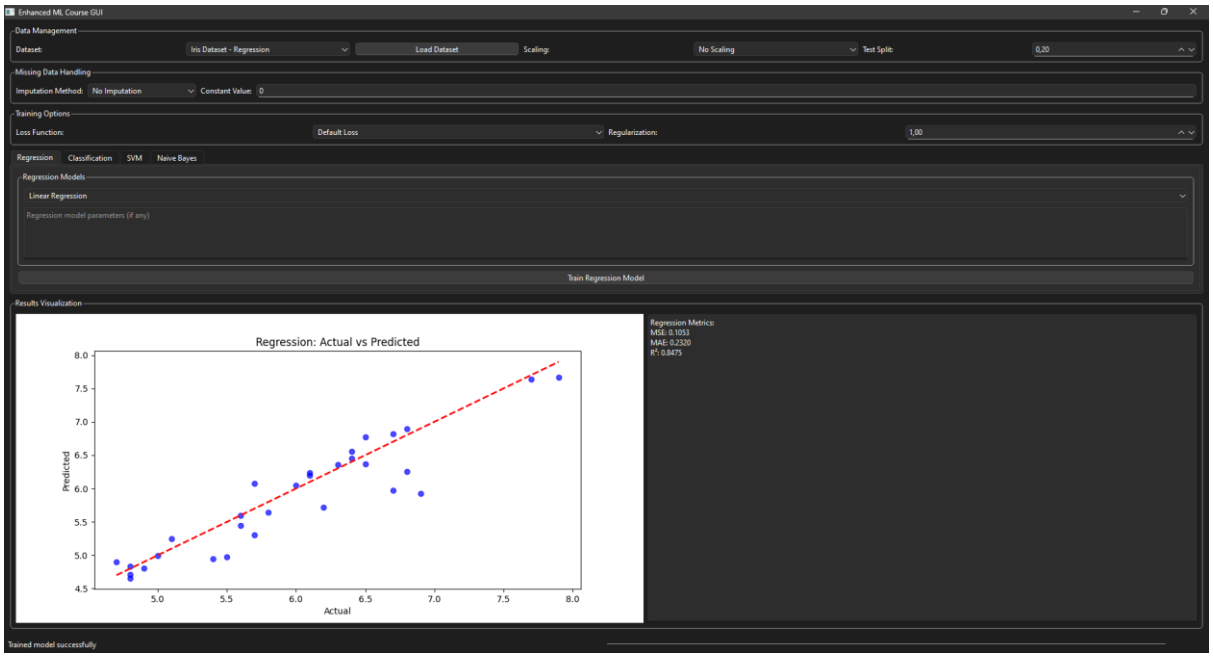
- **The Loss fucntion section is NOT fully operable!**

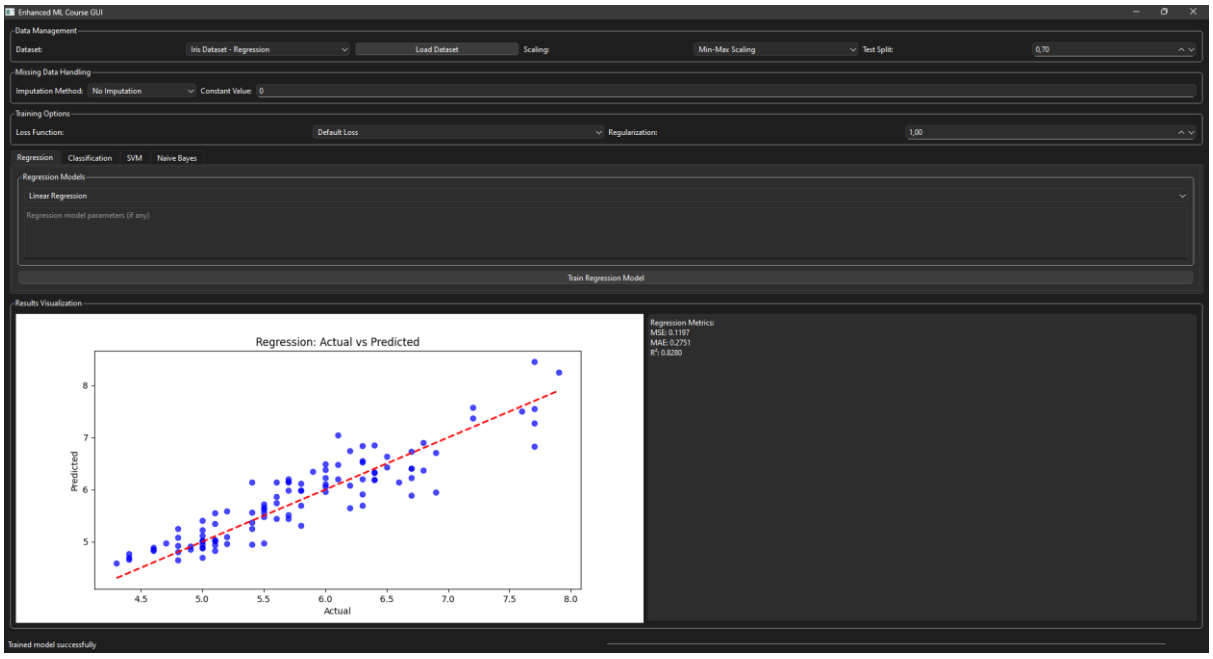
- **The Boston-Housing dataset examples are erased from the library due to some ethical issues. Here is the error**

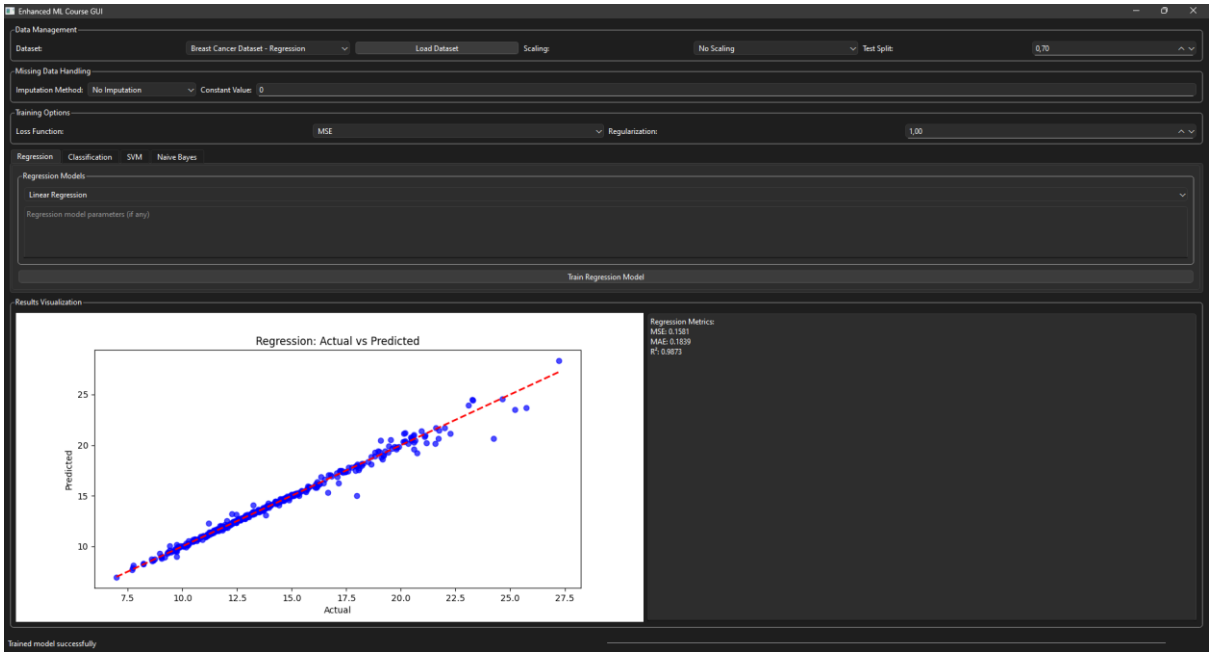
information about:

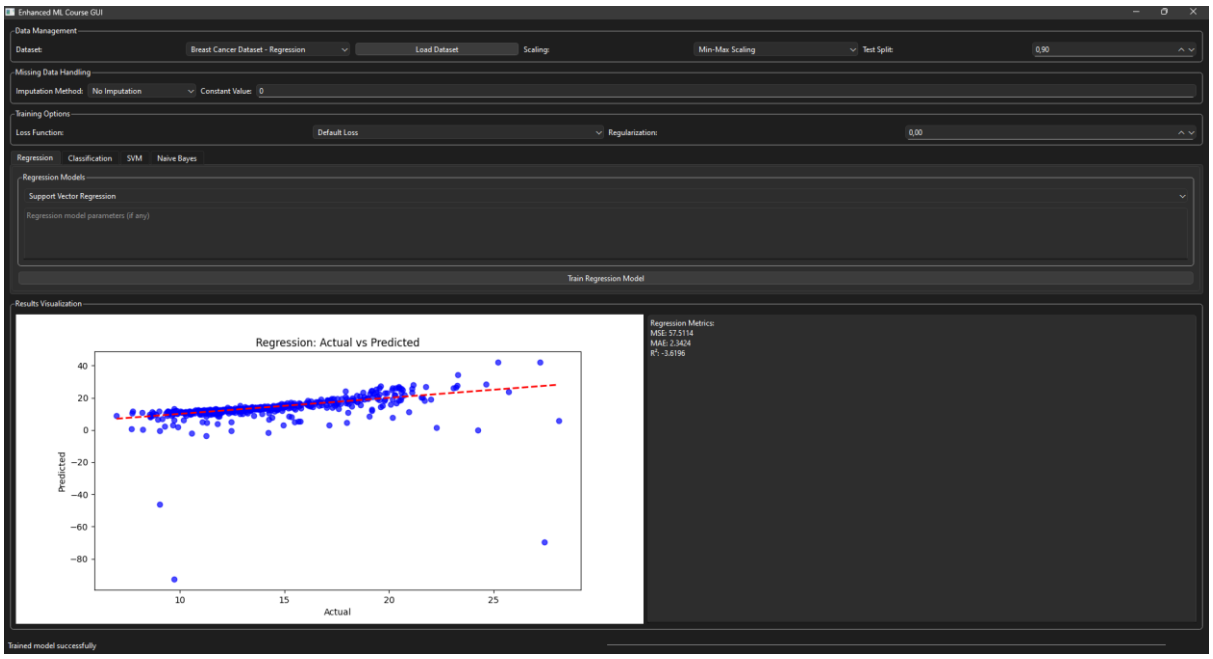


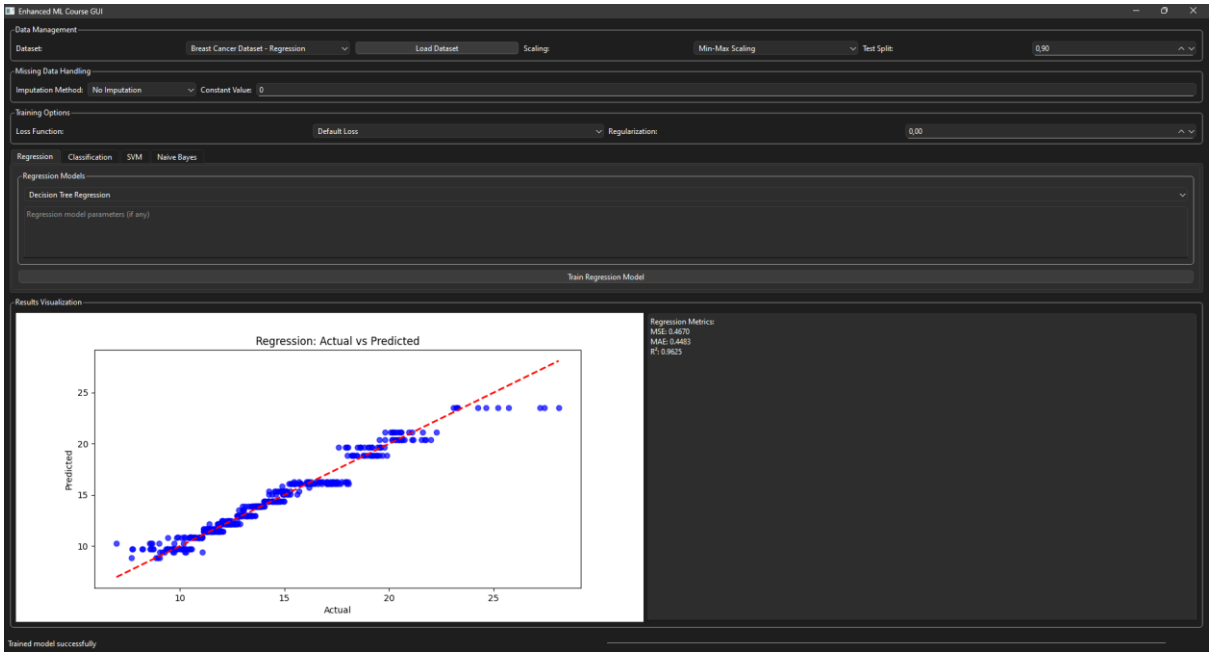
Regression Tab:



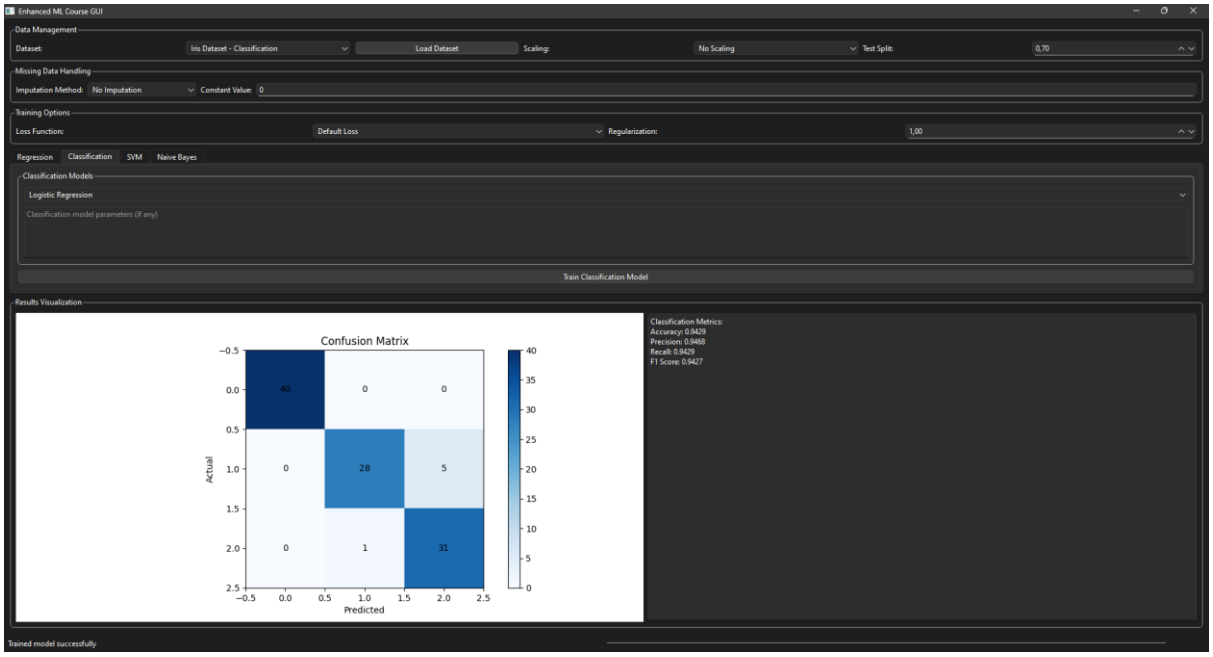


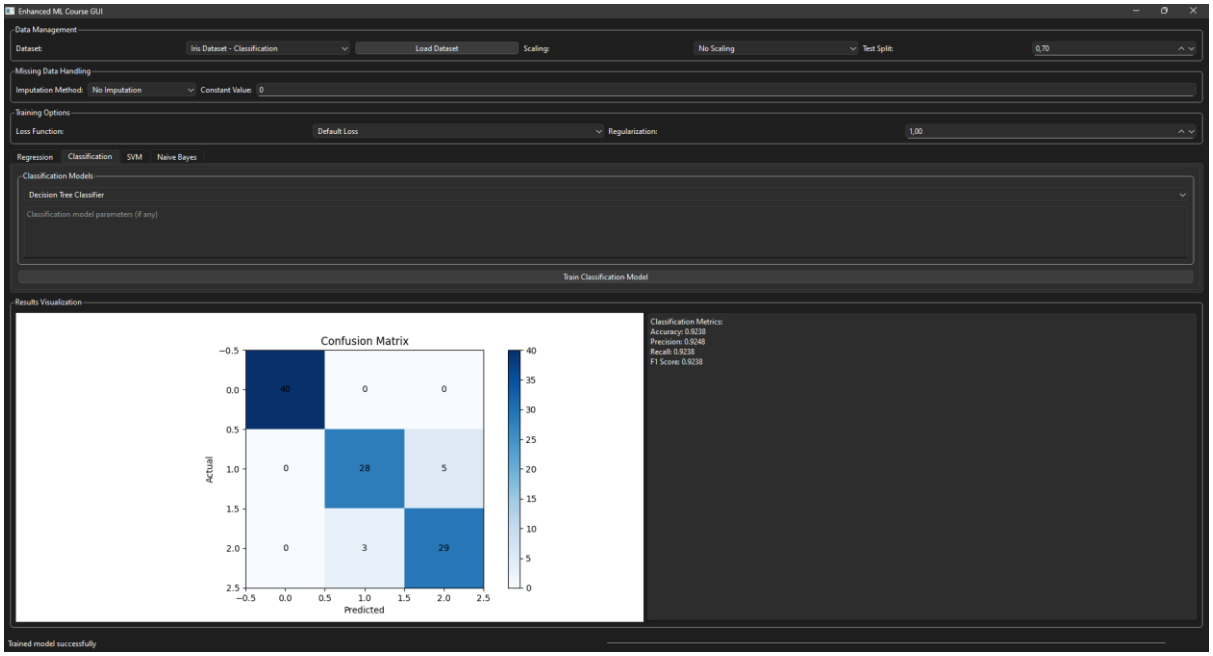

Enhanced ML Course GUI
Data Management
Dataset:
Breast Cancer Dataset - Regression
Load Dataset
Scaling:
No Scaling
Test Split:
0,70
Missing Data Handling
Imputation Method:
No Imputation
Constant Value:
0
Training Options
Loss Function:
MSE
Regularization:
1,00
Regression
Classification
SVM
Naive Bayes
Regression Models
Linear Regression
Regression model parameters (if any)
Train Regression Model
Results Visualization
Regression: Actual vs Predicted
Predicted
Actual
Regression Metrics:
MSE: 0.1581
MAE: 0.1839
R²: 0.9873
Trained model successfully

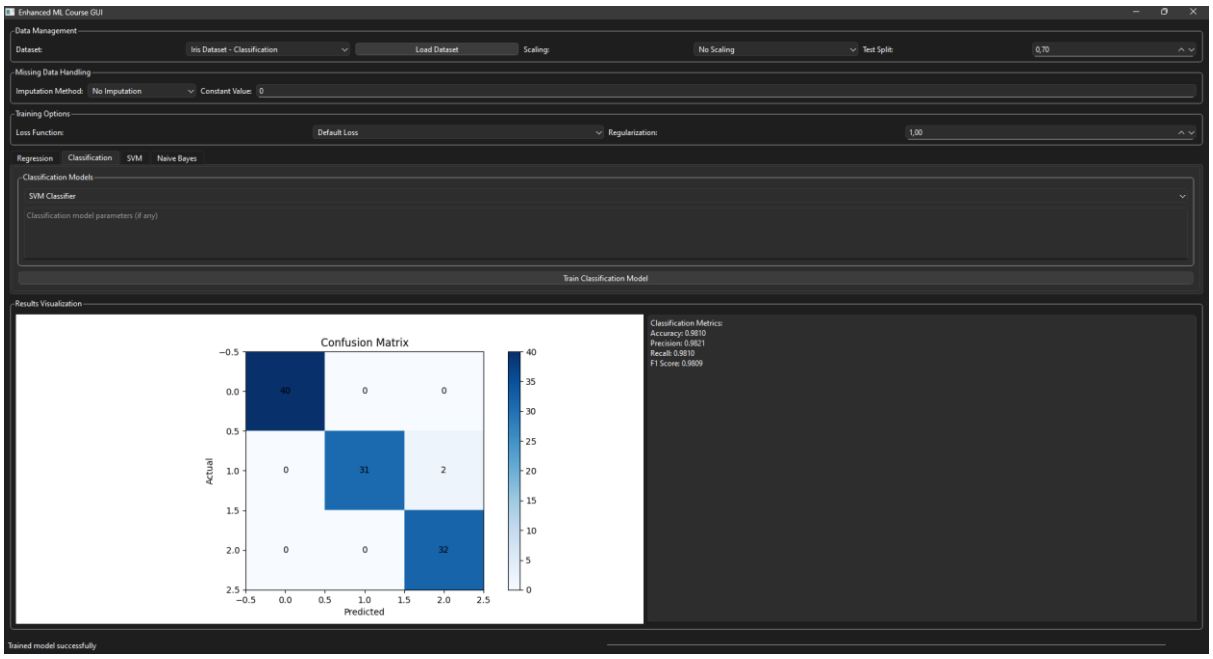

Enhanced ML Course GUI
Data Management
Dataset:
Breast Cancer Dataset - Regression
Load Dataset
Scaling:
Min-Max Scaling
Test Split:
0,90
Missing Data Handling
Imputation Method:
No Imputation
Constant Value:
0
Training Options
Loss Function:
Default Loss
Regularization:
0,00
Regression
Classification
SVM
Naive Bayes
Regression Models
Support Vector Regression
Regression model parameters (if any)
Train Regression Model
Results Visualization
Regression: Actual vs Predicted
Predicted
Actual
Regression Metrics:
MSE: 57.5114
MAE: 2.3424
R²: -3.6196
Trained model successfully



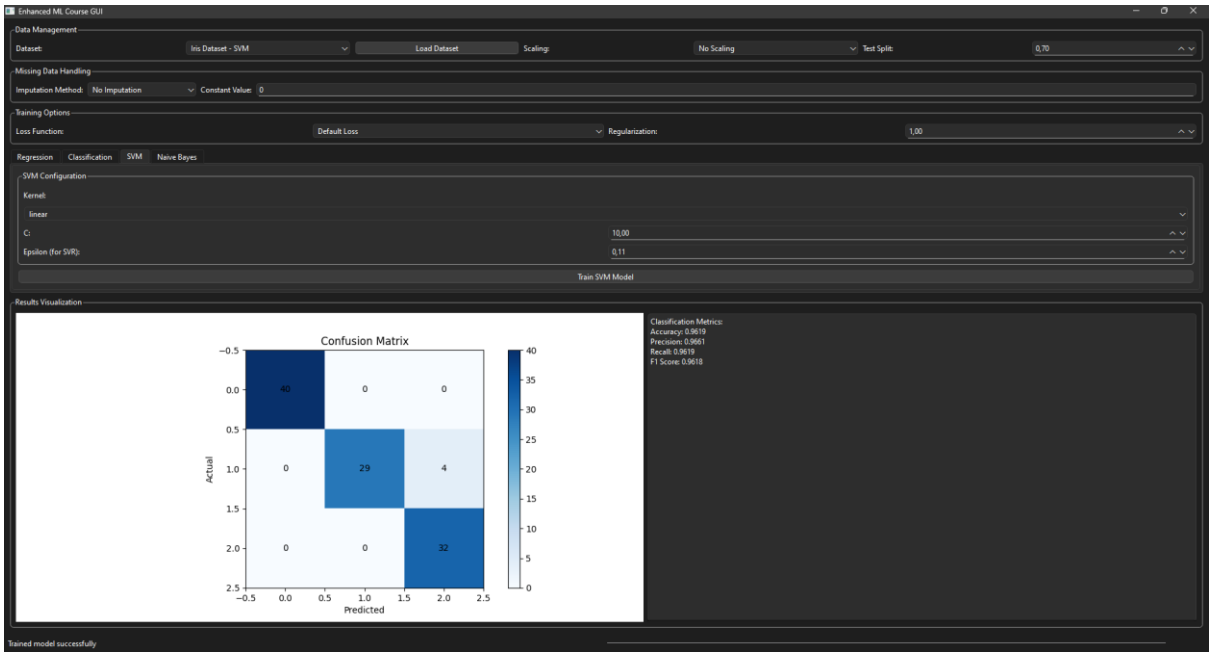
Classification Tab:

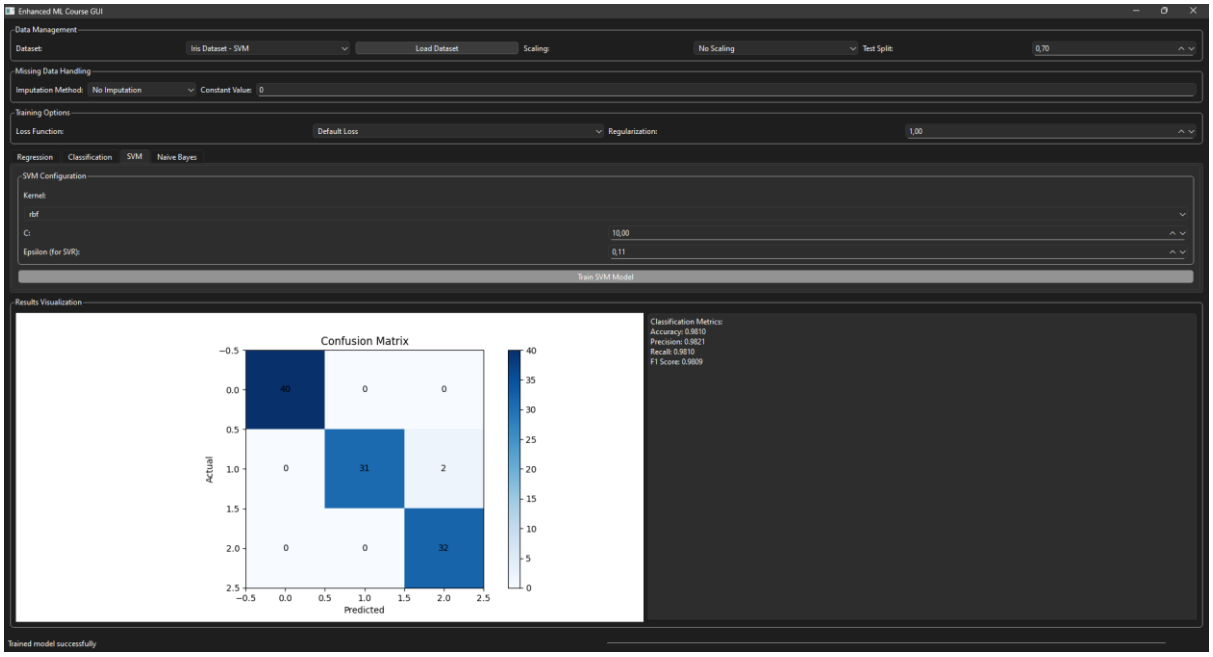


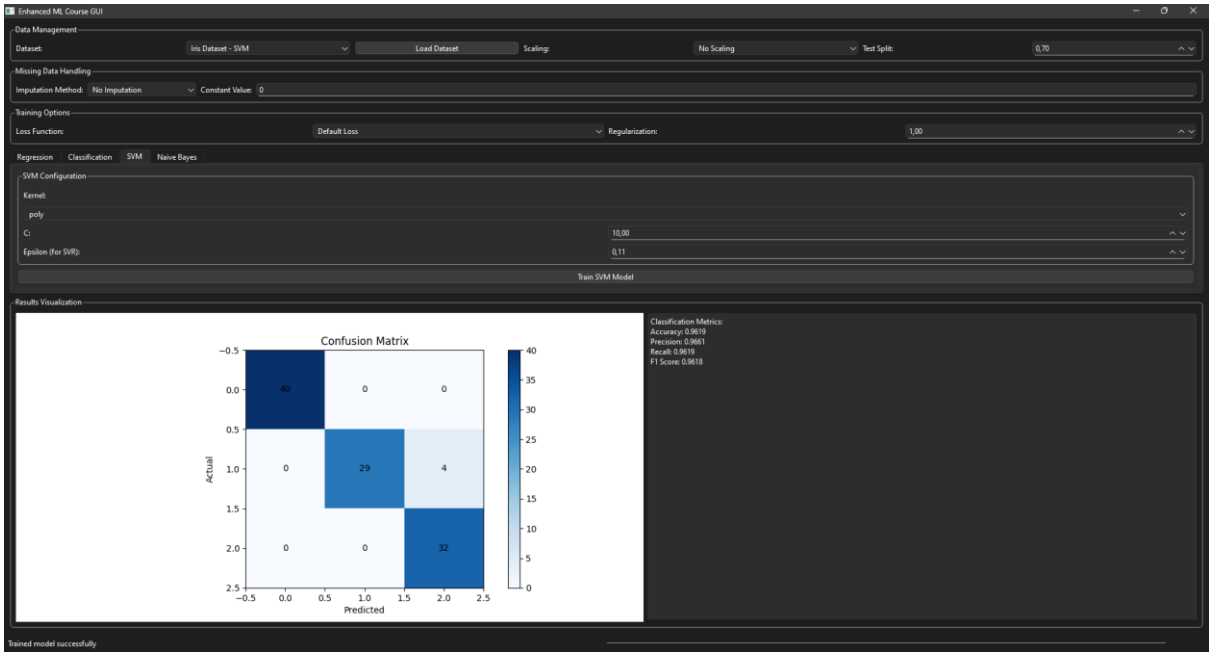

Enhanced ML Course GUI
Data Management
Dataset:
Iris Dataset - Classification
Load Dataset
Scaling:
No Scaling
Test Split:
0,70
Missing Data Handling
Imputation Method:
No Imputation
Constant Value:
0
Training Options
Loss Function:
Default Loss
Regularization:
1,00
Regression
Classification
SVM
Naive Bayes
Classification Models
Decision Tree Classifier
Classification model parameters (if any)
Train Classification Model
Results Visualization
Confusion Matrix
Actual
Predicted
40
0
0
0
28
5
0
3
29
Classification Metrics:
Accuracy: 0.9238
Precision: 0.9248
Recall: 0.9238
F1 Score: 0.9238
Trained model successfully


Enhanced ML Course GUI
Data Management
Dataset:
Iris Dataset - Classification
Load Dataset
Scaling:
No Scaling
Test Split:
0,70
Missing Data Handling
Imputation Method:
No Imputation
Constant Value:
0
Training Options
Loss Function:
Default Loss
Regularization:
1,00
Regression
Classification
SVM
Naive Bayes
Classification Models
SVM Classifier
Classification model parameters (if any)
Train Classification Model
Results Visualization
Confusion Matrix
Actual
Predicted
40
0
0
0
31
2
0
0
32
Classification Metrics:
Accuracy: 0.9810
Precision: 0.9821
Recall: 0.9810
F1 Score: 0.9809
Trained model successfully

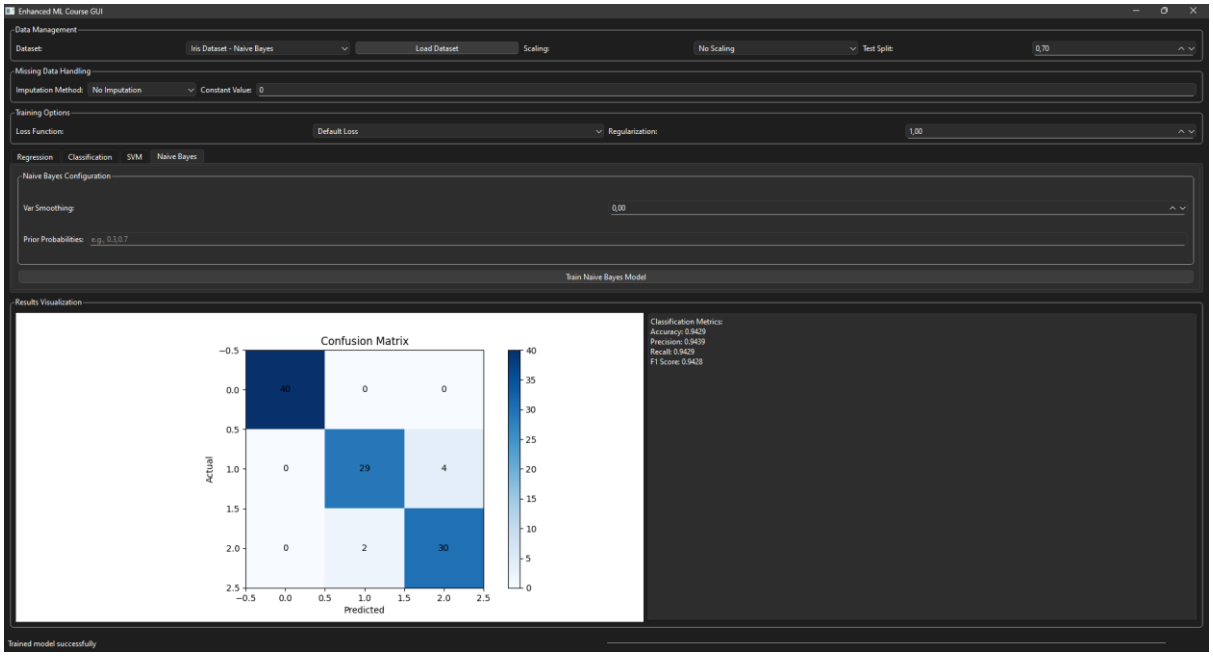
SVM Tab:

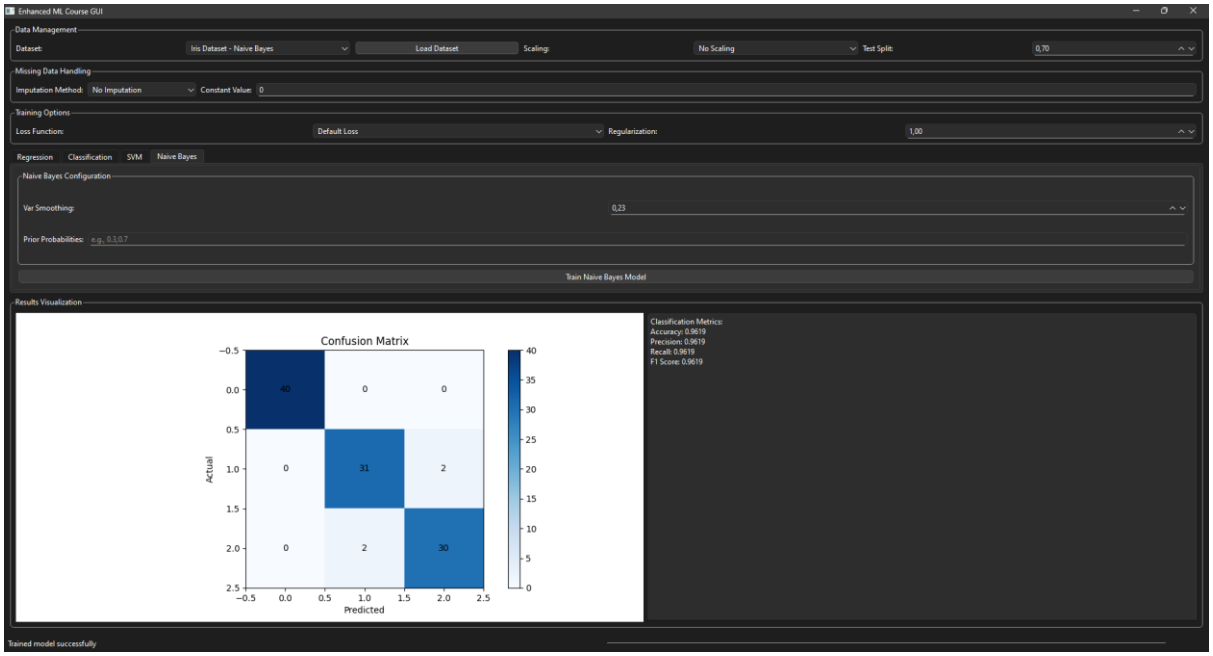

Enhanced ML Course GUI
Data Management
Dataset:
Iris Dataset - SVM
Load Dataset
Scaling:
No Scaling
Test Split:
0,70
Missing Data Handling
Imputation Method:
No Imputation
Constant Value:
0
Training Options
Loss Function:
Default Loss
Regularization:
1,00
Regression
Classification
SVM
Naive Bayes
SVM Configuration
Kernel:
linear
C:
10,00
Epsilon (for SVR):
0,11
Train SVM Model
Results Visualization
Confusion Matrix
Actual
Predicted
Classification Metrics:
Accuracy: 0.9619
Precision: 0.9661
Recall: 0.9619
F1 Score: 0.9618
Trained model successfully


Enhanced ML Course GUI
Data Management
Dataset:
Iris Dataset - SVM
Load Dataset
Scaling:
No Scaling
Test Split:
0,70
Missing Data Handling
Imputation Method:
No Imputation
Constant Value:
0
Training Options
Loss Function:
Default Loss
Regularization:
1,00
Regression
Classification
SVM
Naive Bayes
SVM Configuration
Kernel:
rbf
C:
10,00
Epsilon (for SVR):
0,11
Train SVM Model
Results Visualization
Confusion Matrix
Actual
Predicted
Classification Metrics:
Accuracy: 0.9810
Precision: 0.9821
Recall: 0.9810
F1 Score: 0.9809
Trained model successfully



Naive Bayes Tab:




Enhanced ML Course GUI
Data Management
Dataset:
Iris Dataset - Naive Bayes
Load Dataset
Scaling:
No Scaling
Test Split:
0,70
Missing Data Handling
Imputation Method:
No Imputation
Constant Value:
0
Training Options
Loss Function:
Default Loss
Regularization:
1,00
Regression
Classification
SVM
Naive Bayes
Naive Bayes Configuration
Var Smoothing:
0,23
Prior Probabilities:
e.g., 0.3,0.7
Train Naive Bayes Model
Results Visualization
Confusion Matrix
Actual
Predicted
40
0
0
0
31
2
0
2
30
Classification Metrics:
Accuracy: 0.9619
Precision: 0.9619
Recall: 0.9619
F1 Score: 0.9619
Trained model successfully