Exp6 (Naive Bayes using Weka Tool and Python Code)

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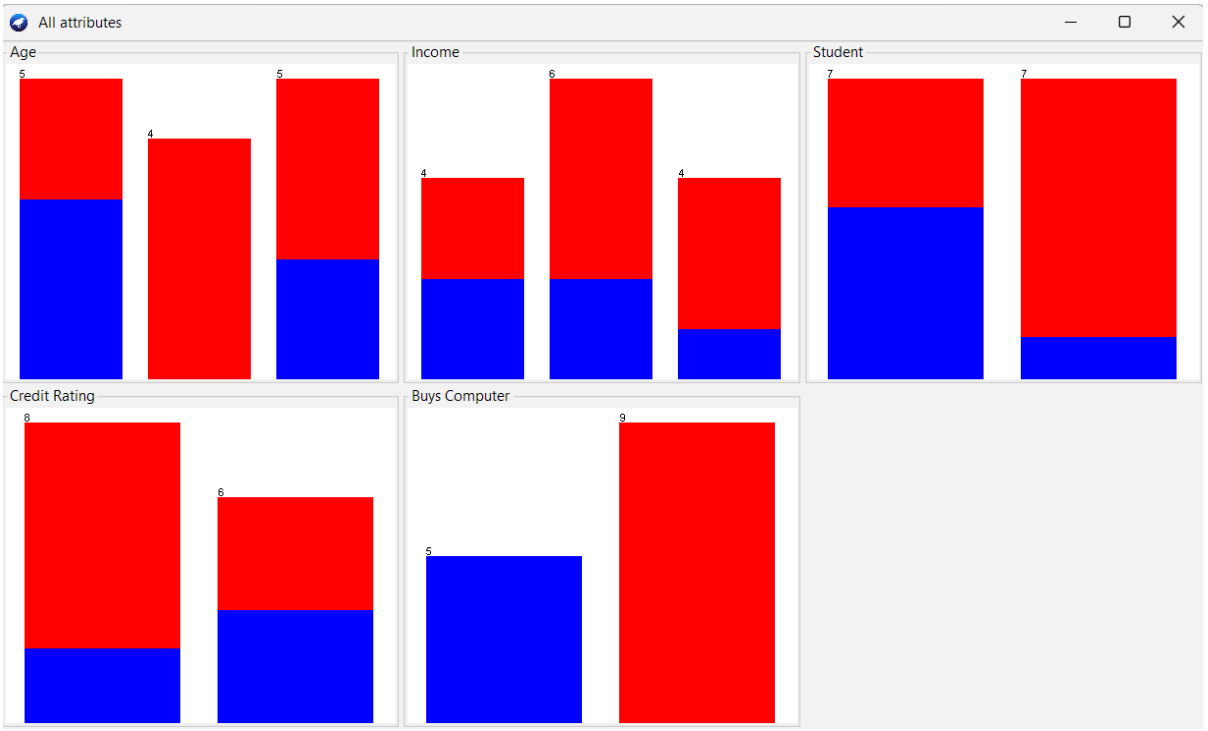
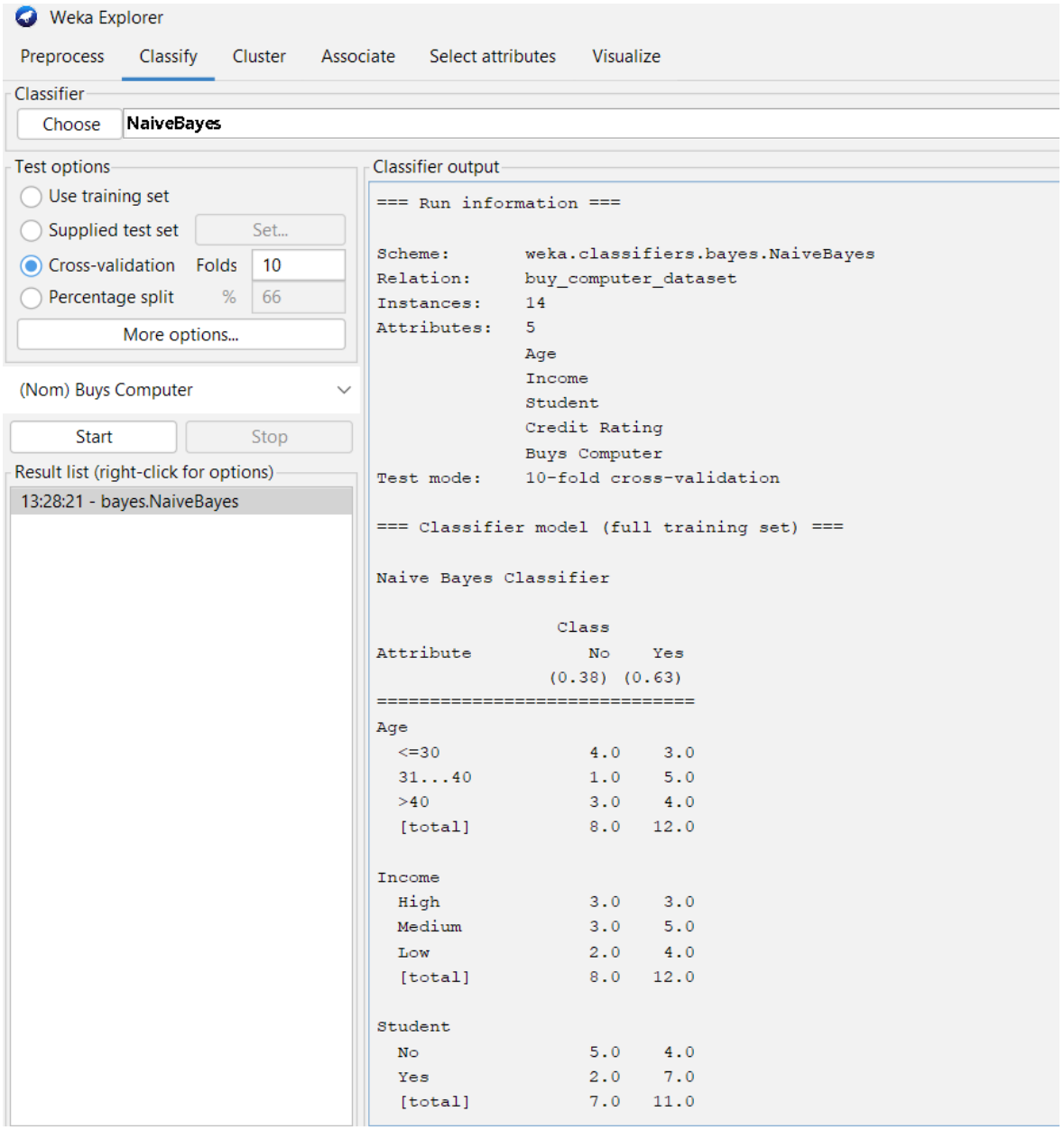
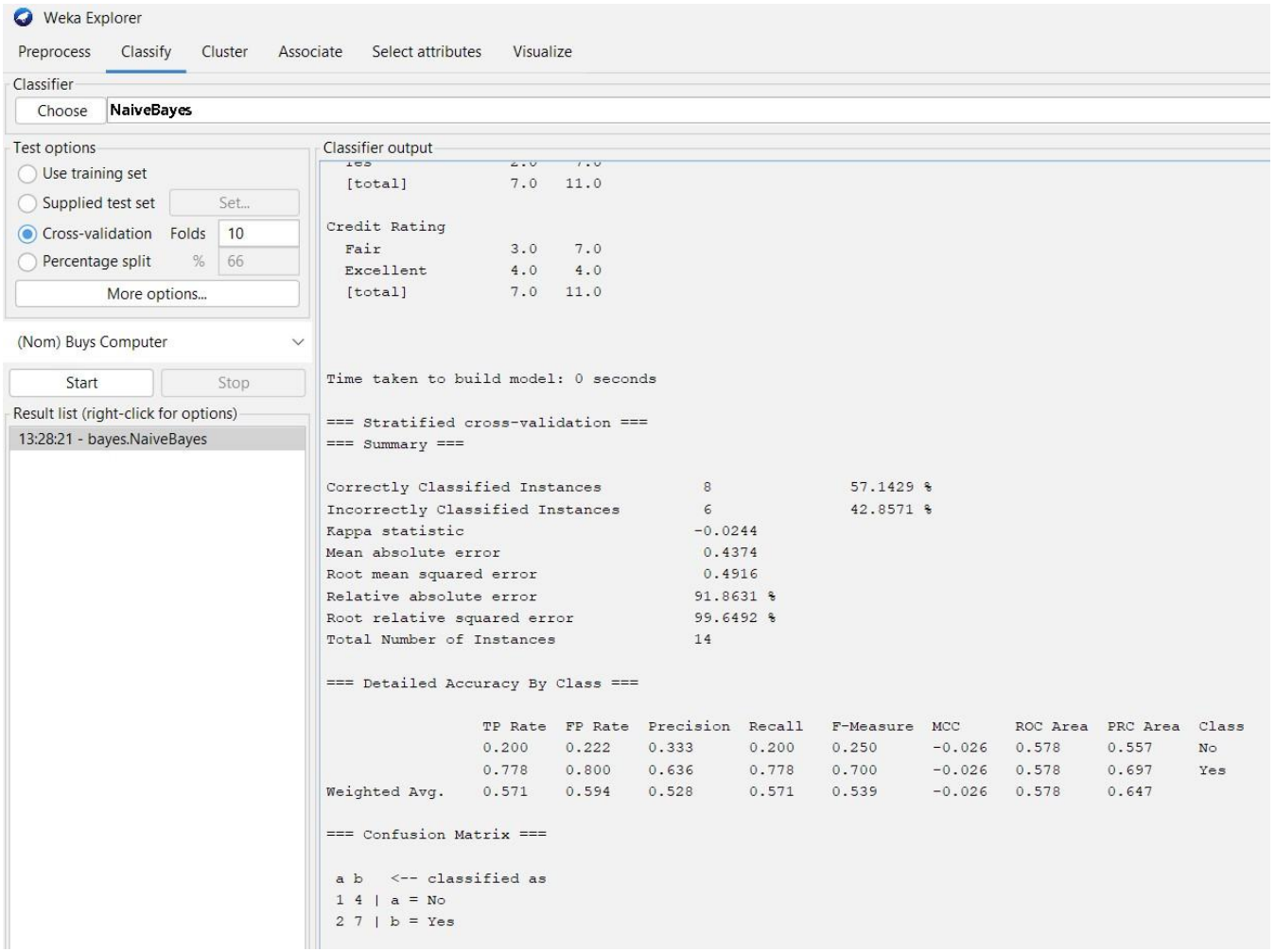
Naive Bayes using weka Tool




Weka Explorer
Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Classifier
Choose
NaiveBayes
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) Buys Computer
Start
Stop
Result list (right-click for options)
13:28:21 - bayes.NaiveBayes
Classifier output
=== Run information ===
Scheme: weka.classifiers.bayes.NaiveBayes
Relation: buy_computer_dataset
Instances: 14
Attributes: 5
Age
Income
Student
Credit Rating
Buys Computer
Test mode: 10-fold cross-validation
=== Classifier model (full training set) ===
Naive Bayes Classifier
Class
Attribute No Yes
(0.38) (0.63)
Age
<=30 4.0 3.0
31...40 1.0 5.0
>40 3.0 4.0
[total] 8.0 12.0
Income
High 3.0 3.0
Medium 3.0 5.0
Low 2.0 4.0
[total] 8.0 12.0
Student
No 5.0 4.0
Yes 2.0 7.0
[total] 7.0 11.0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13:28:21 - bayes.NaiveBayes
Classifier output
[total] 7.0 11.0
Credit Rating
Fair 3.0 7.0
Excellent 4.0 4.0
[total] 7.0 11.0
Time taken to build model: 0 seconds
=== Stratified cross-validation ===
=== Summary ===
Correctly Classified Instances 8 57.1429 %
Incorrectly Classified Instances 6 42.8571 %
Kappa statistic -0.0244
Mean absolute error 0.4374
Root mean squared error 0.4916
Relative absolute error 91.8631 %
Root relative squared error 99.6492 %
Total Number of Instances 14
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class
0.200 0.222 0.333 0.200 0.250 -0.026 0.578 0.557 No
0.778 0.800 0.636 0.778 0.700 -0.026 0.578 0.697 Yes
Weighted Avg. 0.571 0.594 0.528 0.571 0.539 -0.026 0.578 0.647
=== Confusion Matrix ===
a b <-- classified as
1 4 | a = No
2 7 | b = Yes