Assignment2

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A. Classification learning

Algorithhm	Error rate(%)=1-accuracy	Datasets				
		breast-cancer(k=4)	diabetes(k=7)	lymphography(k=8)	primary-tumor(k=4)	soybean(k=2)
		All are nominal; Binary class; Only removed missing value with PRISM	After discretization; Binary class	After discretization; 4 classes	all nominal, with missing value, 18 classes	all nominal, with missing values; 15 classes
OneR	Training set	27.27%	25.39%	24.32%	70.45%	62.46%
	66% split	31.96%	23.75%	32%	73.33%	69.11%
	Cross-validation	34.27%	26.43%	25%	75.76%	63.52%
Naïve Bayes	Training set	24.83%	22.27%	12.84%	37.12%	7.30%
	66% split	28.87%	21.07%	20%	57.78%	10.47%
	Cross-validation	28.32%	24.61%	16.89%	53.03%	8.36%
J4.8	Training set	24.13%	20.70%	8.78%	35.61%	3.38%
	66% split	31.96%	23.75%	22%	64.44%	7.85%
	Cross-validation	24.48%	26.17%	20.27%	56.82%	8.19%
PRISM	Training set	2.53%	0.26%	0%	9.09%	0.18%
	66% split	28.72%	23.37%	36%	73.33%	15.18%
	Cross-validation	29.24%	23.31%	23.65%	66.67%	14.23%
Ibk	Training set	22.73%	25.13%	15.54%	45.45%	5.69%
	66% split	26.80%	26.44%	28%	60%	12.04%
	Cross-validation	25.52%	30.73%	17.57%	56.06%	9.43%

1. For all 5 learning schemes, error rate with only training set is the lowest compared with 66% split and cross-validation, which implies the model learns some rules specific to train set.
2. PRISM (rules method) always has weirdly high accuracy in training set, indicating learning every rule about training set. But when new cases occur in test

set, the prediction result of PRISM will become unclassified. This is also the main problem with PRISM.

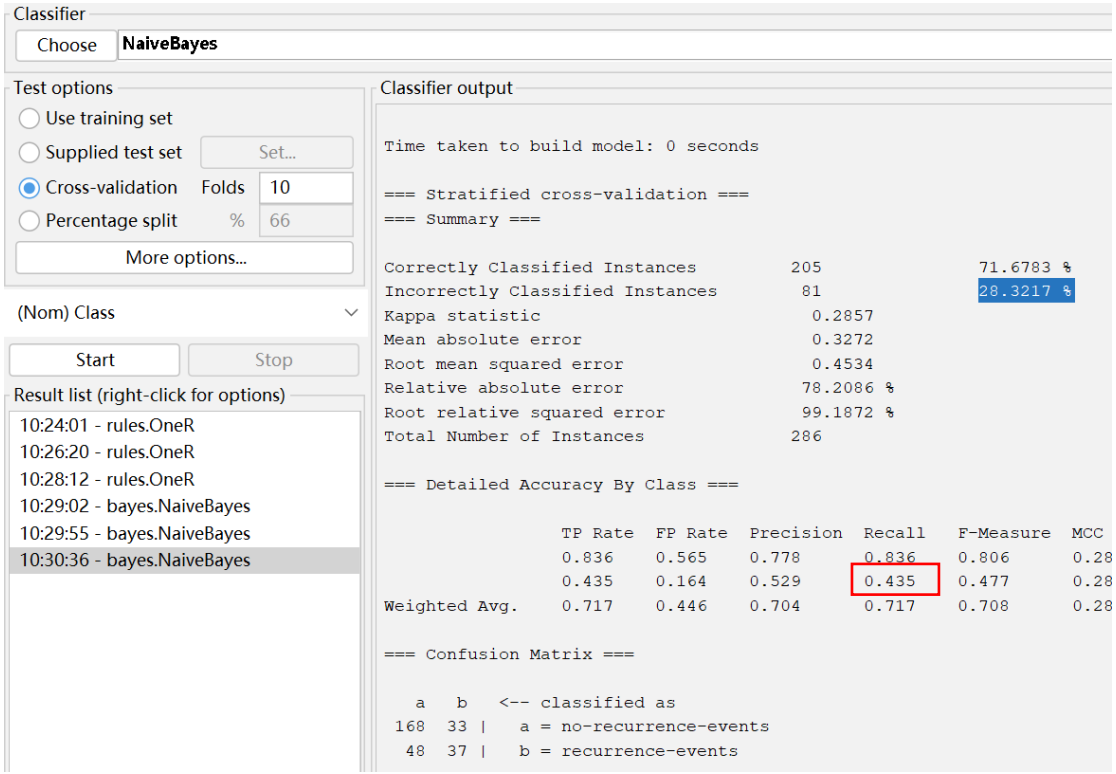
3. When the classes of dependent variable increases, OneR model's performance becomes quite unsatisfying. When the classification problem becomes quite complex, it is difficult to use only one feature to accurately get the classified outcome.
4. We can see that all model performs badly on primary tumor dataset. Maybe this could because to make the results comparable, I discretized the numeric features in advance. Then I tried to apply model like Naïve Bayes directly to the dataset. The error rate decreased to 49.85%, improving a little bit, but still not so good. I tried to adjust parameters for the model, improved a little, but still not quite satisfying. Maybe more pre-processing work is required.
5. For all discretized processing, the number of bins also affects the model.
6. Naïve Bayes and decision tree perform pretty well with multi-class classification problem. PRISM can be good when dealing with binary classification problem. Especially naïve bayes is better suited for categorical input variables than numeric ones.
7. New data can be added seamlessly using KNN algorithm, whereas this does not apply to PRISM. But note that here we discretized all variables before putting into KNN. If we put original numeric variables into the model, feature scaling is needed.
8. For the last two datasets, we removed a large percentage of instances with missing values in features.

B. If we only consider training error when evaluating models, we tend to choose the overfitted model, which learns the rule specific to train set. In this way, the model may perform badly when being applied to other dataset and lacks general applicability. But by using a single validation set and evaluating each model on multiple validation sets and averaging the validation performance, the overfitting problem can be eased.

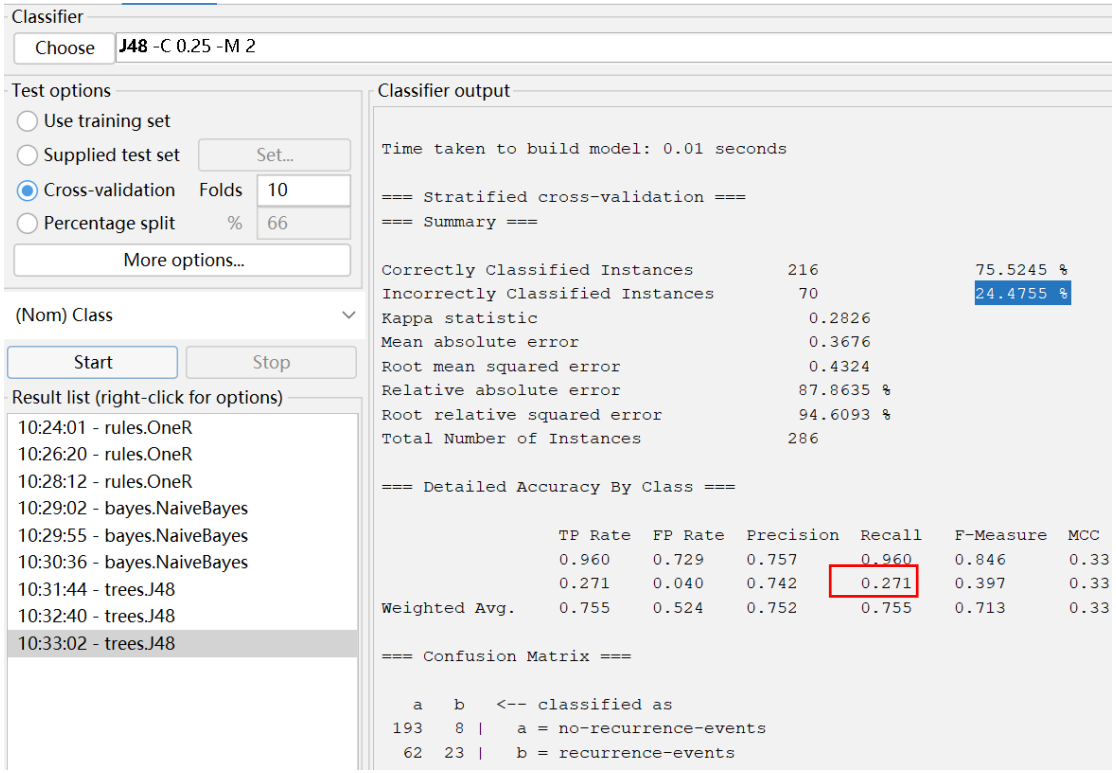
C. Here we pick the **breast-cancer and diabetes** datasets and focus on cross validation confusion matrix.

Breast-cancer:

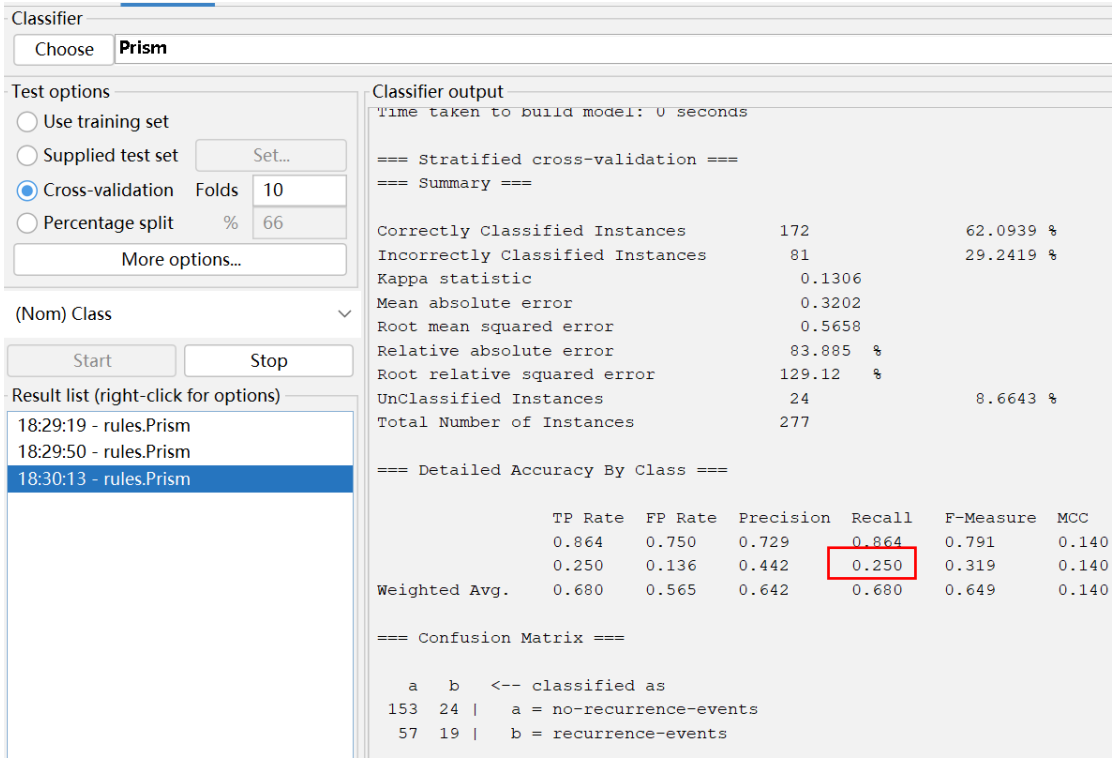
Naïve Bayes:


Classifier
Choose
NaiveBayes
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) Class
Start
Stop
Result list (right-click for options)
10:24:01 - rules.OneR
10:26:20 - rules.OneR
10:28:12 - rules.OneR
10:29:02 - bayes.NaiveBayes
10:29:55 - bayes.NaiveBayes
10:30:36 - bayes.NaiveBayes
Classifier output
Time taken to build model: 0 seconds
=== Stratified cross-validation ===
=== Summary ===
Correctly Classified Instances 205 71.6783 %
Incorrectly Classified Instances 81 28.3217 %
Kappa statistic 0.2857
Mean absolute error 0.3272
Root mean squared error 0.4534
Relative absolute error 78.2086 %
Root relative squared error 99.1872 %
Total Number of Instances 286
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MCC
0.836 0.565 0.778 0.836 0.806 0.28
0.435 0.164 0.529 0.435 0.477 0.28
Weighted Avg. 0.717 0.446 0.704 0.717 0.708 0.28
=== Confusion Matrix ===
a b <-- classified as
168 33 | a = no-recurrence-events
48 37 | b = recurrence-events

J4.8


Classifier
Choose
J48 -C 0.25 -M 2
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) Class
Start
Stop
Result list (right-click for options)
10:24:01 - rules.OneR
10:26:20 - rules.OneR
10:28:12 - rules.OneR
10:29:02 - bayes.NaiveBayes
10:29:55 - bayes.NaiveBayes
10:30:36 - bayes.NaiveBayes
10:31:44 - trees.J48
10:32:40 - trees.J48
10:33:02 - trees.J48
Classifier output
Time taken to build model: 0.01 seconds
=== Stratified cross-validation ===
=== Summary ===
Correctly Classified Instances 216 75.5245 %
Incorrectly Classified Instances 70 24.4755 %
Kappa statistic 0.2826
Mean absolute error 0.3676
Root mean squared error 0.4324
Relative absolute error 87.8635 %
Root relative squared error 94.6093 %
Total Number of Instances 286
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MCC
0.960 0.729 0.757 0.960 0.846 0.33
0.271 0.040 0.742 0.271 0.397 0.33
Weighted Avg. 0.755 0.524 0.752 0.755 0.713 0.33
=== Confusion Matrix ===
a b <-- classified as
193 8 | a = no-recurrence-events
62 23 | b = recurrence-events

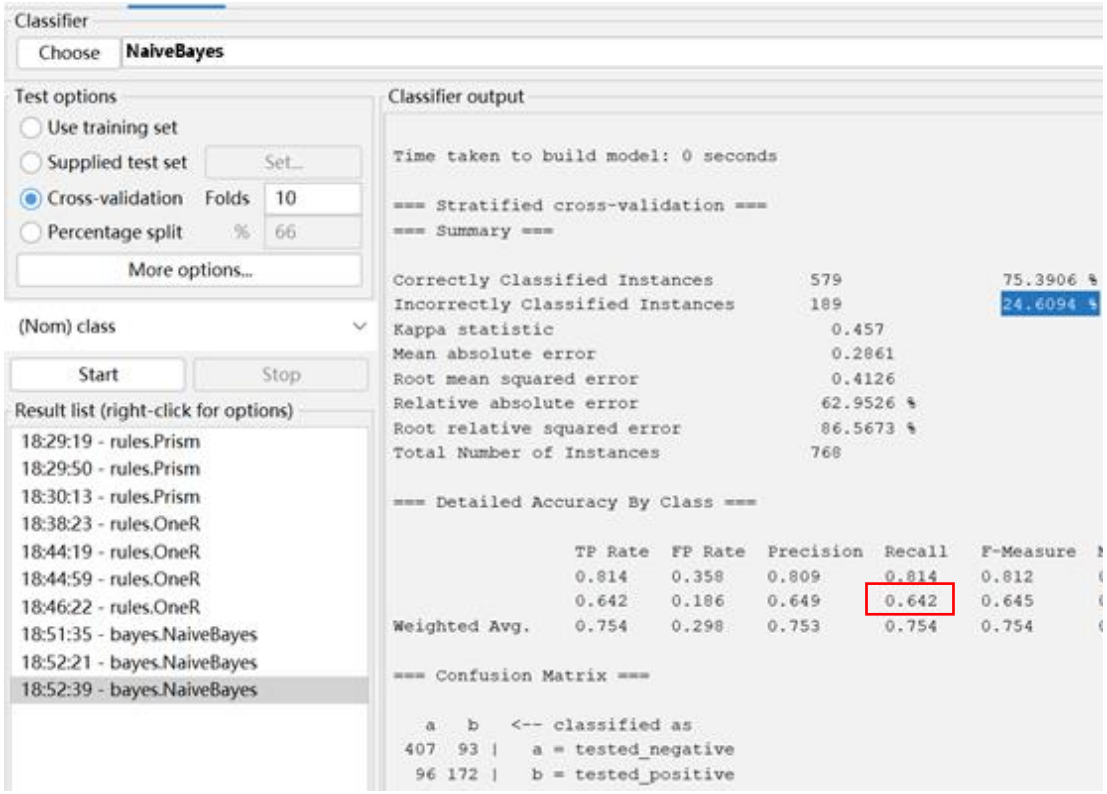
PRISM



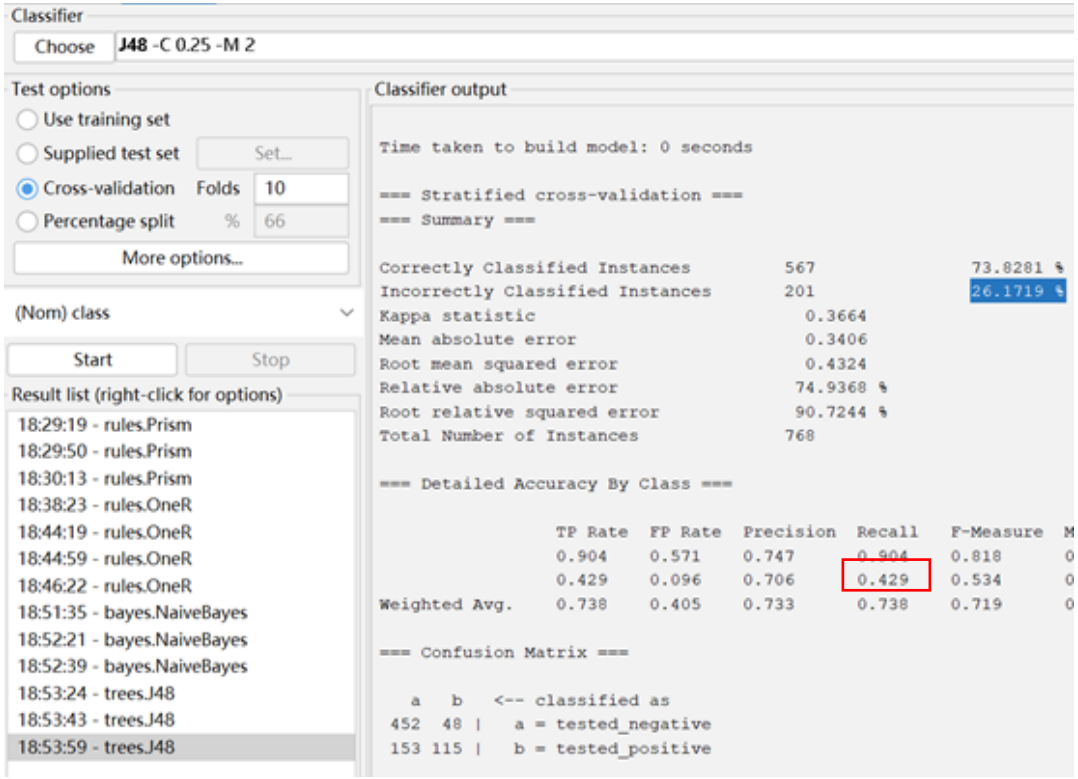
For breast cancer problem, the most important is to detect as many recurrence-events as possible. At the same time, if the precision of the classified recurrence-events is higher, then the model is preferred. From the perspective of recall rate, the naïve bayes model is the best, which means using this model can detect as many patients as possible. From the perspective of precision, decision tree J4.8 is the best, which means most people classified as recurrence are actually patients, which will not cause least anxiety in mis-classified people.

Diabetes:

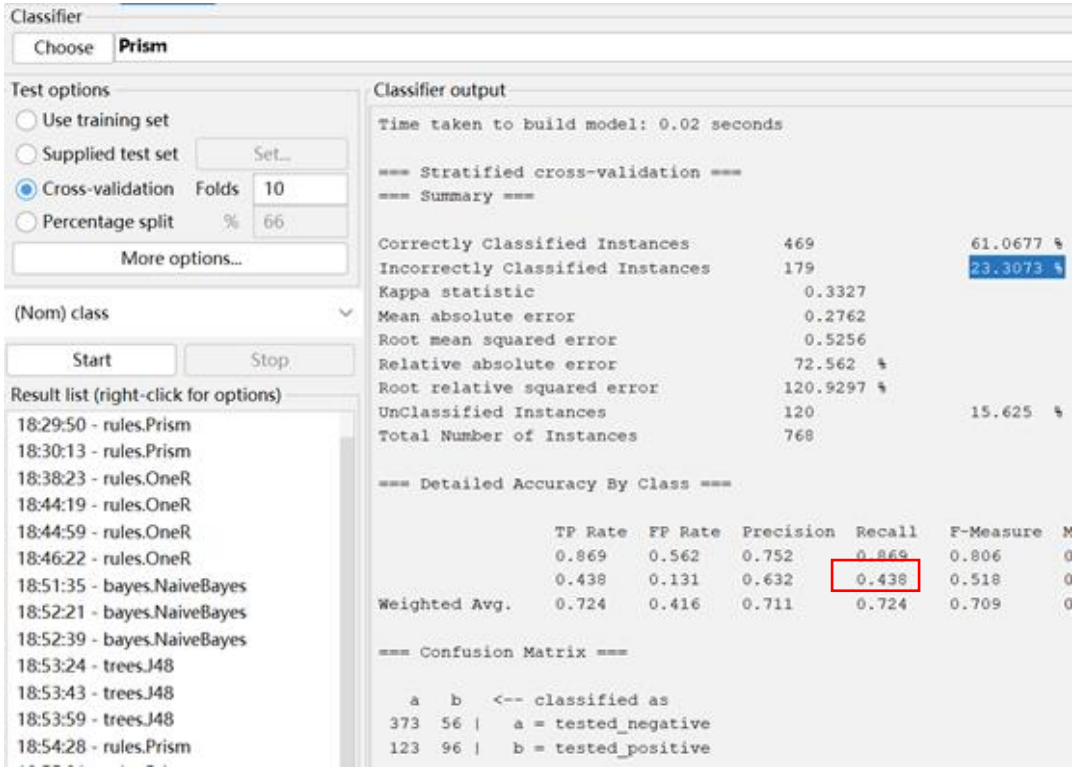
Naïve Bayes:


Classifier
Choose NaiveBayes
Test options
Use training set
Supplied test set Set...
Cross-validation Folds 10
Percentage split % 66
More options...
(Nom) class
Start Stop
Result list (right-click for options)
18:29:19 - rules.Prism
18:29:50 - rules.Prism
18:30:13 - rules.Prism
18:38:23 - rules.OneR
18:44:19 - rules.OneR
18:44:59 - rules.OneR
18:46:22 - rules.OneR
18:51:35 - bayes.NaiveBayes
18:52:21 - bayes.NaiveBayes
18:52:39 - bayes.NaiveBayes
Classifier output
Time taken to build model: 0 seconds
=== Stratified cross-validation ===
=== Summary ===
Correctly Classified Instances 579 75.3906 %
Incorrectly Classified Instances 189 24.6094 %
Kappa statistic 0.457
Mean absolute error 0.2861
Root mean squared error 0.4126
Relative absolute error 62.9526 %
Root relative squared error 86.5673 %
Total Number of Instances 768
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure
0.814 0.358 0.809 0.814 0.812
0.642 0.186 0.649 0.642 0.645
Weighted Avg. 0.754 0.298 0.753 0.754 0.754
=== Confusion Matrix ===
a b <-- classified as
407 93 | a = tested_negative
96 172 | b = tested_positive

J4.8:


Classifier
Choose
J48 -C 0.25 -M 2
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
18:29:19 - rules.Prism
18:29:50 - rules.Prism
18:30:13 - rules.Prism
18:38:23 - rules.OneR
18:44:19 - rules.OneR
18:44:59 - rules.OneR
18:46:22 - rules.OneR
18:51:35 - bayes.NaiveBayes
18:52:21 - bayes.NaiveBayes
18:52:39 - bayes.NaiveBayes
18:53:24 - trees.J48
18:53:43 - trees.J48
18:53:59 - trees.J48
Classifier output
Time taken to build model: 0 seconds
=== Stratified cross-validation ===
=== Summary ===
Correctly Classified Instances 567 73.8281 %
Incorrectly Classified Instances 201 26.1719 %
Kappa statistic 0.3664
Mean absolute error 0.3406
Root mean squared error 0.4324
Relative absolute error 74.9368 %
Root relative squared error 90.7244 %
Total Number of Instances 768
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure M
0.904 0.571 0.747 0.904 0.818 0
0.429 0.096 0.706 0.429 0.534 0
Weighted Avg. 0.738 0.405 0.733 0.738 0.719 0
=== Confusion Matrix ===
a b <-- classified as
452 48 | a = tested_negative
153 115 | b = tested_positive

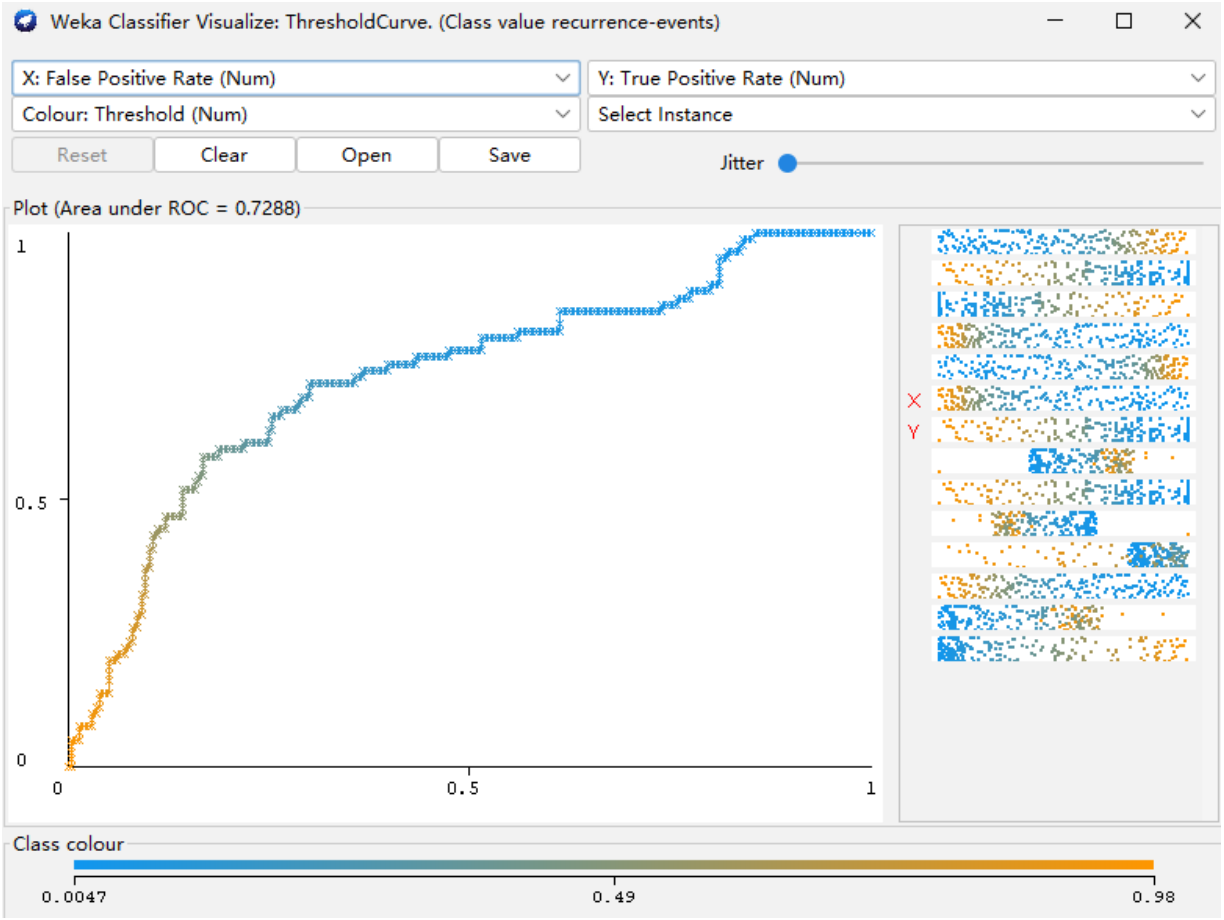
PRISM:



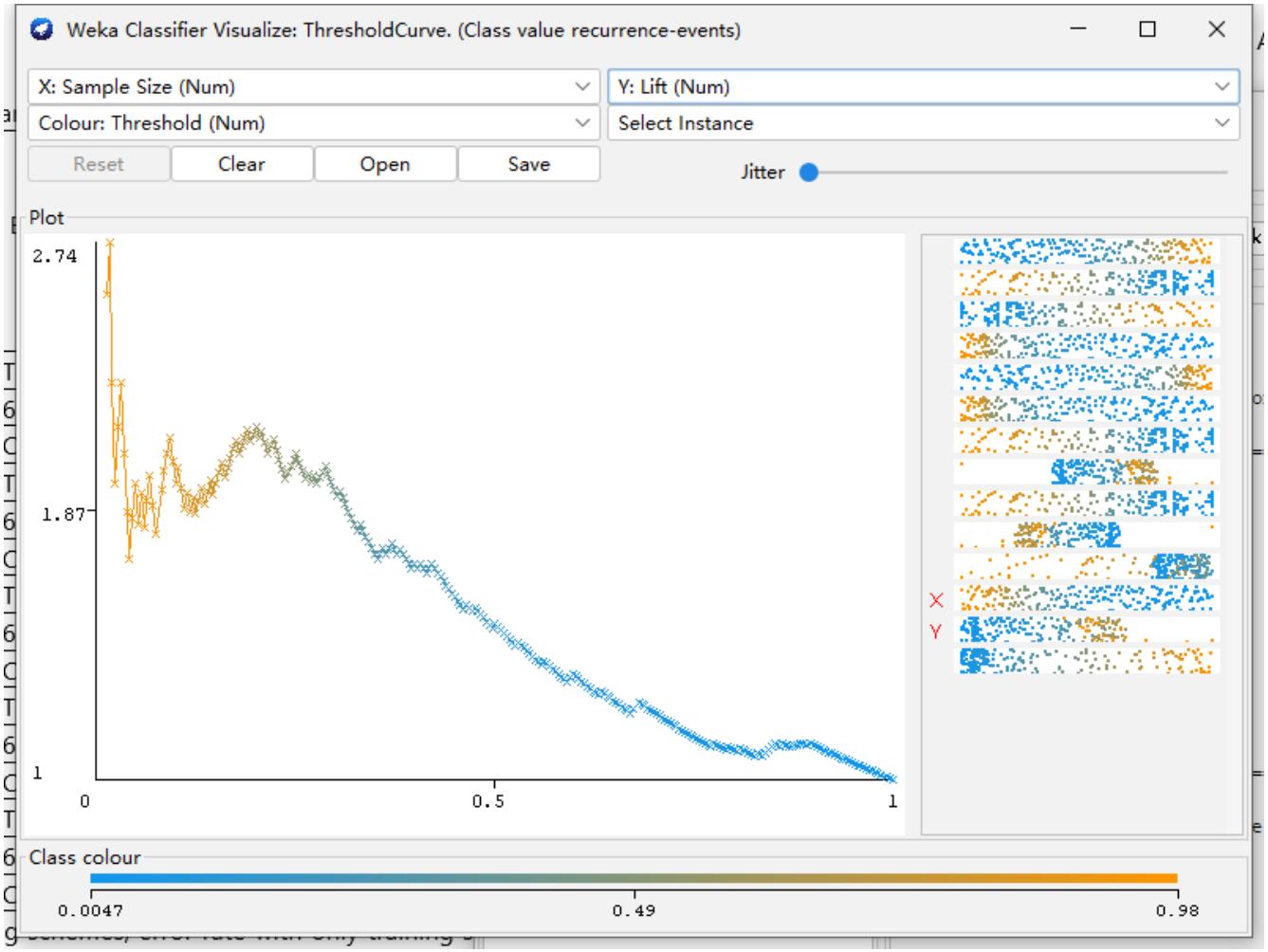
This problem is actually similar to the first one. We put emphasis on detecting as many patients with diabetes as possible and at the same time keep the precision of the classified-positive ones. Also, Naïve Bayes performs best in the recall rate. J4.8 performs best in the precision of tested-positive ones. And the difference between recall rate is larger than the precision perspective. In summary, Naïve bayes is a better option here.

D. For this question, we select the first three datasets.

For breast-cancer, I looked into the AUC of four models (Naïve Bayes, J4.8, PRISM, and IBK) and **Naïve bayes** has the largest AUC here, 0.7288.

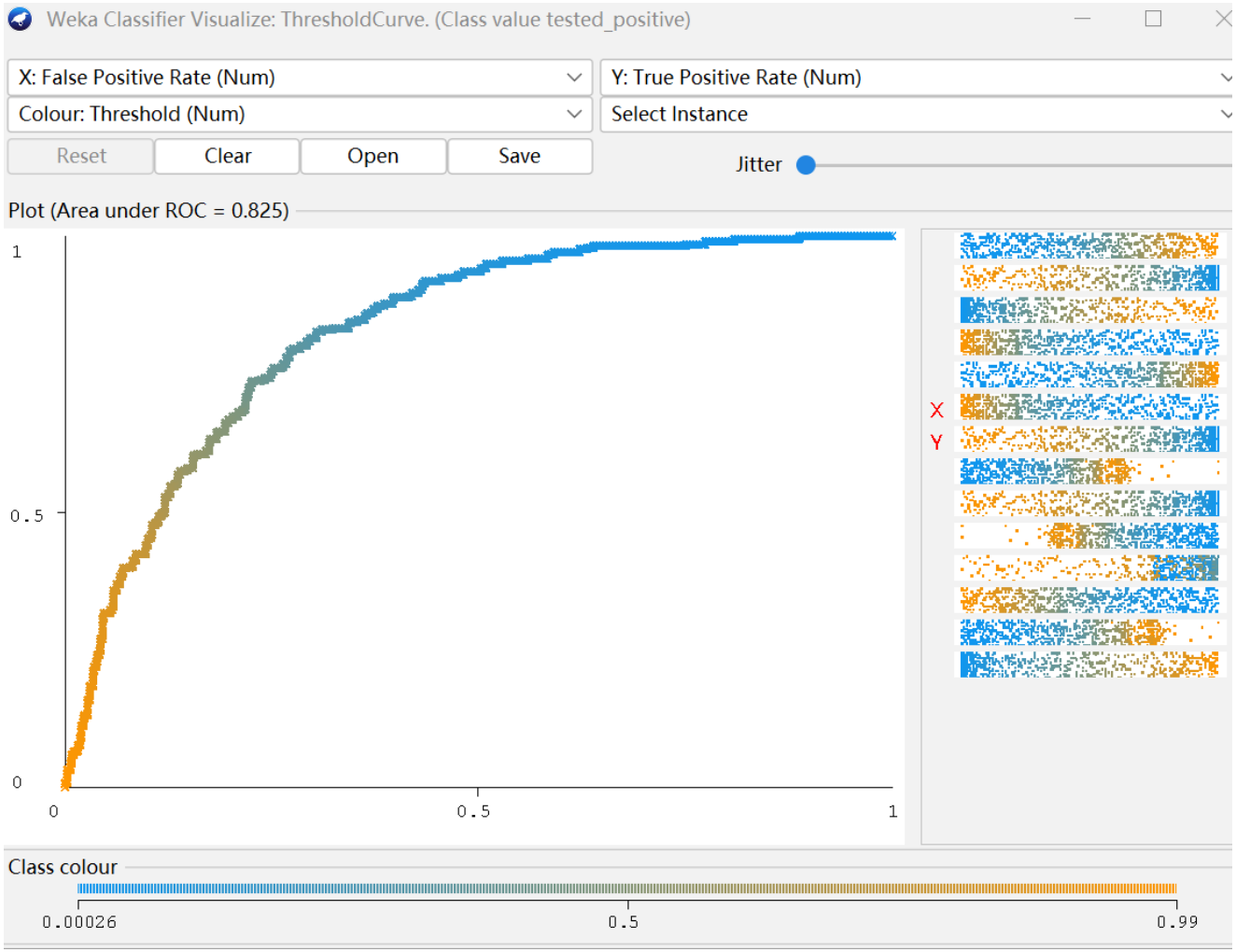


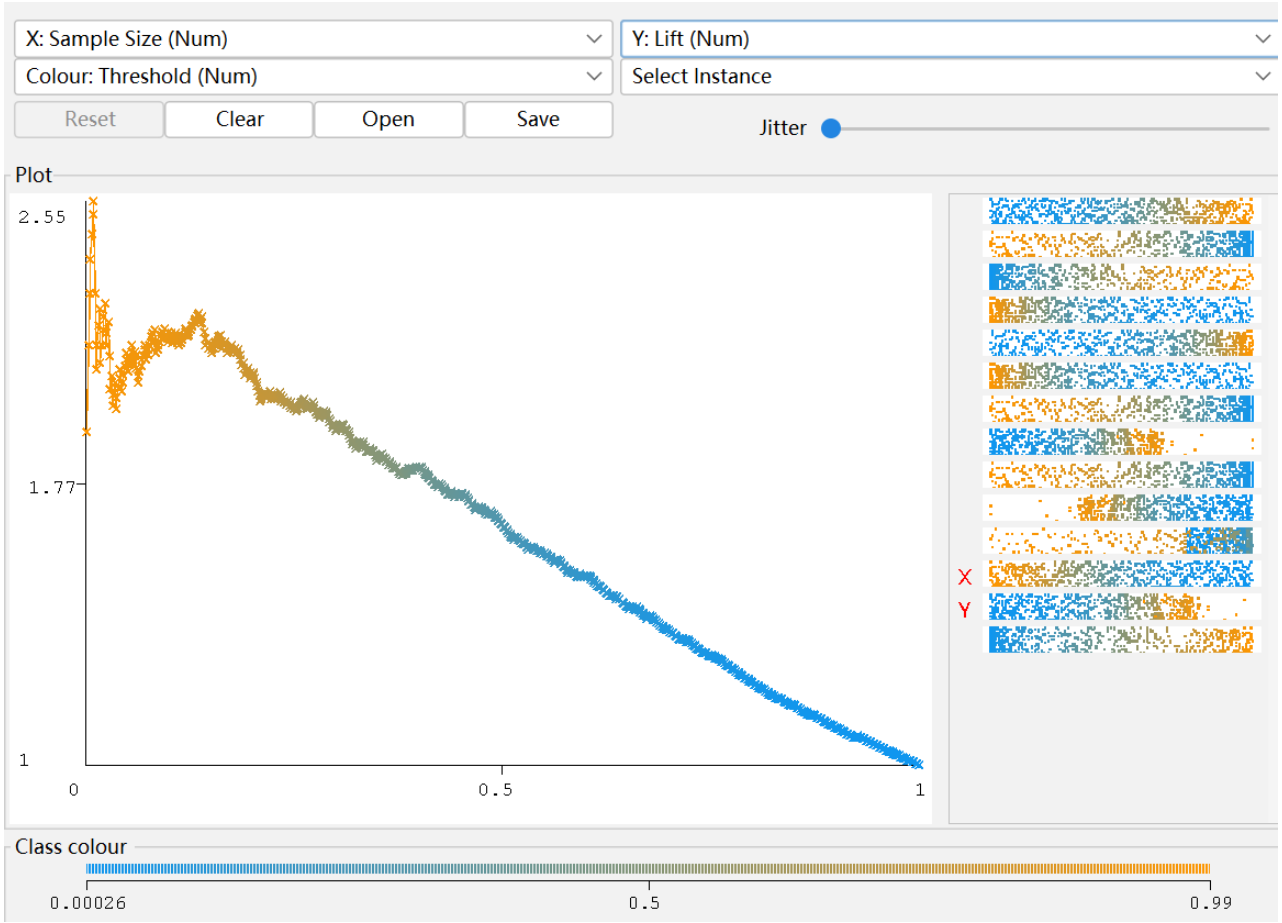
Below is the lift chart on this dataset. The predicted accuracy reaches 75% after removing instances with missing values. (Note: the data of models for the first dataset are based on not removing missing values, except for PRISM)



From the lift chart, we can see that by targeting the top ranked instances, we can achieve a high lift in finding out the recurrence events.

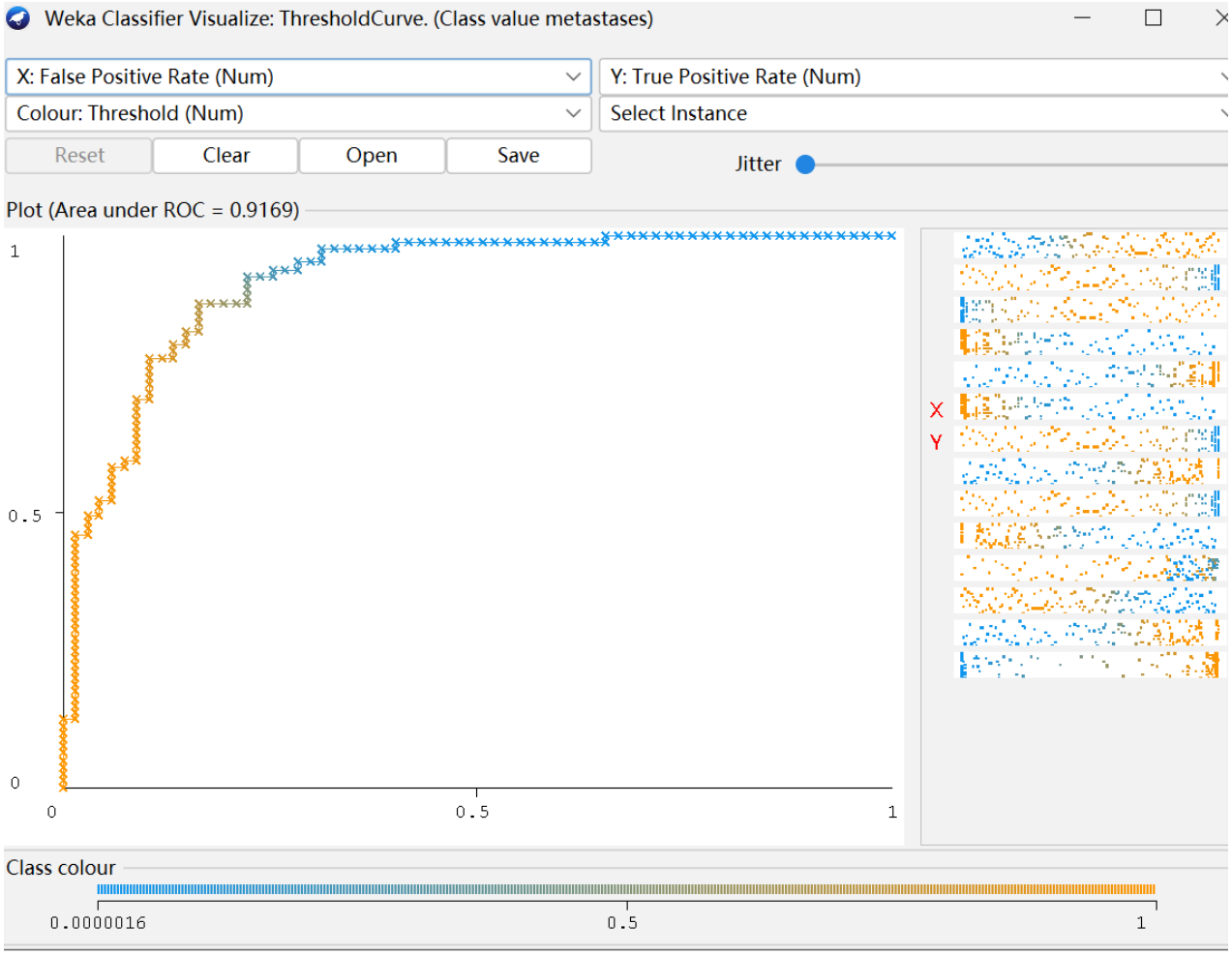
For diabetes, the AUC values for 5 models are 0.6732, 0.825, 0.7446, 0.6213, and 0.7724 correspondingly. (The order is the same as the table). Naïve Bayes generates the best performance and this also aligns with the recall rate result.


Weka Classifier Visualize: ThresholdCurve. (Class value tested_positive)
X: False Positive Rate (Num)
Y: True Positive Rate (Num)
Colour: Threshold (Num)
Select Instance
Reset
Clear
Open
Save
Jitter
Plot (Area under ROC = 0.825)
1
0.5
0
0
0.5
1
X
Y
Class colour
0.00026
0.5
0.99

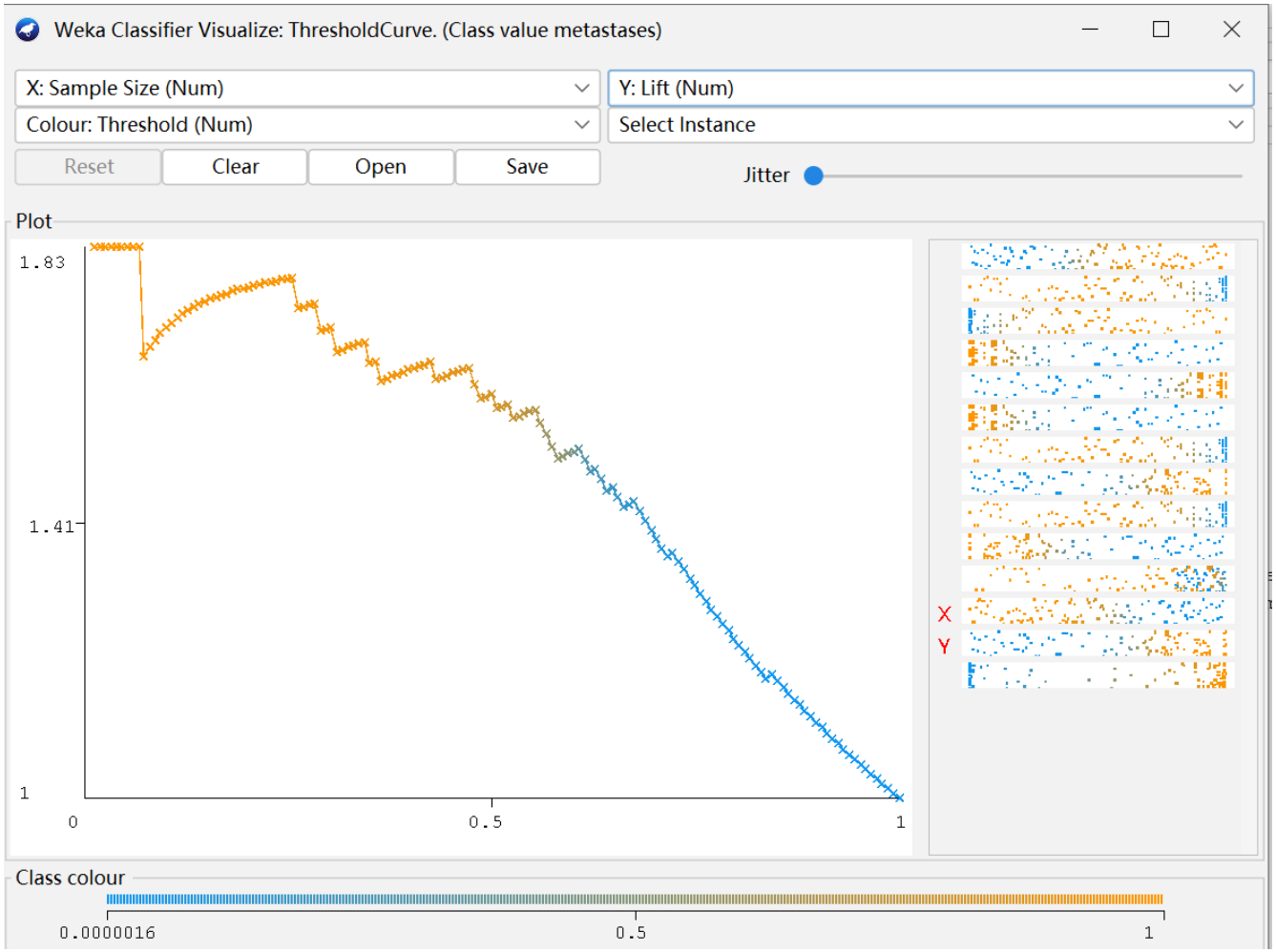


The lift chart is as above. The lift reaches pretty high when targeting the top proportion.

For lymphography, among four classes (normal, metastases, malignment, fibrosis), metastases are often paid attention, since it is quite dangerous and few patients can survive after metastases. Therefore, we looked into the AUC for this class for 5 models, the values are 0.7993, 0.9169, 0.7997, 0.8315, and 0.9081. Naïve Bayes and IBK actually perform well and Naïve Bayes performs the best.

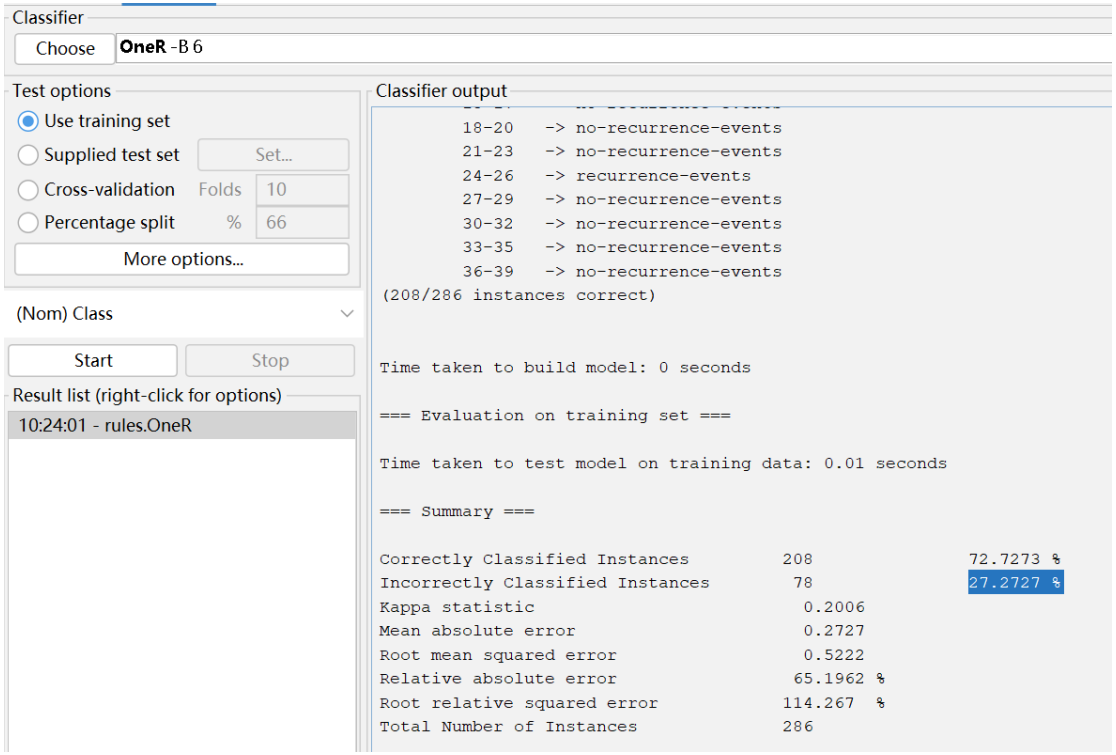


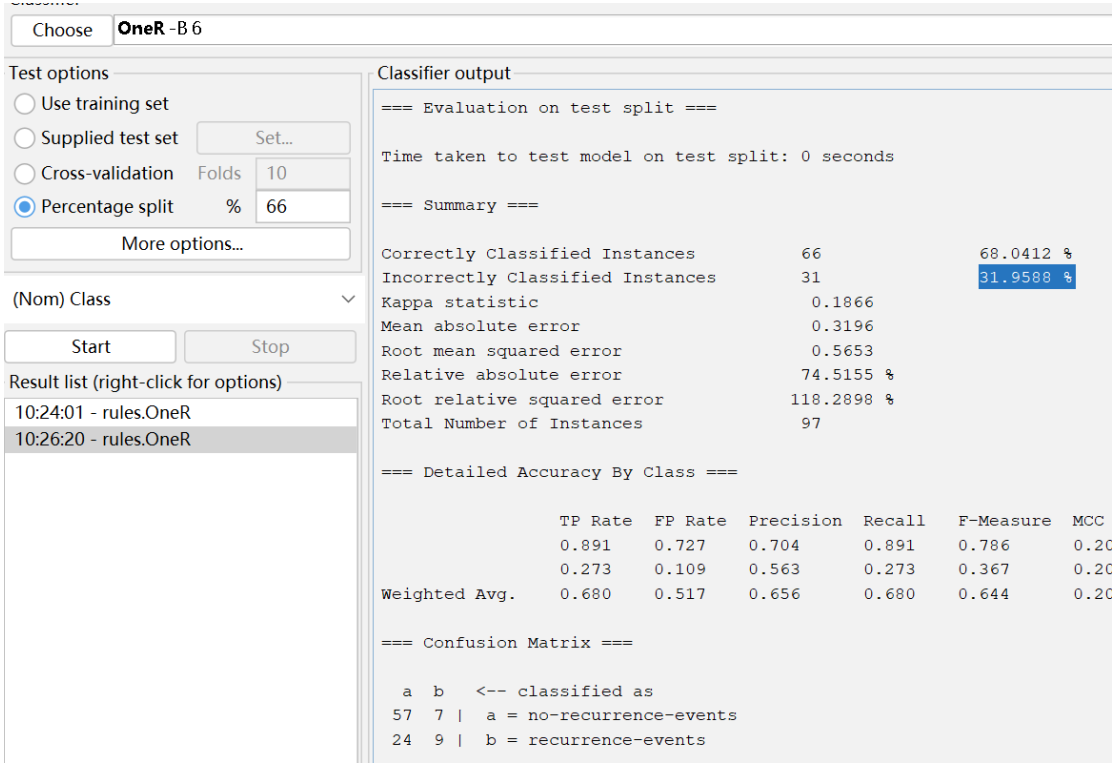
The lift chart is as below. By targeting same proportion of ordered instances, this model brings the highest lift.


Weka Classifier Visualize: ThresholdCurve. (Class value metastases)
X: Sample Size (Num)
Y: Lift (Num)
Colour: Threshold (Num)
Select Instance
Reset
Clear
Open
Save
Jitter
Plot
1.83
1.41
1
0
0.5
1
X
Y
Class colour
0.0000016
0.5
1

Appendix: *screenshots for models*

Breast cancer:




Choose
OneR -B 6
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) Class
Start
Stop
Result list (right-click for options)
10:24:01 - rules.OneR
10:26:20 - rules.OneR
Classifier output
=== Evaluation on test split ===
Time taken to test model on test split: 0 seconds
=== Summary ===
Correctly Classified Instances 66 68.0412 %
Incorrectly Classified Instances 31 31.9588 %
Kappa statistic 0.1866
Mean absolute error 0.3196
Root mean squared error 0.5653
Relative absolute error 74.5155 %
Root relative squared error 118.2898 %
Total Number of Instances 97
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MCC
0.891 0.727 0.704 0.891 0.786 0.20
0.273 0.109 0.563 0.273 0.367 0.20
Weighted Avg. 0.680 0.517 0.656 0.680 0.644 0.20
=== Confusion Matrix ===
a b <-- classified as
57 7 | a = no-recurrence-events
24 9 | b = recurrence-events

Classifier

Choose **OneR** -B 6

Test options

- Use training set
- Supplied test set — Set...
- Cross-validation — Folds 10
- Percentage split — % 66

More options...

(Nom) Class

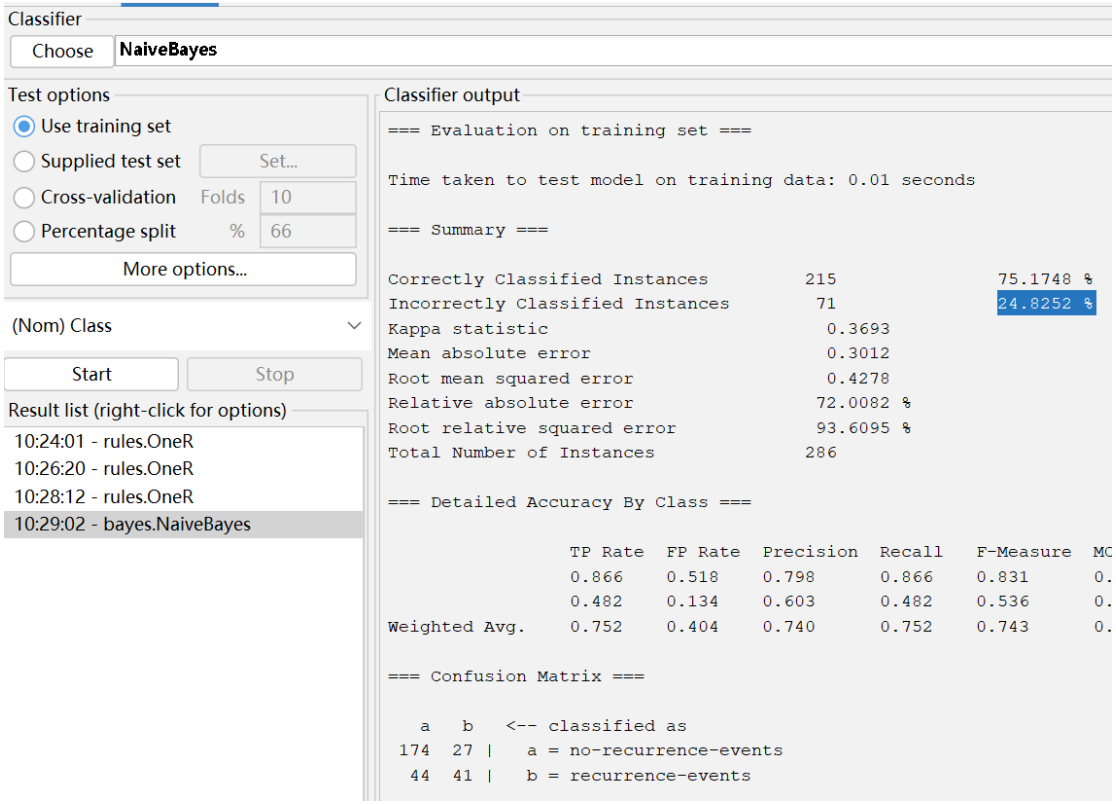
Start | Stop

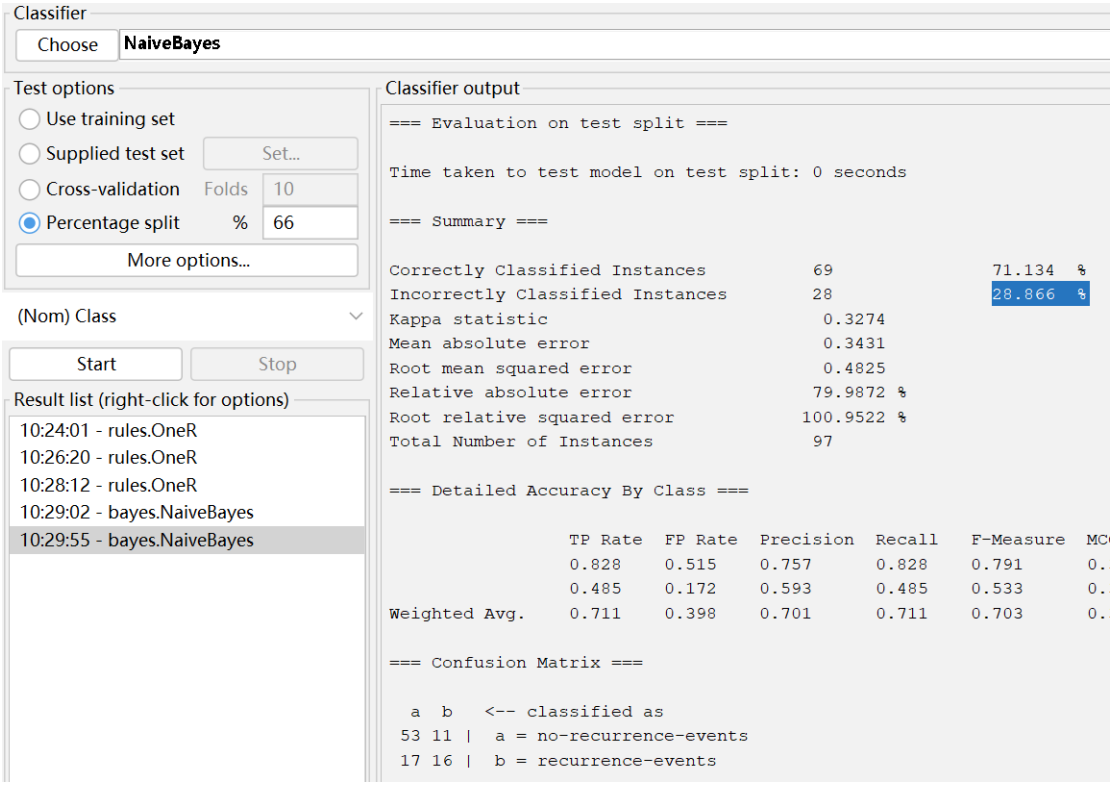
Result list (right-click for options)

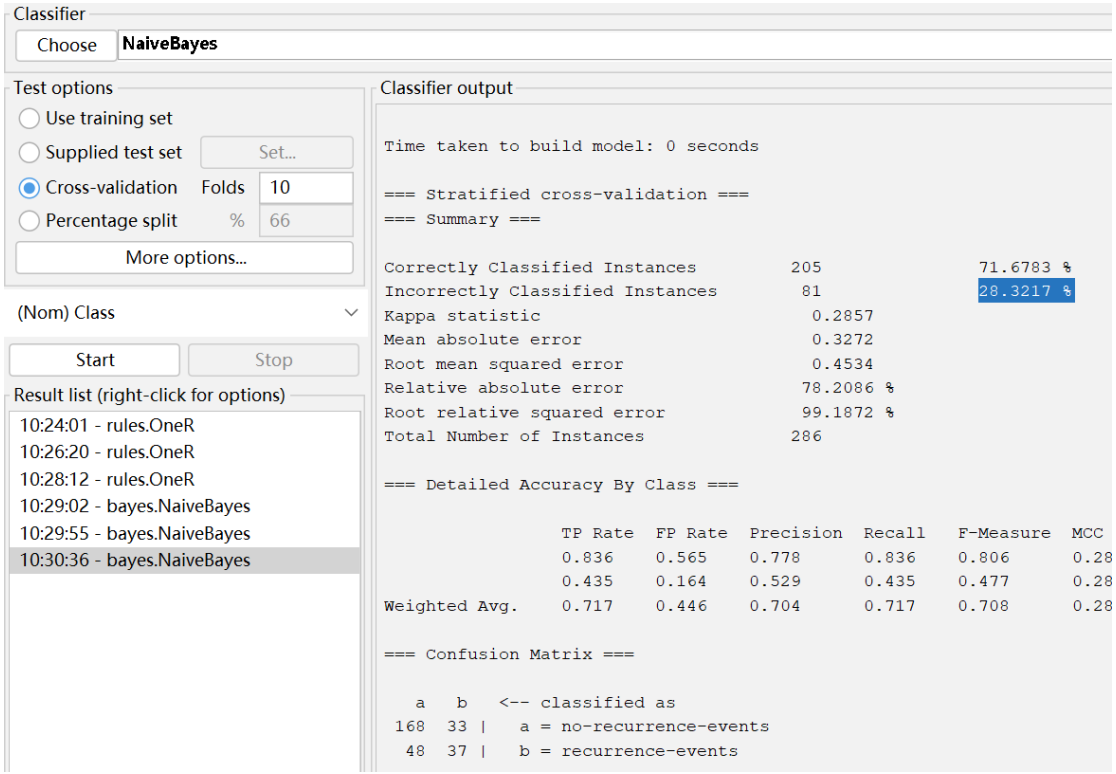
- 10:24:01 - rules.OneR
- 10:26:20 - rules.OneR
- 10:28:12 - rules.OneR

Classifier output

```
Time taken to build model: 0 seconds

=== Stratified cross-validation ===
=== Summary ===

Correctly Classified Instances         188               65.7343 %
Incorrectly Classified Instances        98               34.2657 %
Kappa statistic                          0.0936
Mean absolute error                      0.3427
Root mean squared error                  0.5854
Relative absolute error                 81.8943 %
Root relative squared error            128.0681 %
Total Number of Instances              286

=== Detailed Accuracy By Class ===

                 TP Rate  FP Rate  Precision  Recall   F-Measure  MC
                 0.826    0.741    0.725      0.826    0.772      0.
                 0.259    0.174    0.386      0.259    0.310      0.
Weighted Avg.    0.657    0.573    0.624      0.657    0.635      0.

=== Confusion Matrix ===

   a   b   <-- classified as
 166  35 |   a = no-recurrence-events
  63  22 |   b = recurrence-events
```


Classifier
Choose
NaiveBayes
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) Class
Start
Stop
Result list (right-click for options)
10:24:01 - rules.OneR
10:26:20 - rules.OneR
10:28:12 - rules.OneR
10:29:02 - bayes.NaiveBayes
Classifier output
=== Evaluation on training set ===
Time taken to test model on training data: 0.01 seconds
=== Summary ===
Correctly Classified Instances 215 75.1748 %
Incorrectly Classified Instances 71 24.8252 %
Kappa statistic 0.3693
Mean absolute error 0.3012
Root mean squared error 0.4278
Relative absolute error 72.0082 %
Root relative squared error 93.6095 %
Total Number of Instances 286
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MC
0.866 0.518 0.798 0.866 0.831 0.
0.482 0.134 0.603 0.482 0.536 0.
Weighted Avg. 0.752 0.404 0.740 0.752 0.743 0.
=== Confusion Matrix ===
a b <-- classified as
174 27 | a = no-recurrence-events
44 41 | b = recurrence-events


Classifier
Choose
NaiveBayes
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) Class
Start
Stop
Result list (right-click for options)
10:24:01 - rules.OneR
10:26:20 - rules.OneR
10:28:12 - rules.OneR
10:29:02 - bayes.NaiveBayes
10:29:55 - bayes.NaiveBayes
Classifier output
=== Evaluation on test split ===
Time taken to test model on test split: 0 seconds
=== Summary ===
Correctly Classified Instances 69 71.134 %
Incorrectly Classified Instances 28 28.866 %
Kappa statistic 0.3274
Mean absolute error 0.3431
Root mean squared error 0.4825
Relative absolute error 79.9872 %
Root relative squared error 100.9522 %
Total Number of Instances 97
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MC
0.828 0.515 0.757 0.828 0.791 0.
0.485 0.172 0.593 0.485 0.533 0.
Weighted Avg. 0.711 0.398 0.701 0.711 0.703 0.
=== Confusion Matrix ===
a b <-- classified as
53 11 | a = no-recurrence-events
17 16 | b = recurrence-events


Classifier
Choose
NaiveBayes
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) Class
Start
Stop
Result list (right-click for options)
10:24:01 - rules.OneR
10:26:20 - rules.OneR
10:28:12 - rules.OneR
10:29:02 - bayes.NaiveBayes
10:29:55 - bayes.NaiveBayes
10:30:36 - bayes.NaiveBayes
Classifier output
Time taken to build model: 0 seconds
=== Stratified cross-validation ===
=== Summary ===
Correctly Classified Instances 205 71.6783 %
Incorrectly Classified Instances 81 28.3217 %
Kappa statistic 0.2857
Mean absolute error 0.3272
Root mean squared error 0.4534
Relative absolute error 78.2086 %
Root relative squared error 99.1872 %
Total Number of Instances 286
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MCC
0.836 0.565 0.778 0.836 0.806 0.28
0.435 0.164 0.529 0.435 0.477 0.28
Weighted Avg. 0.717 0.446 0.704 0.717 0.708 0.28
=== Confusion Matrix ===
a b <-- classified as
168 33 | a = no-recurrence-events
48 37 | b = recurrence-events

Classifier

Choose **J48** -C 0.25 -M 2

Test options

- (•) Use training set
- ( ) Supplied test set — Set...
- ( ) Cross-validation — Folds 10
- ( ) Percentage split — % 66

More options...

(Nom) Class

Start | Stop

Result list (right-click for options)

- 10:24:01 - rules.OneR
- 10:26:20 - rules.OneR
- 10:28:12 - rules.OneR
- 10:29:02 - bayes.NaiveBayes
- 10:29:55 - bayes.NaiveBayes
- 10:30:36 - bayes.NaiveBayes
- 10:31:44 - trees.J48

Classifier output

```
=== Evaluation on training set ===

Time taken to test model on training data: 0.01 seconds

=== Summary ===

Correctly Classified Instances         217               75.8741 %
Incorrectly Classified Instances        69               24.1259 %
Kappa statistic                          0.2899
Mean absolute error                      0.3658
Root mean squared error                  0.4269
Relative absolute error                 87.4491 %
Root relative squared error             93.4017 %
Total Number of Instances              286

=== Detailed Accuracy By Class ===

                 TP Rate   FP Rate   Precision   Recall   F-Measure   MCC
                 0.965     0.729     0.758      0.965    0.849       0.3
                 0.271     0.035     0.767      0.271    0.400       0.3
Weighted Avg.    0.759     0.523     0.760      0.759    0.716       0.3

=== Confusion Matrix ===

   a   b   <-- classified as
 194   7 |   a = no-recurrence-events
  62  23 |   b = recurrence-events
```

Classifier

Choose **J48** -C 0.25 -M 2

Test options

- Use training set
- Supplied test set — Set...
- Cross-validation — Folds 10
- Percentage split — % 66

More options...

(Nom) Class

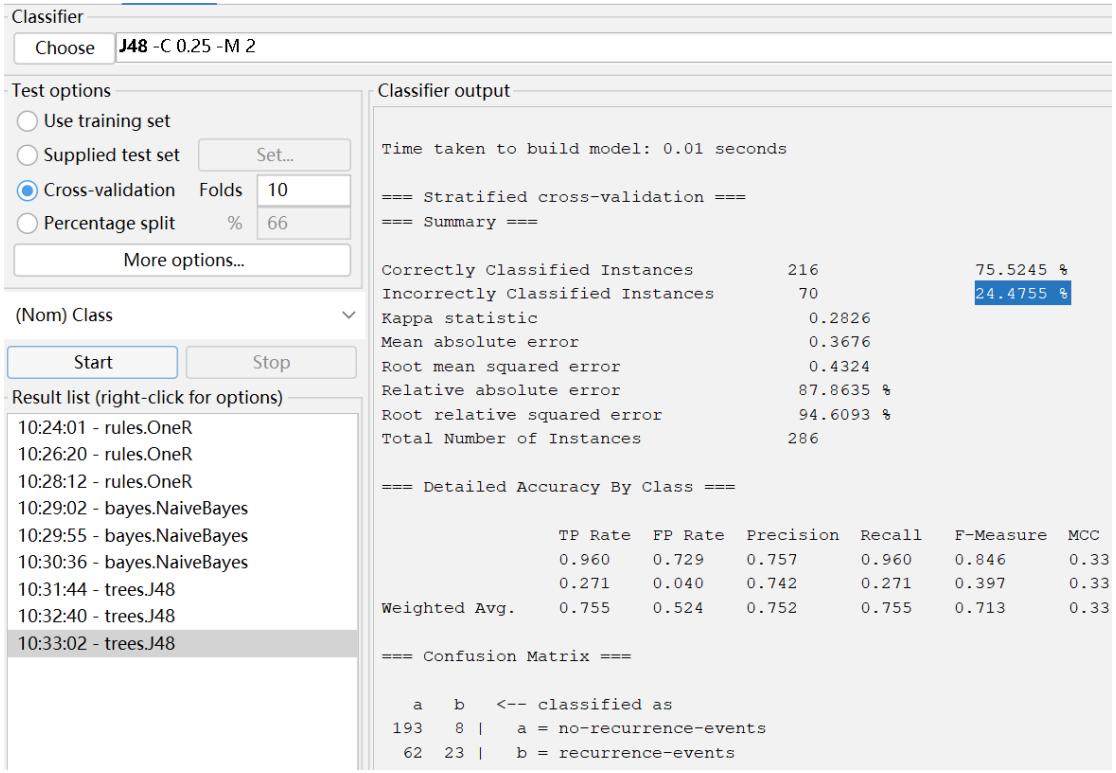
Start | Stop

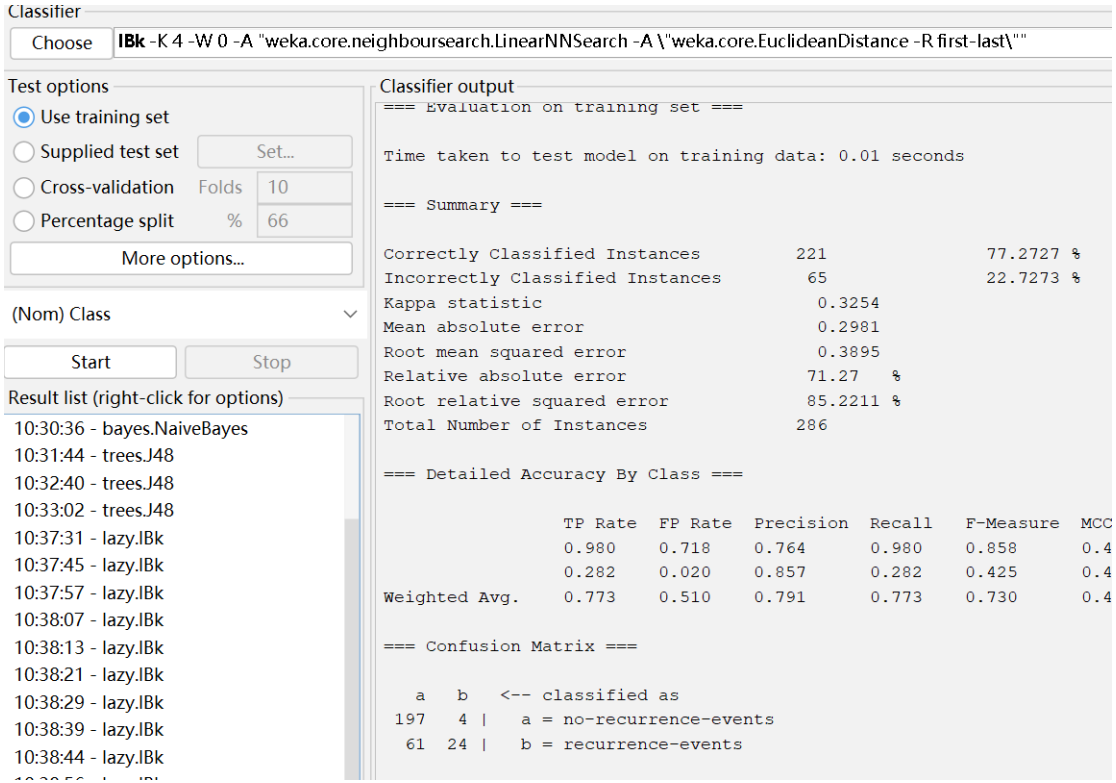
Result list (right-click for options)

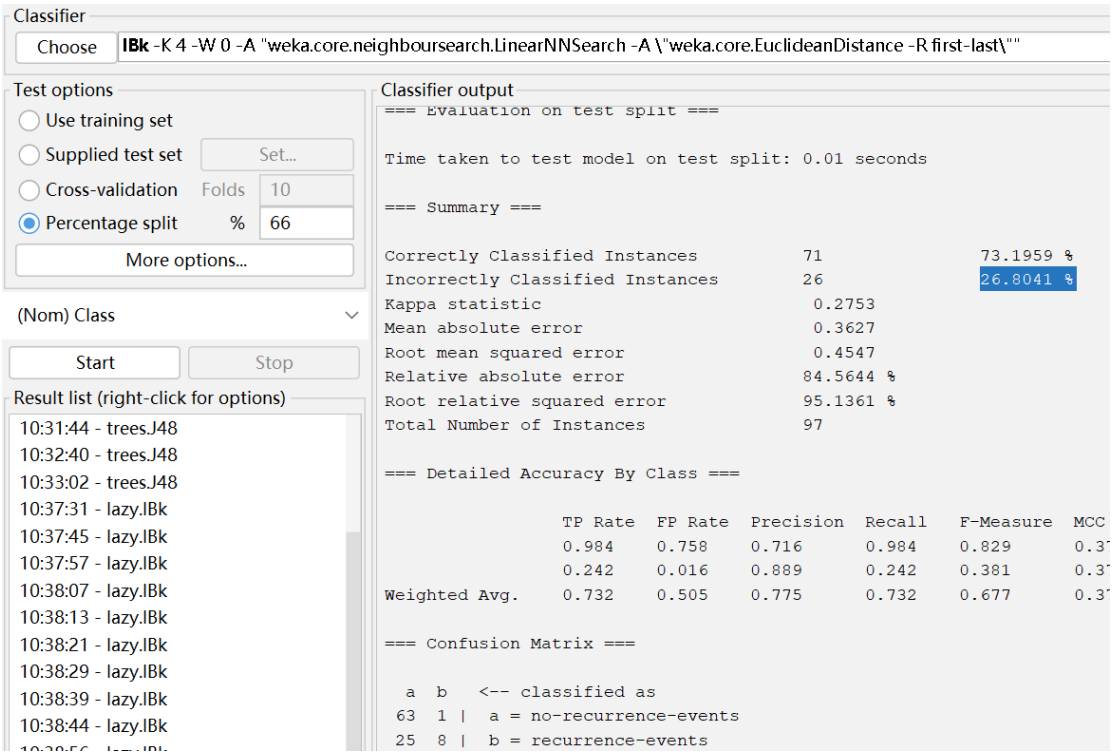
10:24:01 - rules.OneR
10:26:20 - rules.OneR
10:28:12 - rules.OneR
10:29:02 - bayes.NaiveBayes
10:29:55 - bayes.NaiveBayes
10:30:36 - bayes.NaiveBayes
10:31:44 - trees.J48
10:32:40 - trees.J48

Classifier output

```
=== Evaluation on test split ===

Time taken to test model on test split: 0 seconds

=== Summary ===

Correctly Classified Instances          66               68.0412 %
Incorrectly Classified Instances        31               31.9588 %
Kappa statistic                          0.2001
Mean absolute error                      0.3966
Root mean squared error                  0.4879
Relative absolute error                 92.4804 %
Root relative squared error            102.0849 %
Total Number of Instances               97

=== Detailed Accuracy By Class ===

                 TP Rate   FP Rate   Precision   Recall   F-Measure   MC
                 0.875     0.697     0.709       0.875    0.783       0.
                 0.303     0.125     0.556       0.303    0.392       0.
Weighted Avg.    0.680     0.502     0.657       0.680    0.650       0.

=== Confusion Matrix ===

  a  b   <-- classified as
 56  8 |  a = no-recurrence-events
 23 10 |  b = recurrence-events
```


Classifier
Choose
J48 -C 0.25 -M 2
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) Class
Start
Stop
Result list (right-click for options)
10:24:01 - rules.OneR
10:26:20 - rules.OneR
10:28:12 - rules.OneR
10:29:02 - bayes.NaiveBayes
10:29:55 - bayes.NaiveBayes
10:30:36 - bayes.NaiveBayes
10:31:44 - trees.J48
10:32:40 - trees.J48
10:33:02 - trees.J48
Classifier output
Time taken to build model: 0.01 seconds
=== Stratified cross-validation ===
=== Summary ===
Correctly Classified Instances 216 75.5245 %
Incorrectly Classified Instances 70 24.4755 %
Kappa statistic 0.2826
Mean absolute error 0.3676
Root mean squared error 0.4324
Relative absolute error 87.8635 %
Root relative squared error 94.6093 %
Total Number of Instances 286
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MCC
0.960 0.729 0.757 0.960 0.846 0.33
0.271 0.040 0.742 0.271 0.397 0.33
Weighted Avg. 0.755 0.524 0.752 0.755 0.713 0.33
=== Confusion Matrix ===
a b <-- classified as
193 8 | a = no-recurrence-events
62 23 | b = recurrence-events


Classifier
Choose
IBk -K 4 -W 0 -A "weka.core.neighboursearch.LinearNNSearch -A \"weka.core.EuclideanDistance -R first-last\""
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) Class
Start
Stop
Result list (right-click for options)
10:30:36 - bayes.NaiveBayes
10:31:44 - trees.J48
10:32:40 - trees.J48
10:33:02 - trees.J48
10:37:31 - lazy.IBk
10:37:45 - lazy.IBk
10:37:57 - lazy.IBk
10:38:07 - lazy.IBk
10:38:13 - lazy.IBk
10:38:21 - lazy.IBk
10:38:29 - lazy.IBk
10:38:39 - lazy.IBk
10:38:44 - lazy.IBk
Classifier output
=== Evaluation on training set ===
Time taken to test model on training data: 0.01 seconds
=== Summary ===
Correctly Classified Instances 221 77.2727 %
Incorrectly Classified Instances 65 22.7273 %
Kappa statistic 0.3254
Mean absolute error 0.2981
Root mean squared error 0.3895
Relative absolute error 71.27 %
Root relative squared error 85.2211 %
Total Number of Instances 286
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MCC
0.980 0.718 0.764 0.980 0.858 0.4
0.282 0.020 0.857 0.282 0.425 0.4
Weighted Avg. 0.773 0.510 0.791 0.773 0.730 0.4
=== Confusion Matrix ===
a b <-- classified as
197 4 | a = no-recurrence-events
61 24 | b = recurrence-events


Classifier
Choose
IBk -K 4 -W 0 -A "weka.core.neighboursearch.LinearNNSearch -A \"weka.core.EuclideanDistance -R first-last\""
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) Class
Start
Stop
Result list (right-click for options)
10:31:44 - trees.J48
10:32:40 - trees.J48
10:33:02 - trees.J48
10:37:31 - lazy.IBk
10:37:45 - lazy.IBk
10:37:57 - lazy.IBk
10:38:07 - lazy.IBk
10:38:13 - lazy.IBk
10:38:21 - lazy.IBk
10:38:29 - lazy.IBk
10:38:39 - lazy.IBk
10:38:44 - lazy.IBk
Classifier output
=== Evaluation on test split ===
Time taken to test model on test split: 0.01 seconds
=== Summary ===
Correctly Classified Instances 71 73.1959 %
Incorrectly Classified Instances 26 26.8041 %
Kappa statistic 0.2753
Mean absolute error 0.3627
Root mean squared error 0.4547
Relative absolute error 84.5644 %
Root relative squared error 95.1361 %
Total Number of Instances 97
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MCC
0.984 0.758 0.716 0.984 0.829
0.242 0.016 0.889 0.242 0.381
Weighted Avg. 0.732 0.505 0.775 0.732 0.677
=== Confusion Matrix ===
a b <-- classified as
63 1 | a = no-recurrence-events
25 8 | b = recurrence-events

Classifier

Choose **IBk** -K 4 -W 0 -A "weka.core.neighboursearch.LinearNNSearch -A \"weka.core.EuclideanDistance -R first-last\""

Test options

- Use training set
- Supplied test set — Set...
- Cross-validation — Folds 10
- Percentage split — % 66

More options...

(Nom) Class

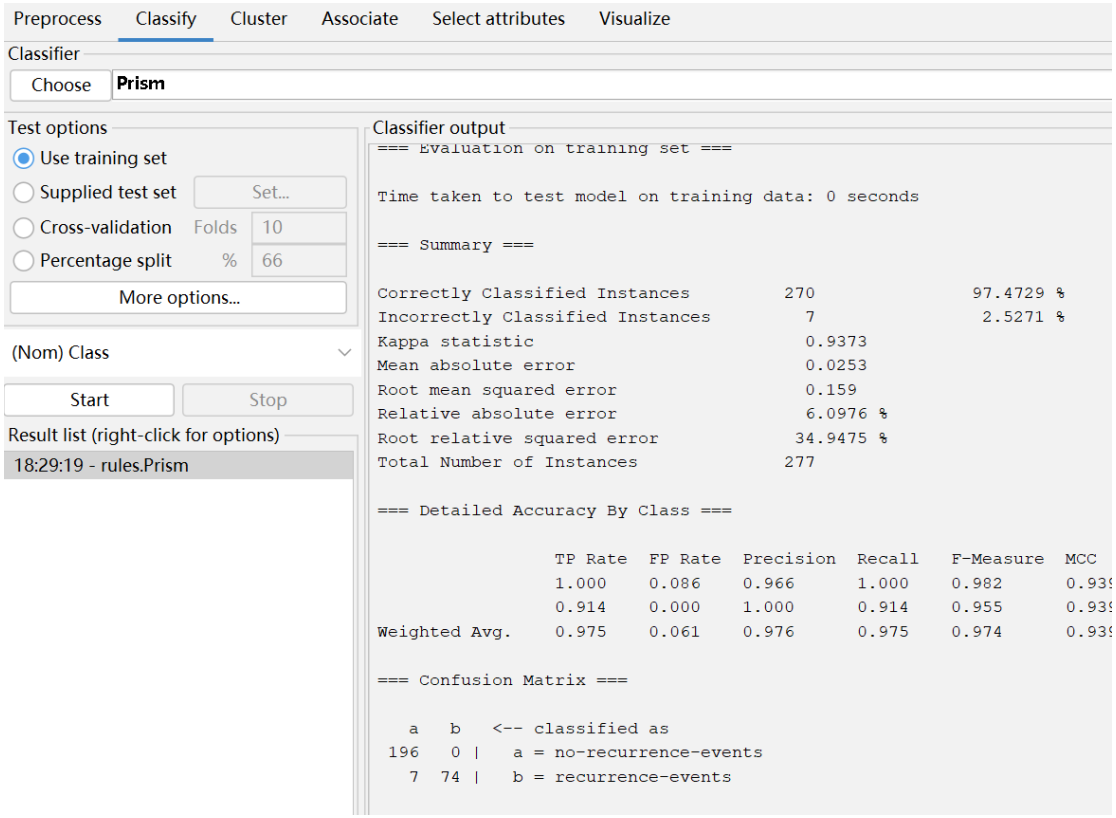
Start | Stop

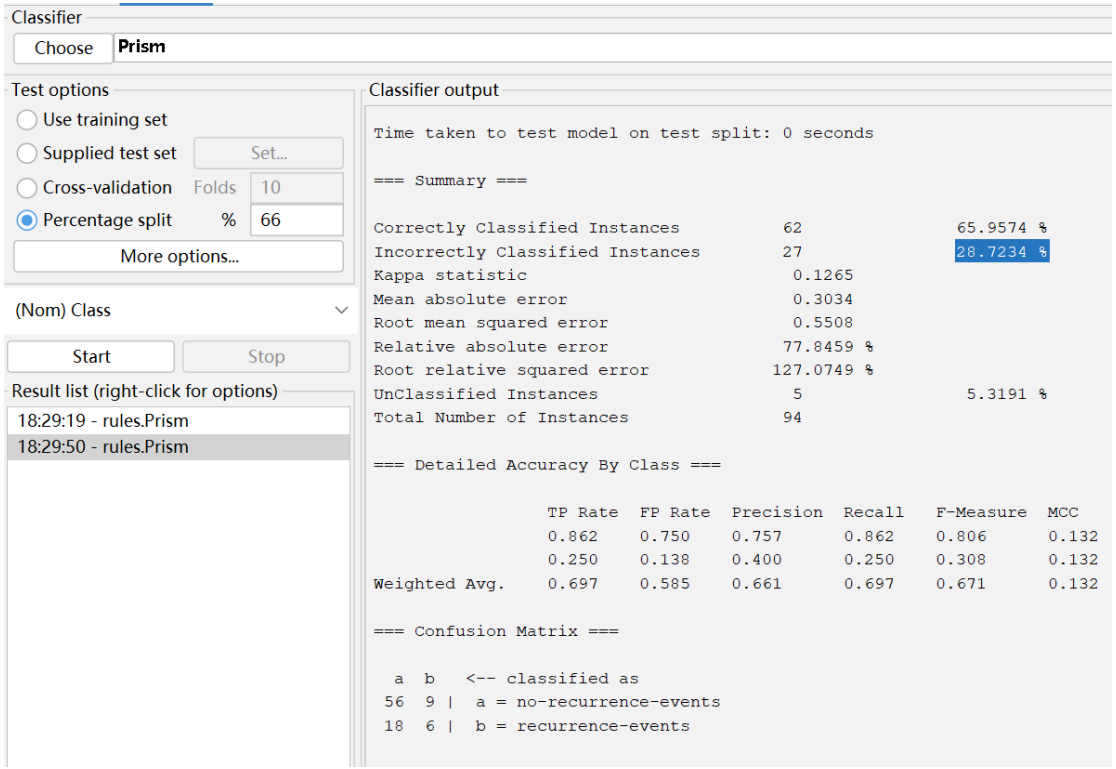
Result list (right-click for options)

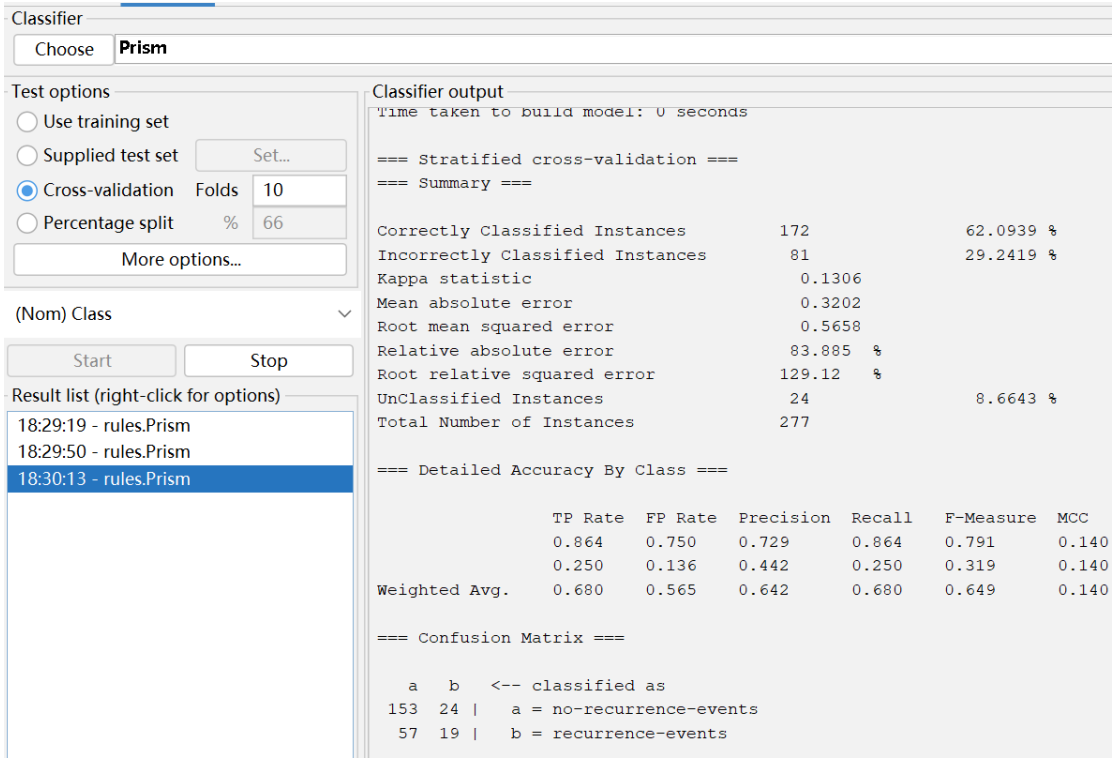
10:32:40 - trees.J48
10:33:02 - trees.J48
10:37:31 - lazy.IBk
10:37:45 - lazy.IBk
10:37:57 - lazy.IBk
10:38:07 - lazy.IBk
10:38:13 - lazy.IBk
10:38:21 - lazy.IBk
10:38:29 - lazy.IBk
10:38:39 - lazy.IBk
10:38:44 - lazy.IBk
10:38:56 - lazy.IBk
10:39:47 - lazy.IBk

Classifier output

```
Time taken to build model: 0 seconds

=== Stratified cross-validation ===
=== Summary ===

Correctly Classified Instances         213               74.4755 %
Incorrectly Classified Instances        73               25.5245 %
Kappa statistic                          0.236
Mean absolute error                      0.3383
Root mean squared error                  0.4381
Relative absolute error                 80.8482 %
Root relative squared error             95.851  %
Total Number of Instances              286

=== Detailed Accuracy By Class ===

                 TP Rate  FP Rate  Precision  Recall   F-Measure  MCC
                 0.965    0.776    0.746      0.965    0.842      0.3
                 0.224    0.035    0.731      0.224    0.342      0.3
Weighted Avg.    0.745    0.556    0.742      0.745    0.693      0.3

=== Confusion Matrix ===

   a   b   <-- classified as
 194   7 |   a = no-recurrence-events
  66  19 |   b = recurrence-events
```


Preprocess
Classify
Cluster
Associate
Select attributes
Visualize
Classifier
Choose
Prism
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) Class
Start
Stop
Result list (right-click for options)
18:29:19 - rules.Prism
Classifier output
=== Evaluation on training set ===
Time taken to test model on training data: 0 seconds
=== Summary ===
Correctly Classified Instances 270 97.4729 %
Incorrectly Classified Instances 7 2.5271 %
Kappa statistic 0.9373
Mean absolute error 0.0253
Root mean squared error 0.159
Relative absolute error 6.0976 %
Root relative squared error 34.9475 %
Total Number of Instances 277
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MCC
1.000 0.086 0.966 1.000 0.982
0.914 0.000 1.000 0.914 0.955
Weighted Avg. 0.975 0.061 0.976 0.975 0.974
=== Confusion Matrix ===
a b <-- classified as
196 0 | a = no-recurrence-events
7 74 | b = recurrence-events


Classifier
Choose
Prism
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) Class
Start
Stop
Result list (right-click for options)
18:29:19 - rules.Prism
18:29:50 - rules.Prism
Classifier output
Time taken to test model on test split: 0 seconds
=== Summary ===
Correctly Classified Instances 62 65.9574 %
Incorrectly Classified Instances 27 28.7234 %
Kappa statistic 0.1265
Mean absolute error 0.3034
Root mean squared error 0.5508
Relative absolute error 77.8459 %
Root relative squared error 127.0749 %
UnClassified Instances 5 5.3191 %
Total Number of Instances 94
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MCC
0.862 0.750 0.757 0.862 0.806 0.132
0.250 0.138 0.400 0.250 0.308 0.132
Weighted Avg. 0.697 0.585 0.661 0.697 0.671 0.132
=== Confusion Matrix ===
a b <-- classified as
56 9 | a = no-recurrence-events
18 6 | b = recurrence-events


Classifier
Choose
Prism
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) Class
Start
Stop
Result list (right-click for options)
18:29:19 - rules.Prism
18:29:50 - rules.Prism
18:30:13 - rules.Prism
Classifier output
Time taken to build model: 0 seconds
=== Stratified cross-validation ===
=== Summary ===
Correctly Classified Instances 172 62.0939 %
Incorrectly Classified Instances 81 29.2419 %
Kappa statistic 0.1306
Mean absolute error 0.3202
Root mean squared error 0.5658
Relative absolute error 83.885 %
Root relative squared error 129.12 %
UnClassified Instances 24 8.6643 %
Total Number of Instances 277
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MCC
0.864 0.750 0.729 0.864 0.791 0.140
0.250 0.136 0.442 0.250 0.319 0.140
Weighted Avg. 0.680 0.565 0.642 0.680 0.649 0.140
=== Confusion Matrix ===
a b <-- classified as
153 24 | a = no-recurrence-events
57 19 | b = recurrence-events

Diabetes

Classifier

Choose **OneR** -B 6

Test options

- Use training set
- Supplied test set — Set...
- Cross-validation — Folds 10
- Percentage split — % 66

More options...

(Nom) class

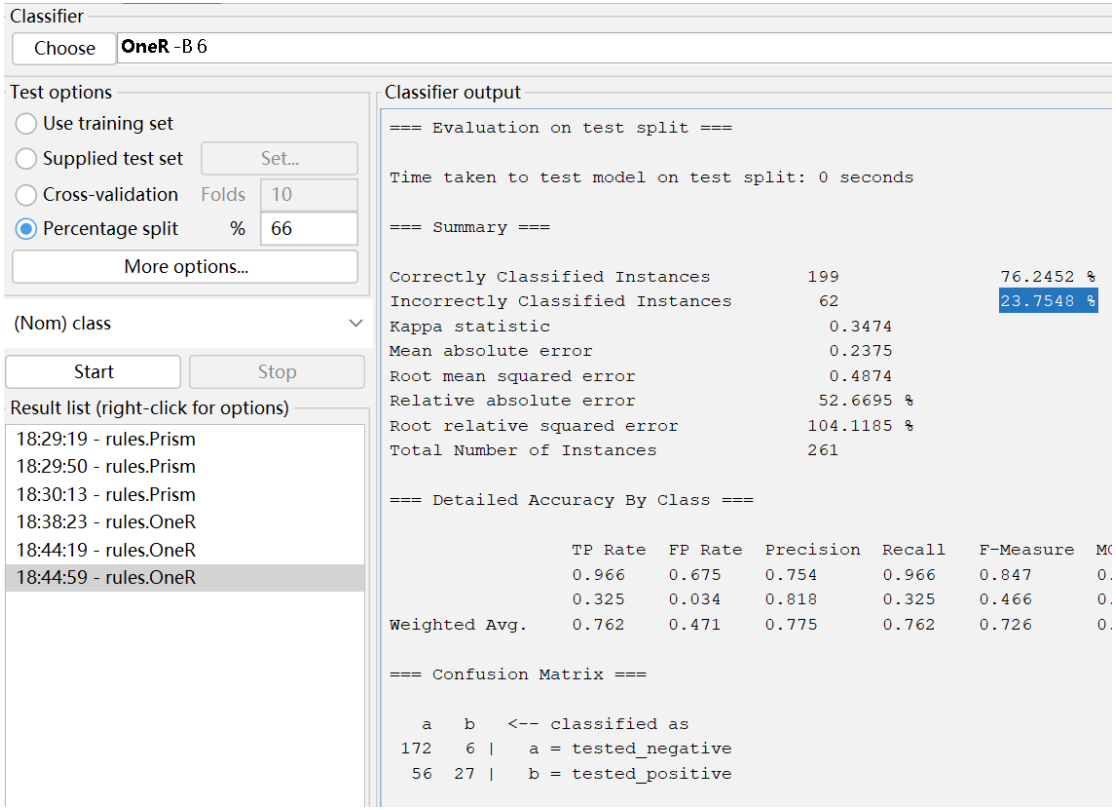
Start | Stop

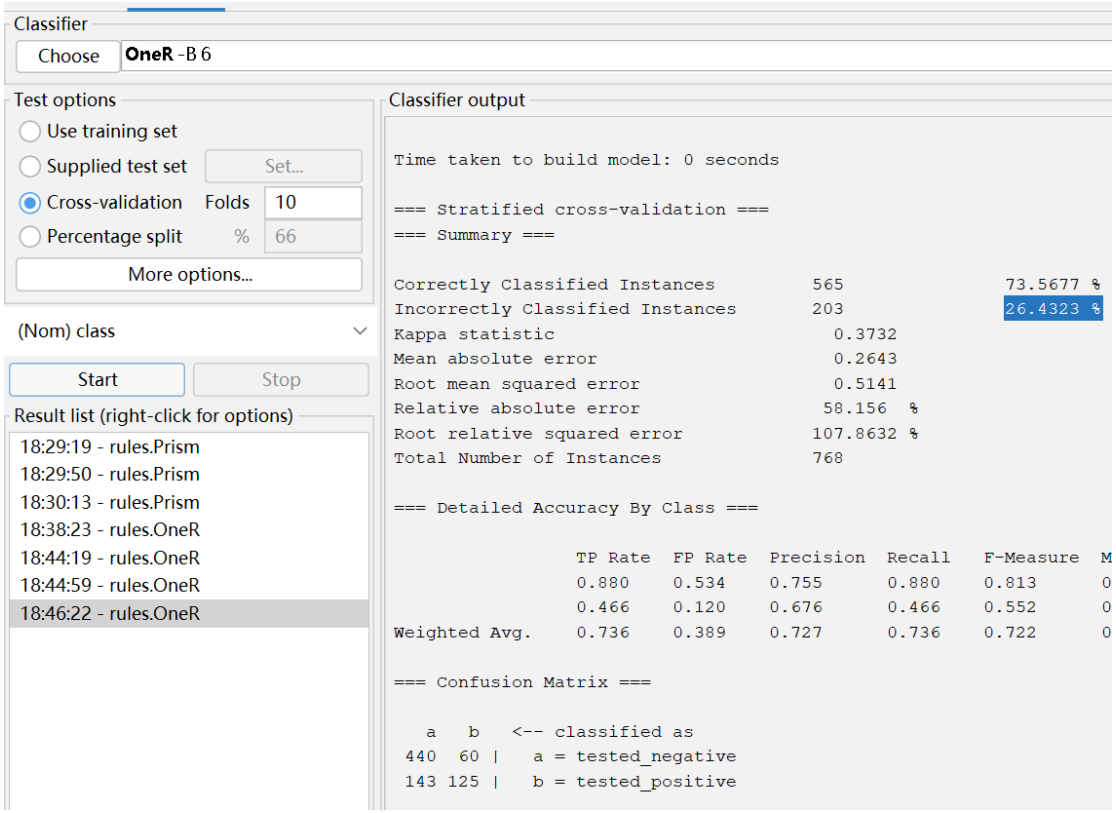
Result list (right-click for options)

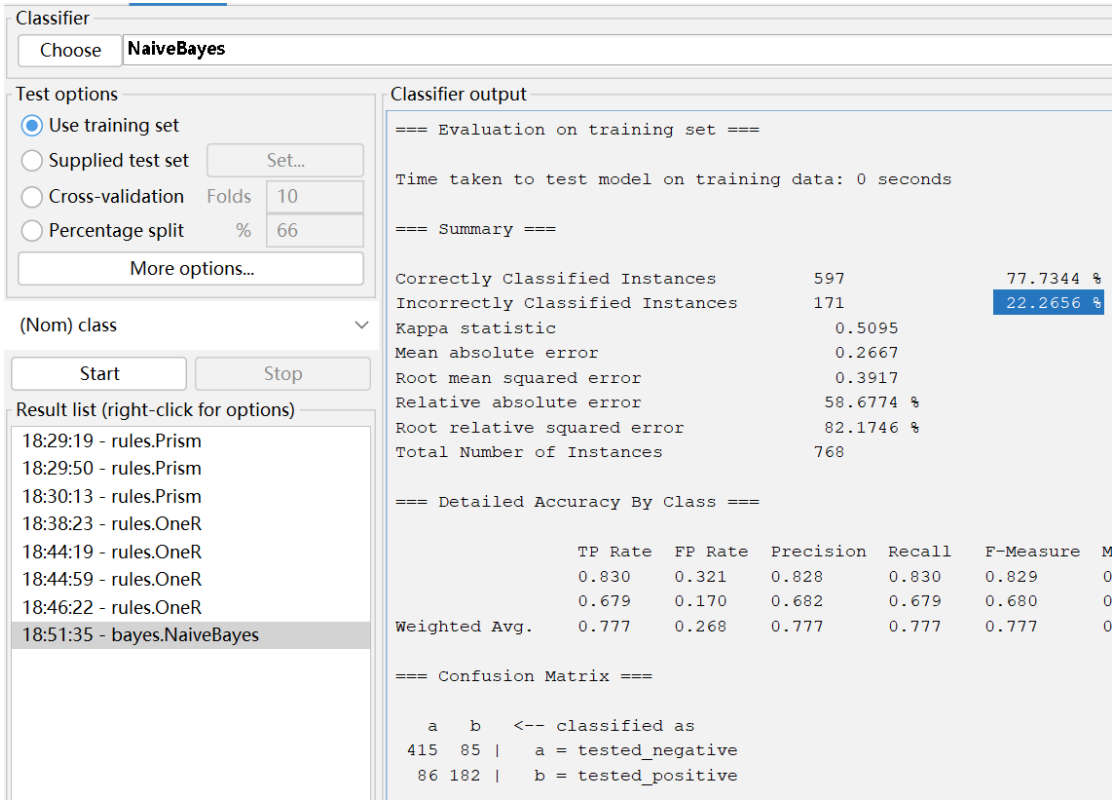
- 18:29:19 - rules.Prism
- 18:29:50 - rules.Prism
- 18:30:13 - rules.Prism
- 18:38:23 - rules.OneR
- 18:44:19 - rules.OneR
- 18:44:59 - rules.OneR

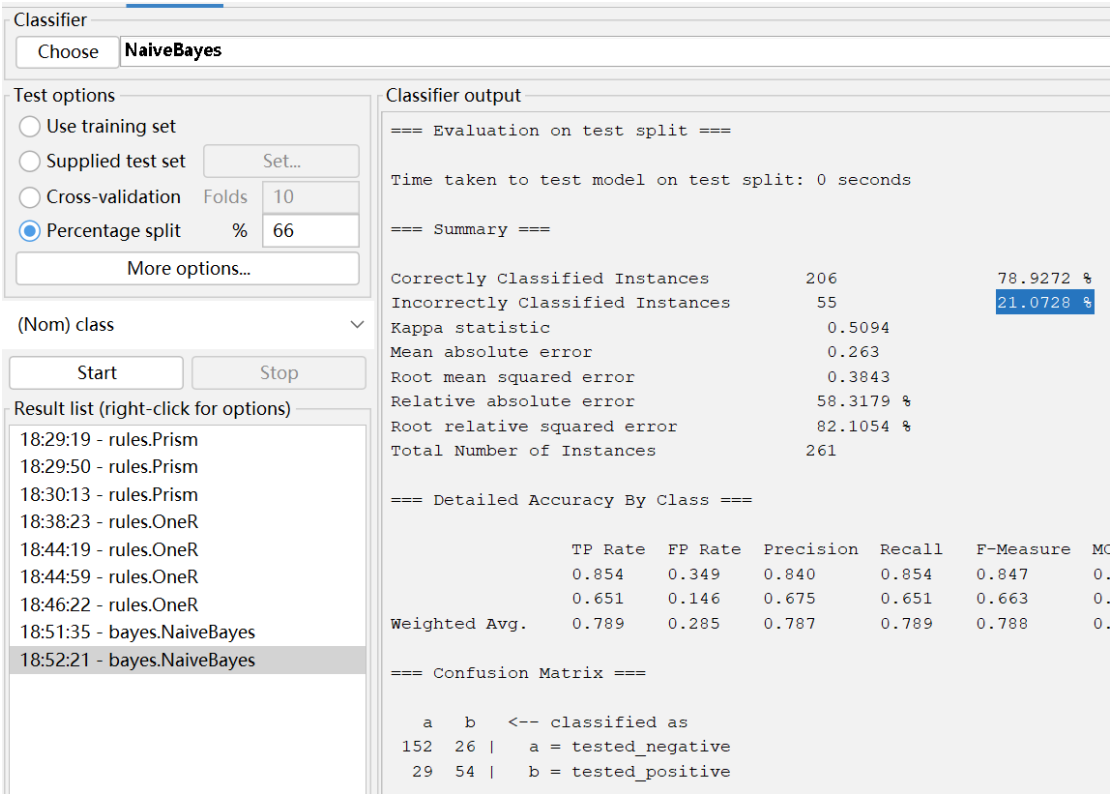
Classifier output

```
=== Evaluation on training set ===

Time taken to test model on training data: 0 seconds

=== Summary ===

Correctly Classified Instances         573               74.6094 %
Incorrectly Classified Instances       195               25.3906 %
Kappa statistic                          0.4046
Mean absolute error                      0.2539
Root mean squared error                  0.5039
Relative absolute error                 55.866  %
Root relative squared error            105.7171 %
Total Number of Instances              768

=== Detailed Accuracy By Class ===

                 TP Rate   FP Rate   Precision   Recall  F-Measure  MC
                 0.876     0.496     0.767      0.876     0.818      0.
                 0.504     0.124     0.685      0.504     0.581      0.
Weighted Avg.    0.746     0.366     0.739      0.746     0.735      0.

=== Confusion Matrix ===

   a   b   <-- classified as
 438  62 |   a = tested_negative
 133 135 |   b = tested_positive
```


Classifier
Choose
OneR -B 6
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
18:29:19 - rules.Prism
18:29:50 - rules.Prism
18:30:13 - rules.Prism
18:38:23 - rules.OneR
18:44:19 - rules.OneR
18:44:59 - rules.OneR
Classifier output
=== Evaluation on test split ===
Time taken to test model on test split: 0 seconds
=== Summary ===
Correctly Classified Instances 199 76.2452 %
Incorrectly Classified Instances 62 23.7548 %
Kappa statistic 0.3474
Mean absolute error 0.2375
Root mean squared error 0.4874
Relative absolute error 52.6695 %
Root relative squared error 104.1185 %
Total Number of Instances 261
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure
0.966 0.675 0.754 0.966 0.847
0.325 0.034 0.818 0.325 0.466
Weighted Avg. 0.762 0.471 0.775 0.762 0.726
=== Confusion Matrix ===
a b <-- classified as
172 6 | a = tested_negative
56 27 | b = tested_positive


Classifier
Choose
OneR -B 6
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
18:29:19 - rules.Prism
18:29:50 - rules.Prism
18:30:13 - rules.Prism
18:38:23 - rules.OneR
18:44:19 - rules.OneR
18:44:59 - rules.OneR
18:46:22 - rules.OneR
Classifier output
Time taken to build model: 0 seconds
=== Stratified cross-validation ===
=== Summary ===
Correctly Classified Instances 565 73.5677 %
Incorrectly Classified Instances 203 26.4323 %
Kappa statistic 0.3732
Mean absolute error 0.2643
Root mean squared error 0.5141
Relative absolute error 58.156 %
Root relative squared error 107.8632 %
Total Number of Instances 768
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure M
0.880 0.534 0.755 0.880 0.813 0
0.466 0.120 0.676 0.466 0.552 0
Weighted Avg. 0.736 0.389 0.727 0.736 0.722 0
=== Confusion Matrix ===
a b <-- classified as
440 60 | a = tested_negative
143 125 | b = tested_positive


Classifier
Choose
NaiveBayes
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
18:29:19 - rules.Prism
18:29:50 - rules.Prism
18:30:13 - rules.Prism
18:38:23 - rules.OneR
18:44:19 - rules.OneR
18:44:59 - rules.OneR
18:46:22 - rules.OneR
18:51:35 - bayes.NaiveBayes
Classifier output
=== Evaluation on training set ===
Time taken to test model on training data: 0 seconds
=== Summary ===
Correctly Classified Instances 597 77.7344 %
Incorrectly Classified Instances 171 22.2656 %
Kappa statistic 0.5095
Mean absolute error 0.2667
Root mean squared error 0.3917
Relative absolute error 58.6774 %
Root relative squared error 82.1746 %
Total Number of Instances 768
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure M
0.830 0.321 0.828 0.830 0.829 0
0.679 0.170 0.682 0.679 0.680 0
Weighted Avg. 0.777 0.268 0.777 0.777 0.777 0
=== Confusion Matrix ===
a b <-- classified as
415 85 | a = tested_negative
86 182 | b = tested_positive


Classifier
Choose
NaiveBayes
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
18:29:19 - rules.Prism
18:29:50 - rules.Prism
18:30:13 - rules.Prism
18:38:23 - rules.OneR
18:44:19 - rules.OneR
18:44:59 - rules.OneR
18:46:22 - rules.OneR
18:51:35 - bayes.NaiveBayes
18:52:21 - bayes.NaiveBayes
Classifier output
=== Evaluation on test split ===
Time taken to test model on test split: 0 seconds
=== Summary ===
Correctly Classified Instances 206 78.9272 %
Incorrectly Classified Instances 55 21.0728 %
Kappa statistic 0.5094
Mean absolute error 0.263
Root mean squared error 0.3843
Relative absolute error 58.3179 %
Root relative squared error 82.1054 %
Total Number of Instances 261
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MC
0.854 0.349 0.840 0.854 0.847 0.
0.651 0.146 0.675 0.651 0.663 0.
Weighted Avg. 0.789 0.285 0.787 0.789 0.788 0.
=== Confusion Matrix ===
a b <-- classified as
152 26 | a = tested_negative
29 54 | b = tested_positive

Classifier

Choose **NaiveBayes**

Test options

- Use training set
- Supplied test set — Set...
- Cross-validation — Folds 10
- Percentage split — % 66

More options...

(Nom) class

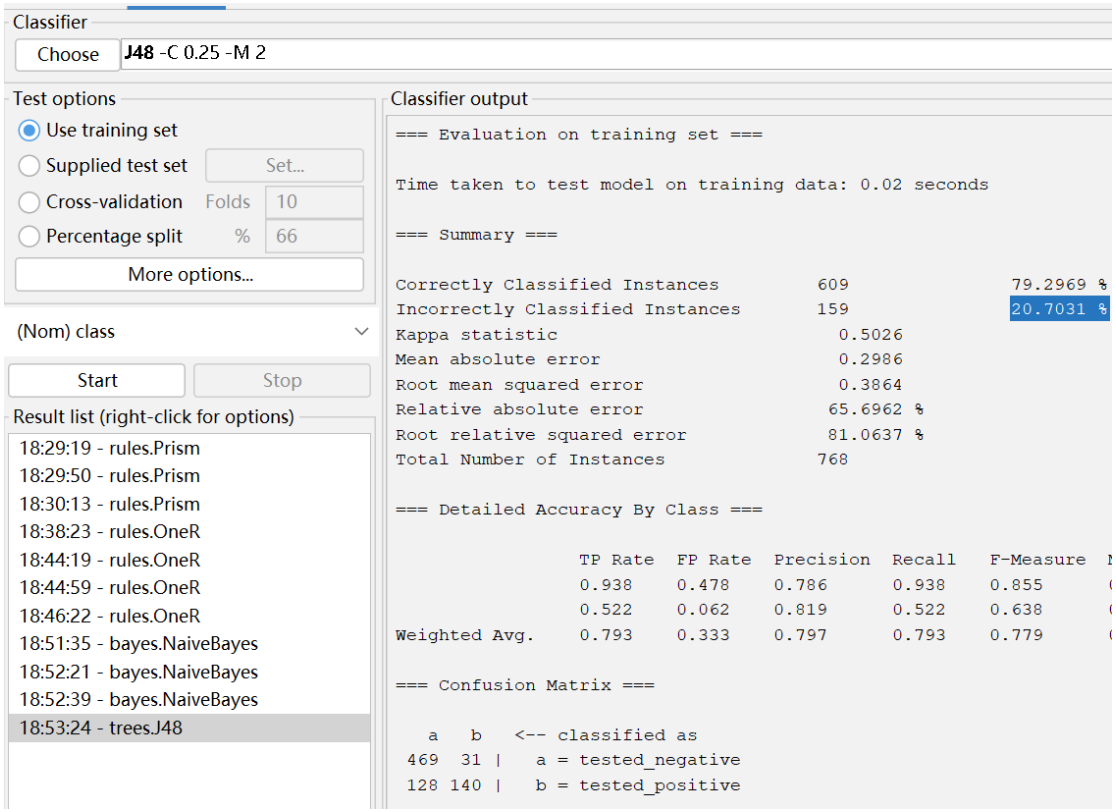
Start | Stop

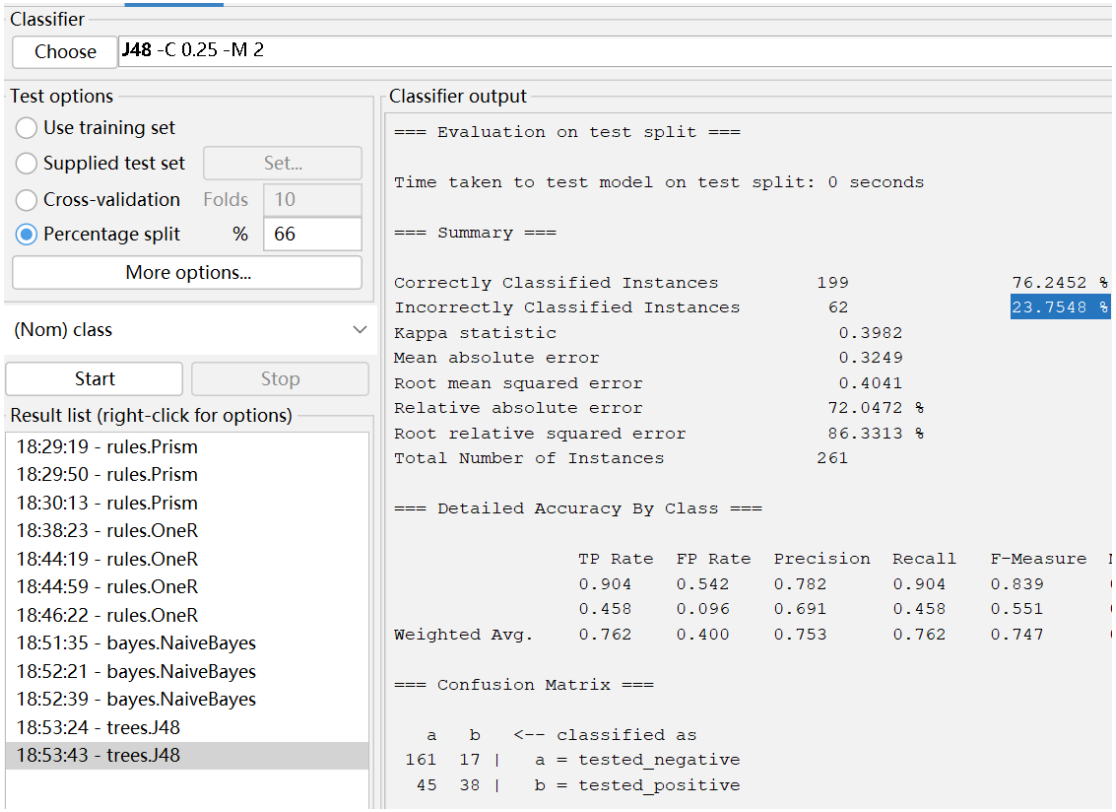
Result list (right-click for options)

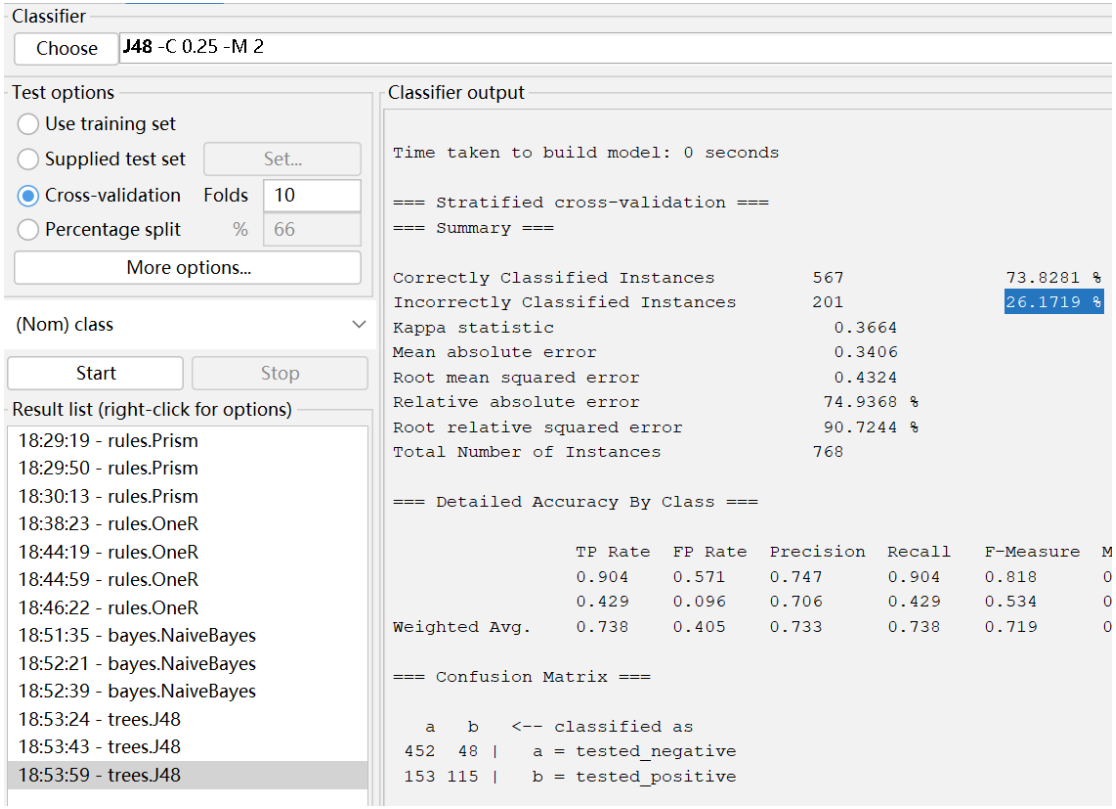
- 18:29:19 - rules.Prism
- 18:29:50 - rules.Prism
- 18:30:13 - rules.Prism
- 18:38:23 - rules.OneR
- 18:44:19 - rules.OneR
- 18:44:59 - rules.OneR
- 18:46:22 - rules.OneR
- 18:51:35 - bayes.NaiveBayes
- 18:52:21 - bayes.NaiveBayes
- 18:52:39 - bayes.NaiveBayes

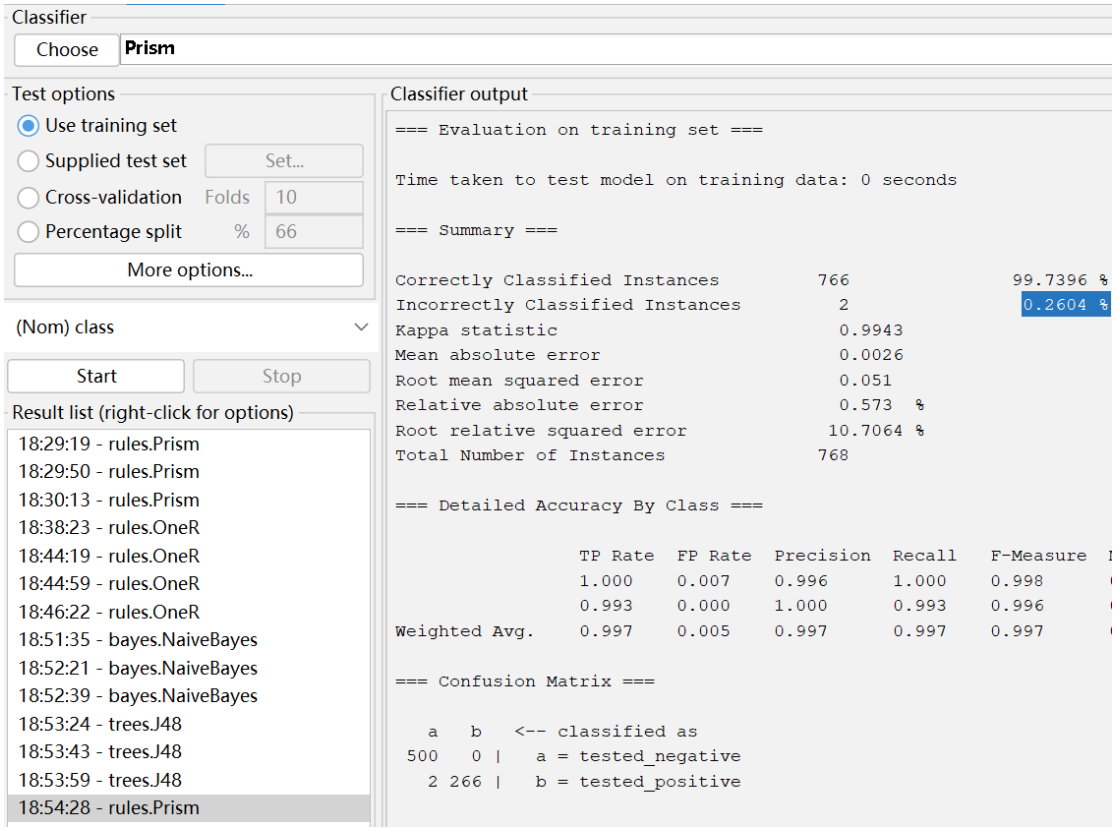
Classifier output

```
Time taken to build model: 0 seconds

=== Stratified cross-validation ===
=== Summary ===

Correctly Classified Instances         579               75.3906 %
Incorrectly Classified Instances       189               24.6094 %
Kappa statistic                          0.457
Mean absolute error                      0.2861
Root mean squared error                  0.4126
Relative absolute error                 62.9526 %
Root relative squared error             86.5673 %
Total Number of Instances              768

=== Detailed Accuracy By Class ===

                 TP Rate  FP Rate  Precision  Recall   F-Measure  M
                 0.814    0.358    0.809      0.814    0.812      (
                 0.642    0.186    0.649      0.642    0.645      (
Weighted Avg.    0.754    0.298    0.753      0.754    0.754      (

=== Confusion Matrix ===

   a   b   <-- classified as
 407  93 |   a = tested_negative
  96 172 |   b = tested_positive
```


Classifier
Choose
J48 -C 0.25 -M 2
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
18:29:19 - rules.Prism
18:29:50 - rules.Prism
18:30:13 - rules.Prism
18:38:23 - rules.OneR
18:44:19 - rules.OneR
18:44:59 - rules.OneR
18:46:22 - rules.OneR
18:51:35 - bayes.NaiveBayes
18:52:21 - bayes.NaiveBayes
18:52:39 - bayes.NaiveBayes
18:53:24 - trees.J48
Classifier output
=== Evaluation on training set ===
Time taken to test model on training data: 0.02 seconds
=== Summary ===
Correctly Classified Instances 609 79.2969 %
Incorrectly Classified Instances 159 20.7031 %
Kappa statistic 0.5026
Mean absolute error 0.2986
Root mean squared error 0.3864
Relative absolute error 65.6962 %
Root relative squared error 81.0637 %
Total Number of Instances 768
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure
0.938 0.478 0.786 0.938 0.855
0.522 0.062 0.819 0.522 0.638
Weighted Avg. 0.793 0.333 0.797 0.793 0.779
=== Confusion Matrix ===
a b <-- classified as
469 31 | a = tested_negative
128 140 | b = tested_positive


Classifier
Choose
J48 -C 0.25 -M 2
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
18:29:19 - rules.Prism
18:29:50 - rules.Prism
18:30:13 - rules.Prism
18:38:23 - rules.OneR
18:44:19 - rules.OneR
18:44:59 - rules.OneR
18:46:22 - rules.OneR
18:51:35 - bayes.NaiveBayes
18:52:21 - bayes.NaiveBayes
18:52:39 - bayes.NaiveBayes
18:53:24 - trees.J48
18:53:43 - trees.J48
Classifier output
=== Evaluation on test split ===
Time taken to test model on test split: 0 seconds
=== Summary ===
Correctly Classified Instances 199 76.2452 %
Incorrectly Classified Instances 62 23.7548 %
Kappa statistic 0.3982
Mean absolute error 0.3249
Root mean squared error 0.4041
Relative absolute error 72.0472 %
Root relative squared error 86.3313 %
Total Number of Instances 261
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure
0.904 0.542 0.782 0.904 0.839
0.458 0.096 0.691 0.458 0.551
Weighted Avg. 0.762 0.400 0.753 0.762 0.747
=== Confusion Matrix ===
a b <-- classified as
161 17 | a = tested_negative
45 38 | b = tested_positive


Classifier
Choose
J48 -C 0.25 -M 2
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
18:29:19 - rules.Prism
18:29:50 - rules.Prism
18:30:13 - rules.Prism
18:38:23 - rules.OneR
18:44:19 - rules.OneR
18:44:59 - rules.OneR
18:46:22 - rules.OneR
18:51:35 - bayes.NaiveBayes
18:52:21 - bayes.NaiveBayes
18:52:39 - bayes.NaiveBayes
18:53:24 - trees.J48
18:53:43 - trees.J48
18:53:59 - trees.J48
Classifier output
Time taken to build model: 0 seconds
=== Stratified cross-validation ===
=== Summary ===
Correctly Classified Instances 567 73.8281 %
Incorrectly Classified Instances 201 26.1719 %
Kappa statistic 0.3664
Mean absolute error 0.3406
Root mean squared error 0.4324
Relative absolute error 74.9368 %
Root relative squared error 90.7244 %
Total Number of Instances 768
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure M
0.904 0.571 0.747 0.904 0.818 0
0.429 0.096 0.706 0.429 0.534 0
Weighted Avg. 0.738 0.405 0.733 0.738 0.719 0
=== Confusion Matrix ===
a b <-- classified as
452 48 | a = tested_negative
153 115 | b = tested_positive


Classifier
Choose
Prism
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
18:29:19 - rules.Prism
18:29:50 - rules.Prism
18:30:13 - rules.Prism
18:38:23 - rules.OneR
18:44:19 - rules.OneR
18:44:59 - rules.OneR
18:46:22 - rules.OneR
18:51:35 - bayes.NaiveBayes
18:52:21 - bayes.NaiveBayes
18:52:39 - bayes.NaiveBayes
18:53:24 - trees.J48
18:53:43 - trees.J48
18:53:59 - trees.J48
18:54:28 - rules.Prism
Classifier output
=== Evaluation on training set ===
Time taken to test model on training data: 0 seconds
=== Summary ===
Correctly Classified Instances 766 99.7396 %
Incorrectly Classified Instances 2 0.2604 %
Kappa statistic 0.9943
Mean absolute error 0.0026
Root mean squared error 0.051
Relative absolute error 0.573 %
Root relative squared error 10.7064 %
Total Number of Instances 768
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure
1.000 0.007 0.996 1.000 0.998
0.993 0.000 1.000 0.993 0.996
Weighted Avg. 0.997 0.005 0.997 0.997 0.997
=== Confusion Matrix ===
a b <-- classified as
500 0 | a = tested_negative
2 266 | b = tested_positive

Classifier

Choose **Prism**

Test options

- Use training set
- Supplied test set — Set...
- Cross-validation — Folds 10
- Percentage split — % 66

More options...

(Nom) class

Start | Stop

Result list (right-click for options)

18:29:19 - rules.Prism
18:29:50 - rules.Prism
18:30:13 - rules.Prism
18:38:23 - rules.OneR
18:44:19 - rules.OneR
18:44:59 - rules.OneR
18:46:22 - rules.OneR
18:51:35 - bayes.NaiveBayes
18:52:21 - bayes.NaiveBayes
18:52:39 - bayes.NaiveBayes
18:53:24 - trees.J48
18:53:43 - trees.J48
18:53:59 - trees.J48

Classifier output

```
Time taken to test model on test split: 0 seconds

=== Summary ===

Correctly Classified Instances         173               66.2835 %
Incorrectly Classified Instances        61               23.3716 %
Kappa statistic                          0.311
Mean absolute error                      0.2607
Root mean squared error                  0.5106
Relative absolute error                 64.8677 %
Root relative squared error            115.9285 %
UnClassified Instances                  27               10.3448 %
Total Number of Instances              261

=== Detailed Accuracy By Class ===

                 TP Rate   FP Rate   Precision   Recall  F-Measure  M
                 0.901     0.625     0.764      0.901     0.827      (
                 0.375     0.099     0.628      0.375     0.470      (
Weighted Avg.    0.739     0.463     0.722      0.739     0.717      (

=== Confusion Matrix ===

   a   b   <-- classified as
 146  16 |   a = tested_negative
  45  27 |   b = tested_positive
```

Classifier

Choose **Prism**

Test options

- Use training set
- Supplied test set — Set...
- Cross-validation — Folds 10
- Percentage split — % 66

More options...

(Nom) class

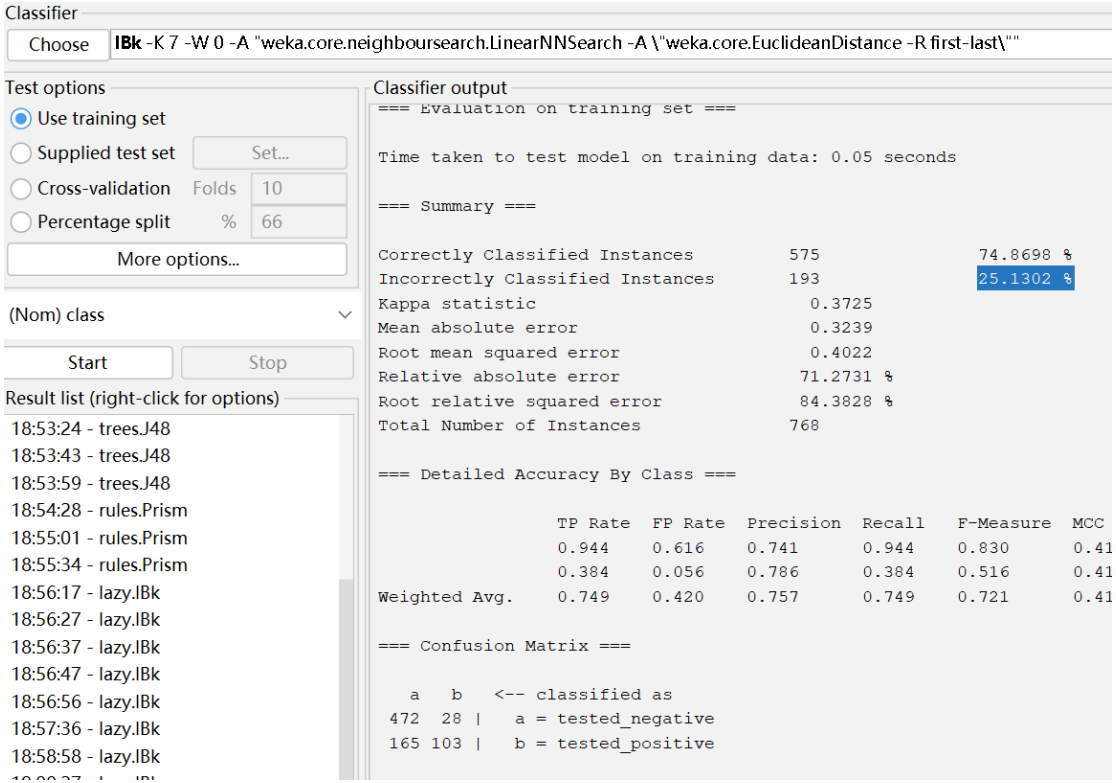
Start | Stop

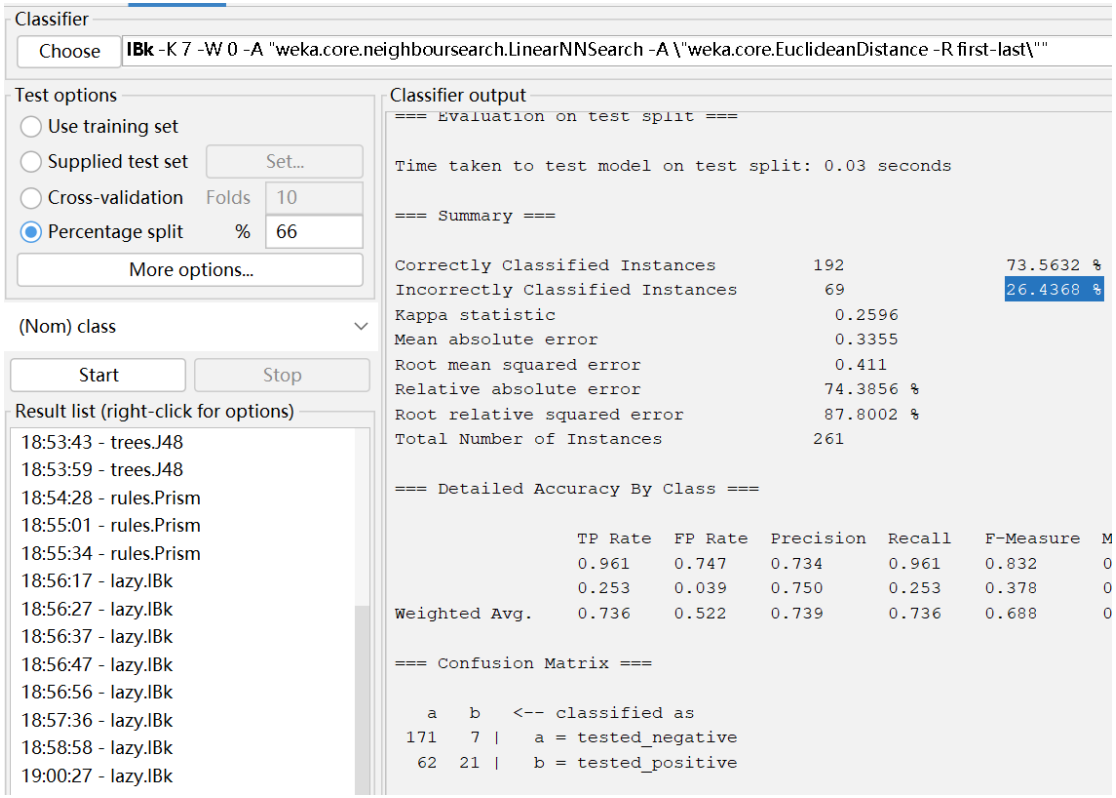
Result list (right-click for options)

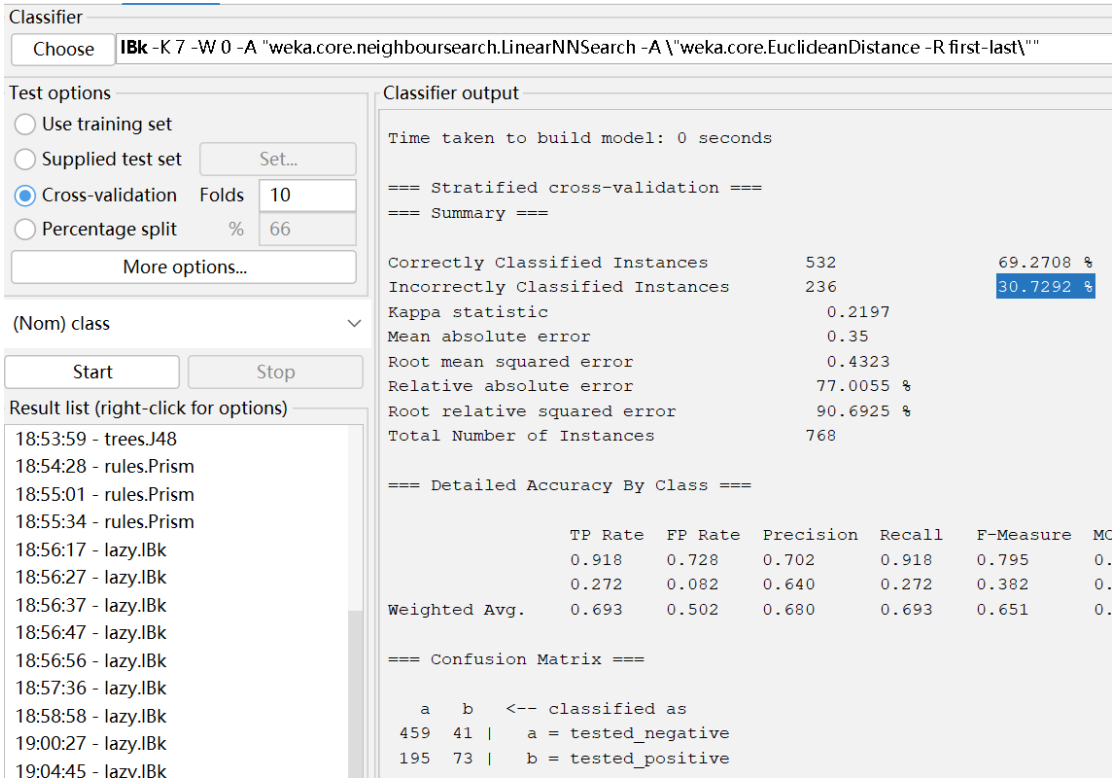
18:29:50 - rules.Prism
18:30:13 - rules.Prism
18:38:23 - rules.OneR
18:44:19 - rules.OneR
18:44:59 - rules.OneR
18:46:22 - rules.OneR
18:51:35 - bayes.NaiveBayes
18:52:21 - bayes.NaiveBayes
18:52:39 - bayes.NaiveBayes
18:53:24 - trees.J48
18:53:43 - trees.J48
18:53:59 - trees.J48
18:54:28 - rules.Prism

Classifier output

```
Time taken to build model: 0.02 seconds

=== Stratified cross-validation ===
=== Summary ===

Correctly Classified Instances         469               61.0677 %
Incorrectly Classified Instances       179               23.3073 %
Kappa statistic                          0.3327
Mean absolute error                      0.2762
Root mean squared error                  0.5256
Relative absolute error                 72.562  %
Root relative squared error            120.9297 %
UnClassified Instances                 120               15.625  %
Total Number of Instances              768

=== Detailed Accuracy By Class ===

                 TP Rate   FP Rate   Precision   Recall   F-Measure   M
                 0.869     0.562     0.752      0.869    0.806       0
                 0.438     0.131     0.632      0.438    0.518       0
Weighted Avg.    0.724     0.416     0.711      0.724    0.709       0

=== Confusion Matrix ===

   a   b   <-- classified as
 373  56 |   a = tested_negative
 123  96 |   b = tested_positive
```


Classifier
Choose
IBk -K 7 -W 0 -A "weka.core.neighboursearch.LinearNNSearch -A \"weka.core.EuclideanDistance -R first-last\""
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
18:53:24 - trees.J48
18:53:43 - trees.J48
18:53:59 - trees.J48
18:54:28 - rules.Prism
18:55:01 - rules.Prism
18:55:34 - rules.Prism
18:56:17 - lazy.IBk
18:56:27 - lazy.IBk
18:56:37 - lazy.IBk
18:56:47 - lazy.IBk
18:56:56 - lazy.IBk
18:57:36 - lazy.IBk
18:58:58 - lazy.IBk
Classifier output
=== Evaluation on training set ===
Time taken to test model on training data: 0.05 seconds
=== Summary ===
Correctly Classified Instances 575 74.8698 %
Incorrectly Classified Instances 193 25.1302 %
Kappa statistic 0.3725
Mean absolute error 0.3239
Root mean squared error 0.4022
Relative absolute error 71.2731 %
Root relative squared error 84.3828 %
Total Number of Instances 768
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MCC
0.944 0.616 0.741 0.944 0.830 0.41
0.384 0.056 0.786 0.384 0.516 0.41
Weighted Avg. 0.749 0.420 0.757 0.749 0.721 0.41
=== Confusion Matrix ===
a b <-- classified as
472 28 | a = tested_negative
165 103 | b = tested_positive


Classifier
Choose
IBk -K 7 -W 0 -A "weka.core.neighboursearch.LinearNNSearch -A \"weka.core.EuclideanDistance -R first-last\""
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
18:53:43 - trees.J48
18:53:59 - trees.J48
18:54:28 - rules.Prism
18:55:01 - rules.Prism
18:55:34 - rules.Prism
18:56:17 - lazy.IBk
18:56:27 - lazy.IBk
18:56:37 - lazy.IBk
18:56:47 - lazy.IBk
18:56:56 - lazy.IBk
18:57:36 - lazy.IBk
18:58:58 - lazy.IBk
19:00:27 - lazy.IBk
Classifier output
=== Evaluation on test split ===
Time taken to test model on test split: 0.03 seconds
=== Summary ===
Correctly Classified Instances 192 73.5632 %
Incorrectly Classified Instances 69 26.4368 %
Kappa statistic 0.2596
Mean absolute error 0.3355
Root mean squared error 0.411
Relative absolute error 74.3856 %
Root relative squared error 87.8002 %
Total Number of Instances 261
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure M
0.961 0.747 0.734 0.961 0.832 0
0.253 0.039 0.750 0.253 0.378 0
Weighted Avg. 0.736 0.522 0.739 0.736 0.688 0
=== Confusion Matrix ===
a b <-- classified as
171 7 | a = tested_negative
62 21 | b = tested_positive



Lymphography

Classifier

Choose **OneR** -B 6

Test options

- Use training set
- Supplied test set — Set...
- Cross-validation — Folds 10
- Percentage split — % 66

More options...

(Nom) class

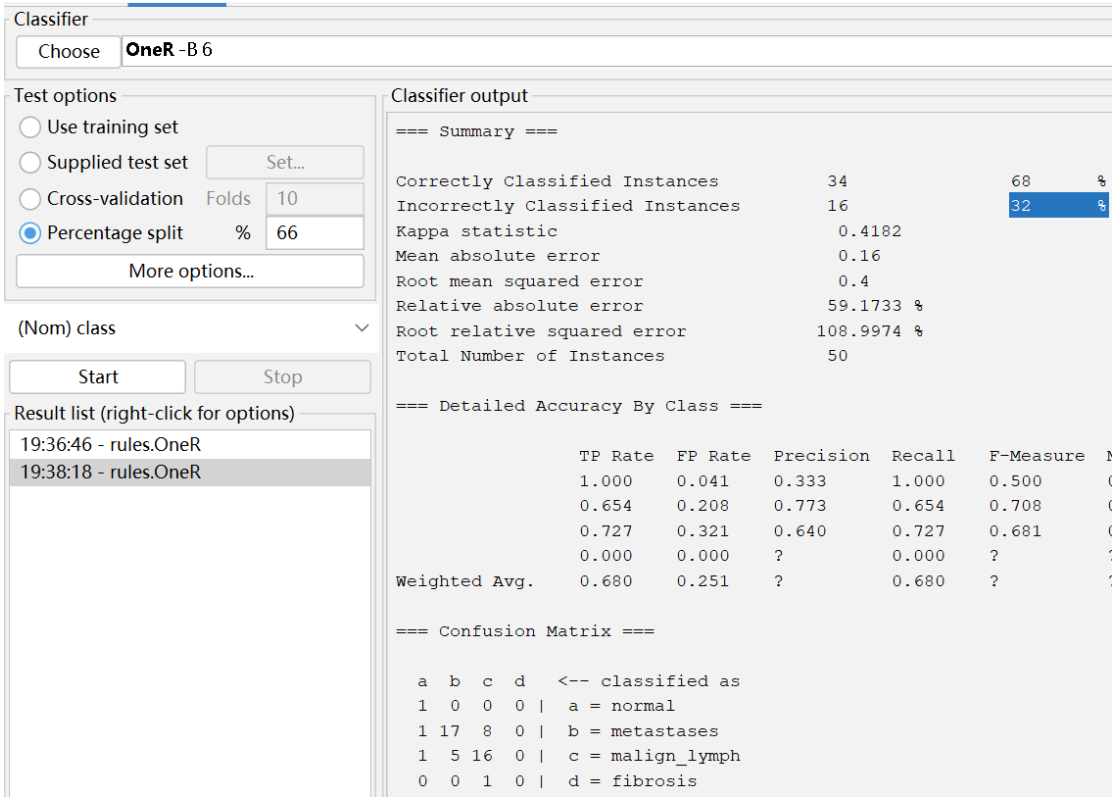
Start | Stop

Result list (right-click for options)

19:36:46 - rules.OneR

Classifier output

```
=== Summary ===

Correctly Classified Instances         112               75.6757 %
Incorrectly Classified Instances        36               24.3243 %
Kappa statistic                          0.5458
Mean absolute error                      0.1216
Root mean squared error                  0.3487
Relative absolute error                 45.4259 %
Root relative squared error             95.8226 %
Total Number of Instances              148

=== Detailed Accuracy By Class ===

                 TP Rate   FP Rate   Precision   Recall   F-Measure   MC
                 1.000    0.027     0.333      1.000    0.500       0
                 0.778    0.179     0.840      0.778    0.808       0
                 0.770    0.230     0.701      0.770    0.734       0
                 0.000    0.000     ?          0.000    ?           ?
Weighted Avg.    0.757    0.193     ?          0.757    ?           ?

=== Confusion Matrix ===

  a  b  c  d   <-- classified as
  2  0  0  0 |  a = normal
  1 63 17  0 |  b = metastases
  2 12 47  0 |  c = malign_lymph
  1  0  3  0 |  d = fibrosis
```


Classifier
Choose
OneR -B 6
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
19:36:46 - rules.OneR
19:38:18 - rules.OneR
Classifier output
=== Summary ===
Correctly Classified Instances 34 68 %
Incorrectly Classified Instances 16 32 %
Kappa statistic 0.4182
Mean absolute error 0.16
Root mean squared error 0.4
Relative absolute error 59.1733 %
Root relative squared error 108.9974 %
Total Number of Instances 50
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure
1.000 0.041 0.333 1.000 0.500
0.654 0.208 0.773 0.654 0.708
0.727 0.321 0.640 0.727 0.681
0.000 0.000 ? 0.000 ?
Weighted Avg. 0.680 0.251 ? 0.680 ?
=== Confusion Matrix ===
a b c d <-- classified as
1 0 0 0 | a = normal
1 17 8 0 | b = metastases
1 5 16 0 | c = malign_lymph
0 0 1 0 | d = fibrosis

Classifier

Choose **OneR** -B 6

Test options

- Use training set
- Supplied test set — Set...
- Cross-validation — Folds 10
- Percentage split — % 66

More options...

(Nom) class

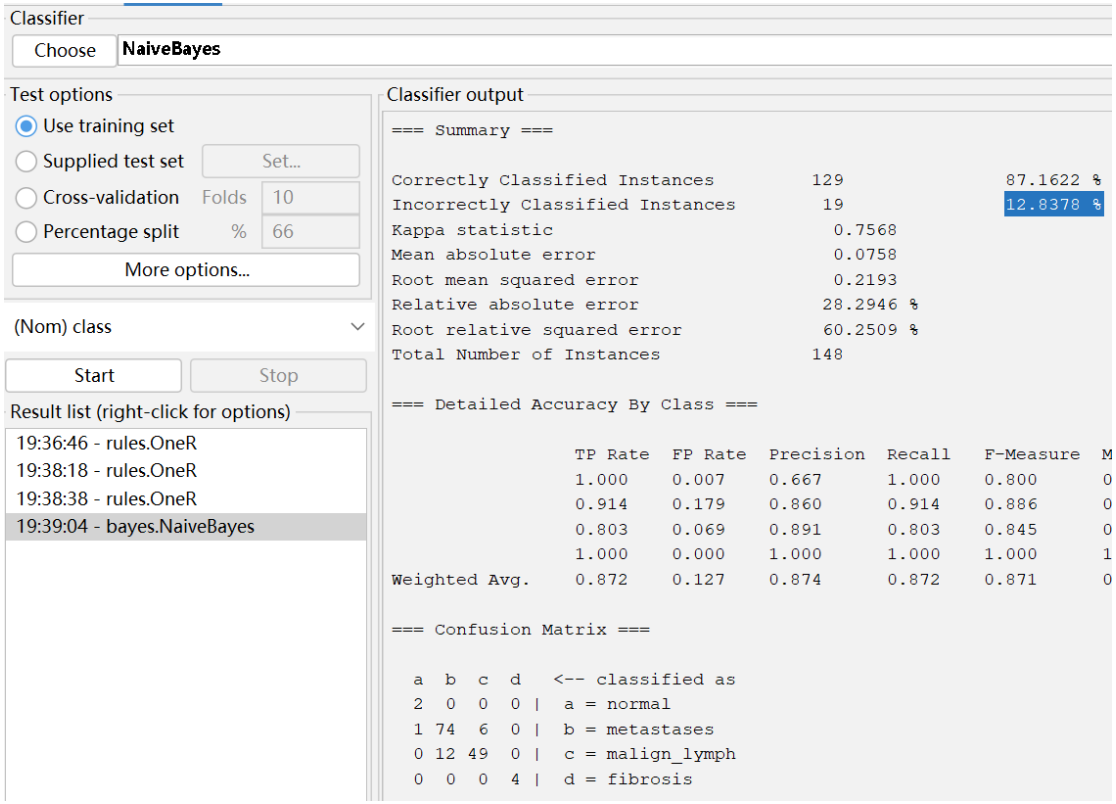
Start | Stop

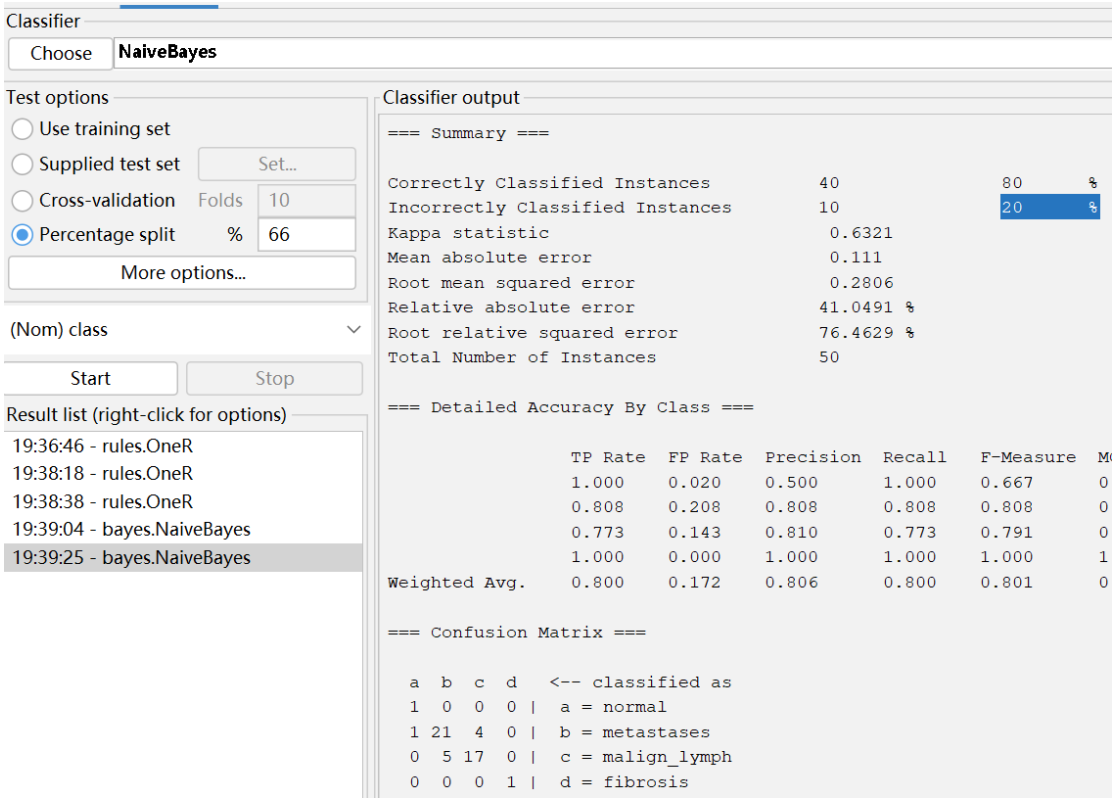
Result list (right-click for options)

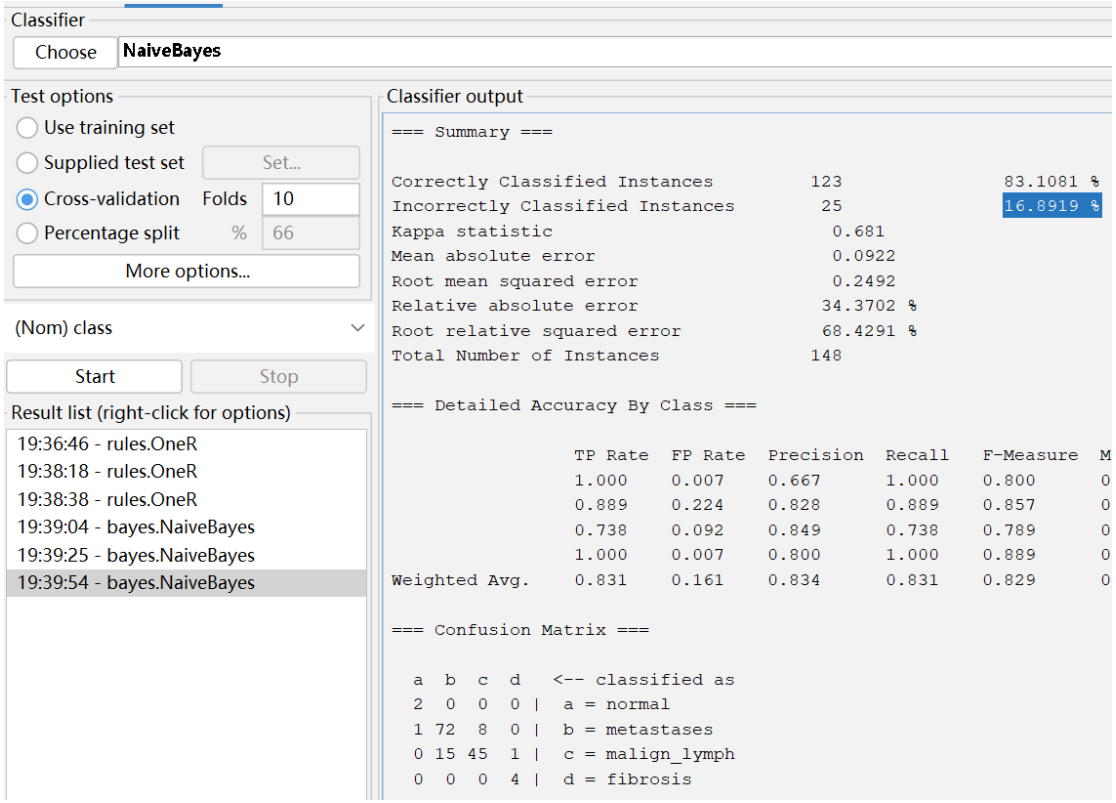
19:36:46 - rules.OneR
19:38:18 - rules.OneR
19:38:38 - rules.OneR

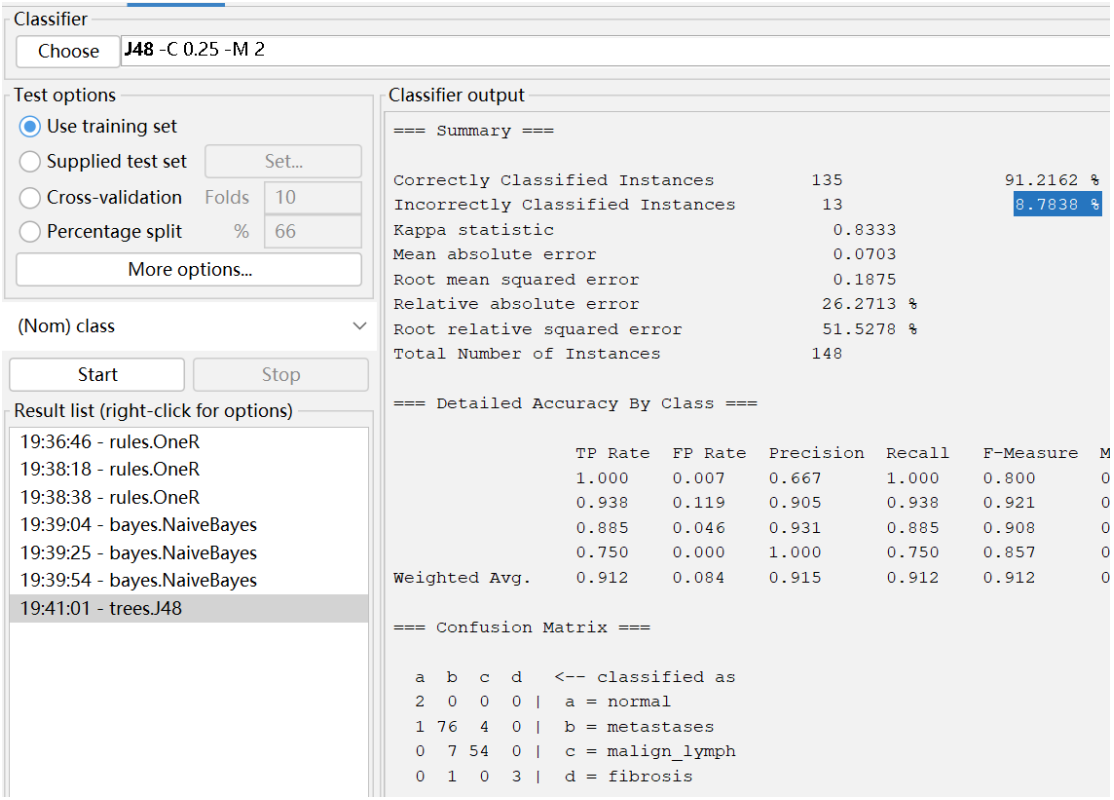
Classifier output

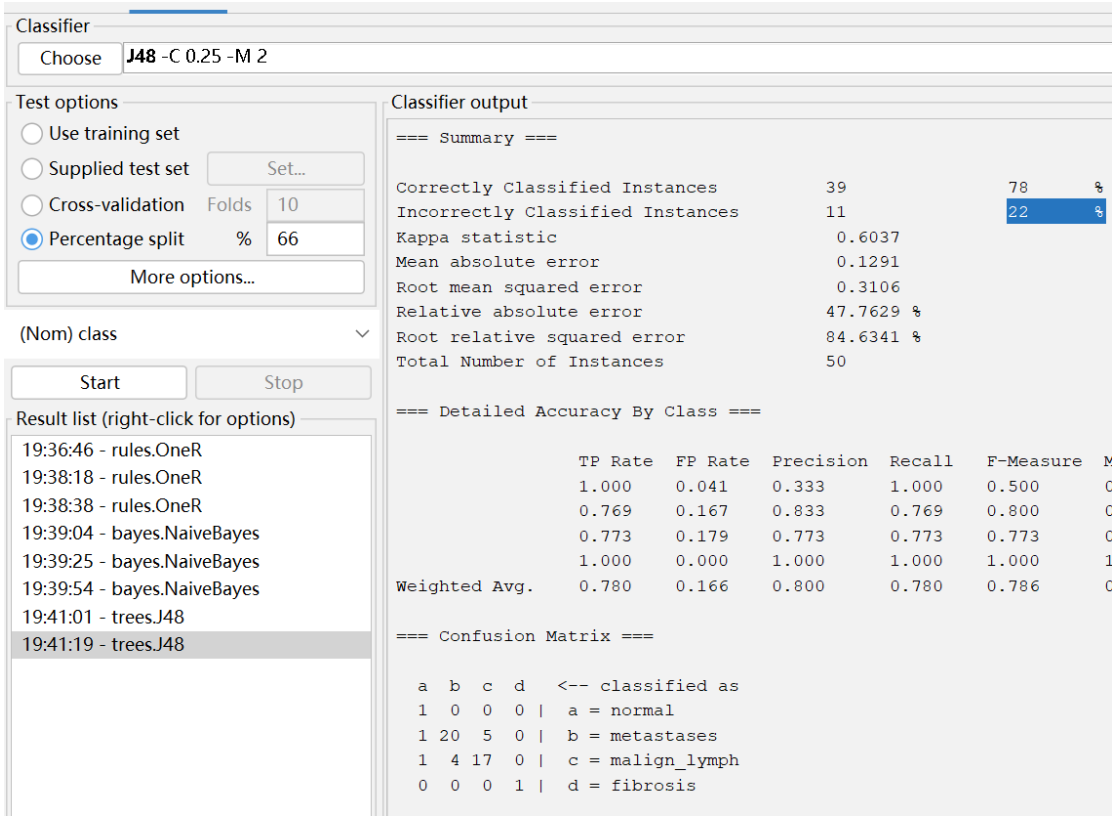
```
=== Summary ===

Correctly Classified Instances         111               75       %
Incorrectly Classified Instances        37               25       %
Kappa statistic                          0.5308
Mean absolute error                      0.125
Root mean squared error                  0.3536
Relative absolute error                 46.6096 %
Root relative squared error             97.0833 %
Total Number of Instances              148

=== Detailed Accuracy By Class ===

                 TP Rate   FP Rate   Precision   Recall   F-Measure   M
                 0.500     0.027     0.200       0.500    0.286       0
                 0.778     0.179     0.840       0.778    0.808       0
                 0.770     0.241     0.691       0.770    0.729       0
                 0.000     0.000     ?           0.000    ?           ?
Weighted Avg.    0.750     0.198     ?           0.750    ?           ?

=== Confusion Matrix ===

  a  b  c  d   <-- classified as
  1  0  1  0 |  a = normal
  1 63 17  0 |  b = metastases
  2 12 47  0 |  c = malign_lymph
  1  0  3  0 |  d = fibrosis
```

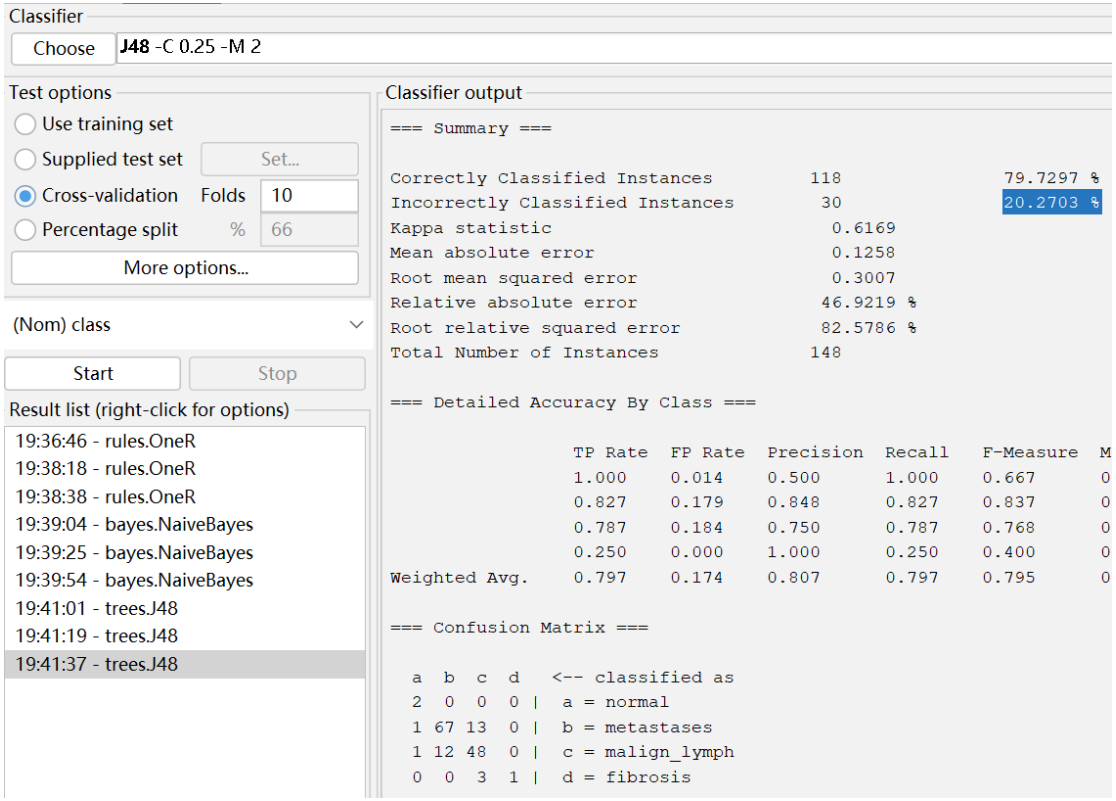

Classifier
Choose
NaiveBayes
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
19:36:46 - rules.OneR
19:38:18 - rules.OneR
19:38:38 - rules.OneR
19:39:04 - bayes.NaiveBayes
Classifier output
=== Summary ===
Correctly Classified Instances 129 87.1622 %
Incorrectly Classified Instances 19 12.8378 %
Kappa statistic 0.7568
Mean absolute error 0.0758
Root mean squared error 0.2193
Relative absolute error 28.2946 %
Root relative squared error 60.2509 %
Total Number of Instances 148
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure M
1.000 0.007 0.667 1.000 0.800 0
0.914 0.179 0.860 0.914 0.886 0
0.803 0.069 0.891 0.803 0.845 0
1.000 0.000 1.000 1.000 1.000 1
Weighted Avg. 0.872 0.127 0.874 0.872 0.871 0
=== Confusion Matrix ===
a b c d <-- classified as
2 0 0 0 | a = normal
1 74 6 0 | b = metastases
0 12 49 0 | c = malign_lymph
0 0 0 4 | d = fibrosis

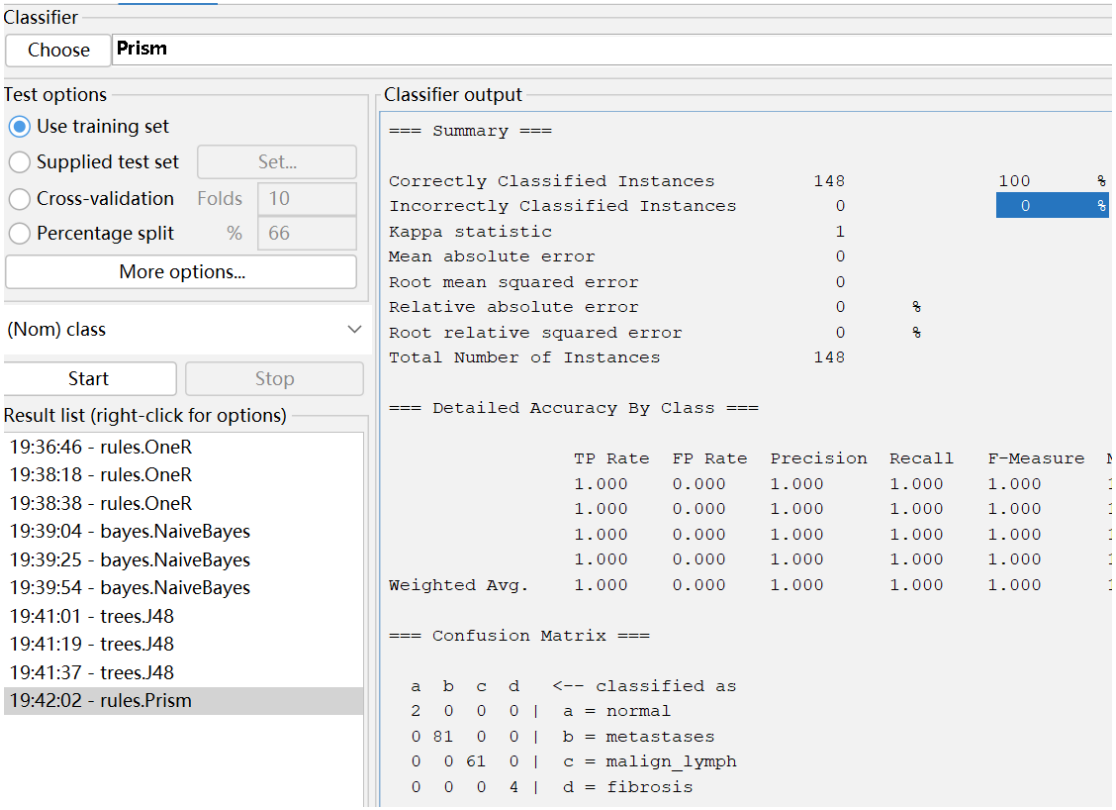

Classifier
Choose
NaiveBayes
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
19:36:46 - rules.OneR
19:38:18 - rules.OneR
19:38:38 - rules.OneR
19:39:04 - bayes.NaiveBayes
19:39:25 - bayes.NaiveBayes
Classifier output
=== Summary ===
Correctly Classified Instances 40 80 %
Incorrectly Classified Instances 10 20 %
Kappa statistic 0.6321
Mean absolute error 0.111
Root mean squared error 0.2806
Relative absolute error 41.0491 %
Root relative squared error 76.4629 %
Total Number of Instances 50
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure
1.000 0.020 0.500 1.000 0.667
0.808 0.208 0.808 0.808 0.808
0.773 0.143 0.810 0.773 0.791
1.000 0.000 1.000 1.000 1.000
Weighted Avg. 0.800 0.172 0.806 0.800 0.801
=== Confusion Matrix ===
a b c d <-- classified as
1 0 0 0 | a = normal
1 21 4 0 | b = metastases
0 5 17 0 | c = malign_lymph
0 0 0 1 | d = fibrosis

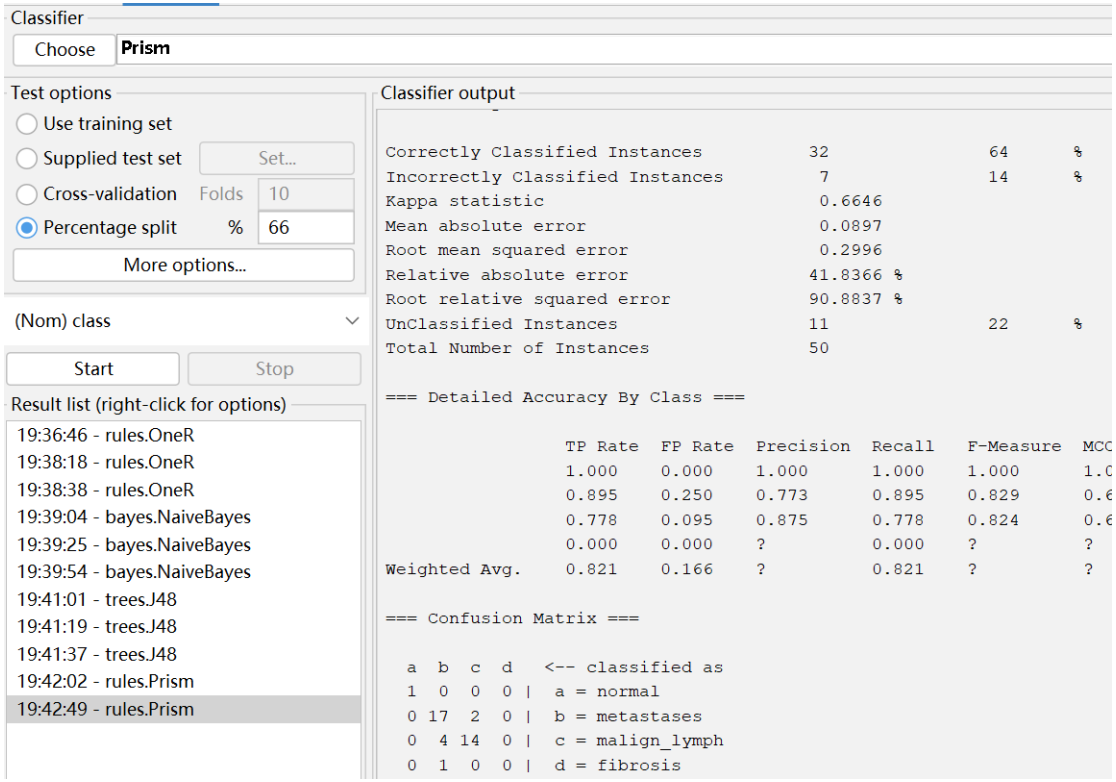

Classifier
Choose
NaiveBayes
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
19:36:46 - rules.OneR
19:38:18 - rules.OneR
19:38:38 - rules.OneR
19:39:04 - bayes.NaiveBayes
19:39:25 - bayes.NaiveBayes
19:39:54 - bayes.NaiveBayes
Classifier output
=== Summary ===
Correctly Classified Instances 123 83.1081 %
Incorrectly Classified Instances 25 16.8919 %
Kappa statistic 0.681
Mean absolute error 0.0922
Root mean squared error 0.2492
Relative absolute error 34.3702 %
Root relative squared error 68.4291 %
Total Number of Instances 148
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure M
1.000 0.007 0.667 1.000 0.800 0
0.889 0.224 0.828 0.889 0.857 0
0.738 0.092 0.849 0.738 0.789 0
1.000 0.007 0.800 1.000 0.889 0
Weighted Avg. 0.831 0.161 0.834 0.831 0.829 0
=== Confusion Matrix ===
a b c d <-- classified as
2 0 0 0 | a = normal
1 72 8 0 | b = metastases
0 15 45 1 | c = malign_lymph
0 0 0 4 | d = fibrosis

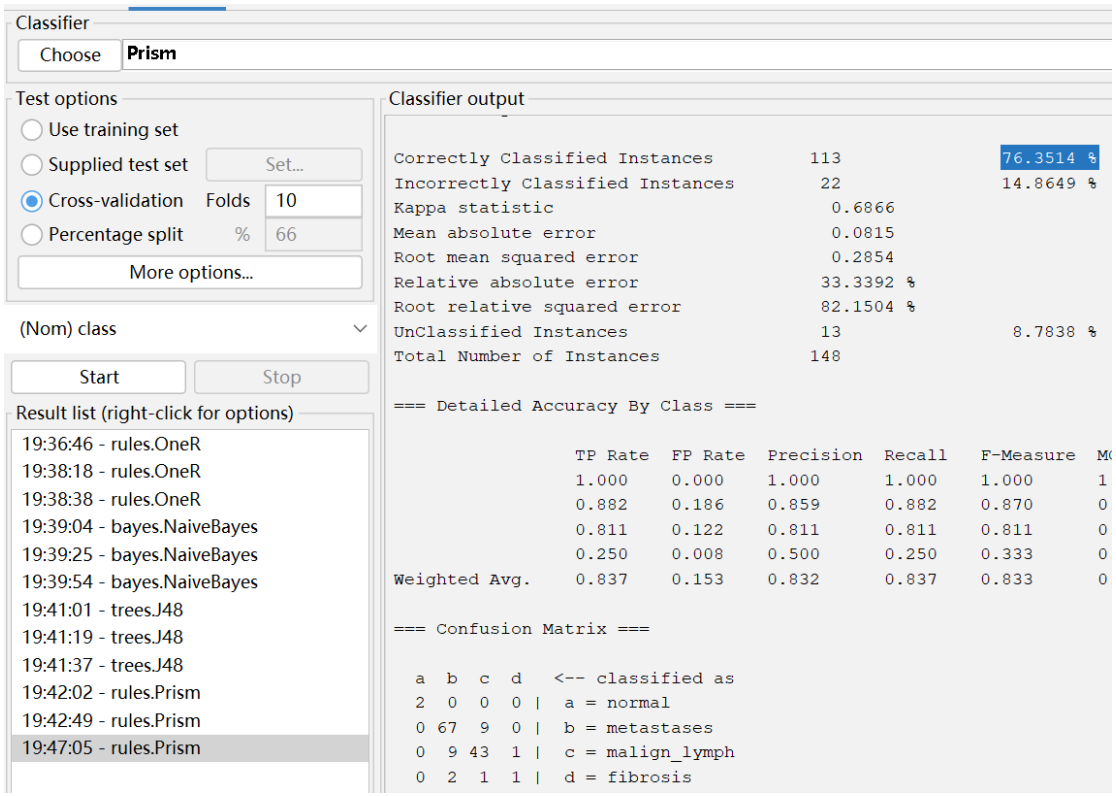

Classifier
Choose
J48 -C 0.25 -M 2
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
19:36:46 - rules.OneR
19:38:18 - rules.OneR
19:38:38 - rules.OneR
19:39:04 - bayes.NaiveBayes
19:39:25 - bayes.NaiveBayes
19:39:54 - bayes.NaiveBayes
19:41:01 - trees.J48
Classifier output
=== Summary ===
Correctly Classified Instances 135 91.2162 %
Incorrectly Classified Instances 13 8.7838 %
Kappa statistic 0.8333
Mean absolute error 0.0703
Root mean squared error 0.1875
Relative absolute error 26.2713 %
Root relative squared error 51.5278 %
Total Number of Instances 148
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure M
1.000 0.007 0.667 1.000 0.800 0
0.938 0.119 0.905 0.938 0.921 0
0.885 0.046 0.931 0.885 0.908 0
0.750 0.000 1.000 0.750 0.857 0
Weighted Avg. 0.912 0.084 0.915 0.912 0.912 0
=== Confusion Matrix ===
a b c d <-- classified as
2 0 0 0 | a = normal
1 76 4 0 | b = metastases
0 7 54 0 | c = malign_lymph
0 1 0 3 | d = fibrosis

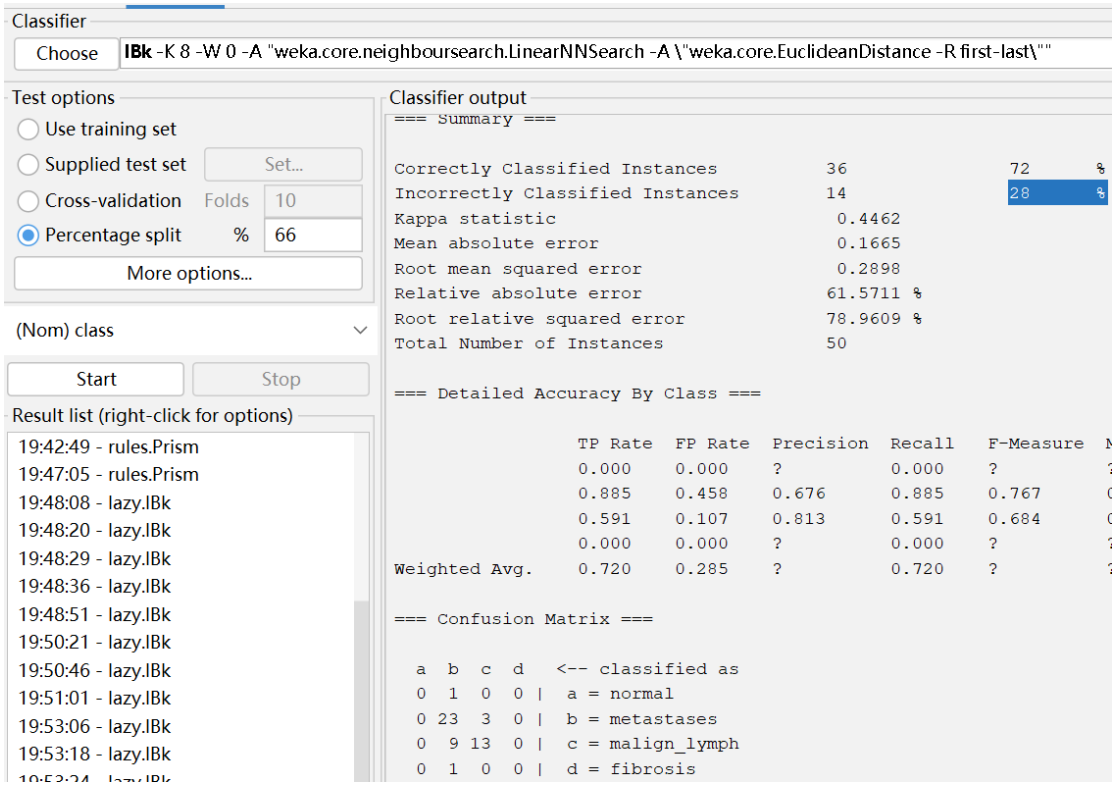

Classifier
Choose
J48 -C 0.25 -M 2
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
19:36:46 - rules.OneR
19:38:18 - rules.OneR
19:38:38 - rules.OneR
19:39:04 - bayes.NaiveBayes
19:39:25 - bayes.NaiveBayes
19:39:54 - bayes.NaiveBayes
19:41:01 - trees.J48
19:41:19 - trees.J48
Classifier output
=== Summary ===
Correctly Classified Instances 39 78 %
Incorrectly Classified Instances 11 22 %
Kappa statistic 0.6037
Mean absolute error 0.1291
Root mean squared error 0.3106
Relative absolute error 47.7629 %
Root relative squared error 84.6341 %
Total Number of Instances 50
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure M
1.000 0.041 0.333 1.000 0.500 0
0.769 0.167 0.833 0.769 0.800 0
0.773 0.179 0.773 0.773 0.773 0
1.000 0.000 1.000 1.000 1.000 1
Weighted Avg. 0.780 0.166 0.800 0.780 0.786 0
=== Confusion Matrix ===
a b c d <-- classified as
1 0 0 0 | a = normal
1 20 5 0 | b = metastases
1 4 17 0 | c = malign_lymph
0 0 0 1 | d = fibrosis

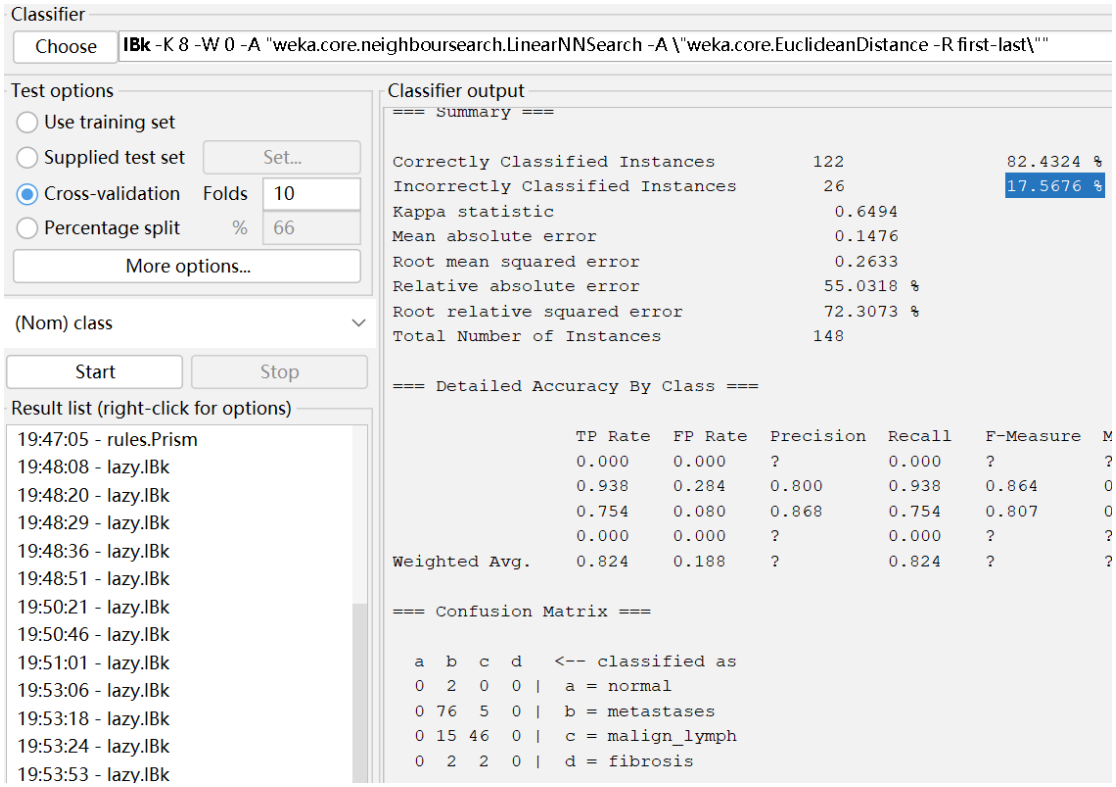

Classifier
Choose
J48 -C 0.25 -M 2
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
19:36:46 - rules.OneR
19:38:18 - rules.OneR
19:38:38 - rules.OneR
19:39:04 - bayes.NaiveBayes
19:39:25 - bayes.NaiveBayes
19:39:54 - bayes.NaiveBayes
19:41:01 - trees.J48
19:41:19 - trees.J48
19:41:37 - trees.J48
Classifier output
=== Summary ===
Correctly Classified Instances 118 79.7297 %
Incorrectly Classified Instances 30 20.2703 %
Kappa statistic 0.6169
Mean absolute error 0.1258
Root mean squared error 0.3007
Relative absolute error 46.9219 %
Root relative squared error 82.5786 %
Total Number of Instances 148
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure M
1.000 0.014 0.500 1.000 0.667 0
0.827 0.179 0.848 0.827 0.837 0
0.787 0.184 0.750 0.787 0.768 0
0.250 0.000 1.000 0.250 0.400 0
Weighted Avg. 0.797 0.174 0.807 0.797 0.795 0
=== Confusion Matrix ===
a b c d <-- classified as
2 0 0 0 | a = normal
1 67 13 0 | b = metastases
1 12 48 0 | c = malign_lymph
0 0 3 1 | d = fibrosis

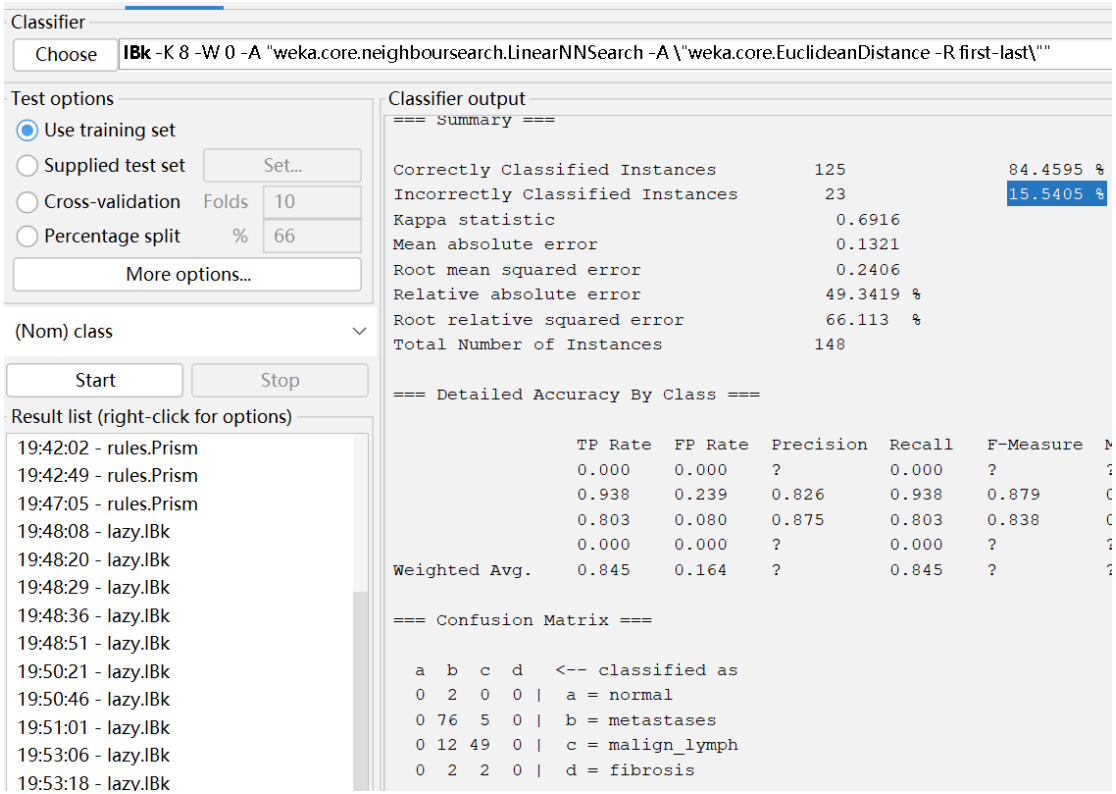

Classifier
Choose
Prism
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
19:36:46 - rules.OneR
19:38:18 - rules.OneR
19:38:38 - rules.OneR
19:39:04 - bayes.NaiveBayes
19:39:25 - bayes.NaiveBayes
19:39:54 - bayes.NaiveBayes
19:41:01 - trees.J48
19:41:19 - trees.J48
19:41:37 - trees.J48
19:42:02 - rules.Prism
Classifier output
=== Summary ===
Correctly Classified Instances 148 100 %
Incorrectly Classified Instances 0 0 %
Kappa statistic 1
Mean absolute error 0
Root mean squared error 0
Relative absolute error 0 %
Root relative squared error 0 %
Total Number of Instances 148
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure
1.000 0.000 1.000 1.000 1.000
1.000 0.000 1.000 1.000 1.000
1.000 0.000 1.000 1.000 1.000
1.000 0.000 1.000 1.000 1.000
Weighted Avg. 1.000 0.000 1.000 1.000 1.000
=== Confusion Matrix ===
a b c d <-- classified as
2 0 0 0 | a = normal
0 81 0 0 | b = metastases
0 0 61 0 | c = malign_lymph
0 0 0 4 | d = fibrosis


Classifier
Choose
Prism
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
19:36:46 - rules.OneR
19:38:18 - rules.OneR
19:38:38 - rules.OneR
19:39:04 - bayes.NaiveBayes
19:39:25 - bayes.NaiveBayes
19:39:54 - bayes.NaiveBayes
19:41:01 - trees.J48
19:41:19 - trees.J48
19:41:37 - trees.J48
19:42:02 - rules.Prism
19:42:49 - rules.Prism
Classifier output
Correctly Classified Instances 32 64 %
Incorrectly Classified Instances 7 14 %
Kappa statistic 0.6646
Mean absolute error 0.0897
Root mean squared error 0.2996
Relative absolute error 41.8366 %
Root relative squared error 90.8837 %
UnClassified Instances 11 22 %
Total Number of Instances 50
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MCC
1.000 0.000 1.000 1.000 1.000 1.0
0.895 0.250 0.773 0.895 0.829 0.6
0.778 0.095 0.875 0.778 0.824 0.6
0.000 0.000 ? 0.000 ? ?
Weighted Avg. 0.821 0.166 ? 0.821 ? ?
=== Confusion Matrix ===
a b c d <-- classified as
1 0 0 0 | a = normal
0 17 2 0 | b = metastases
0 4 14 0 | c = malign_lymph
0 1 0 0 | d = fibrosis

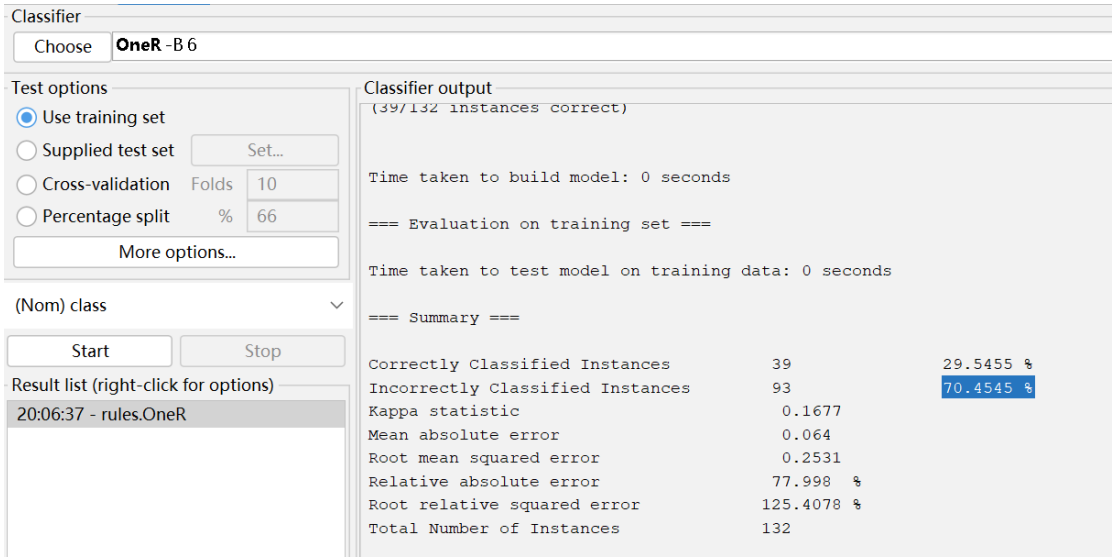

Classifier
Choose
Prism
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
19:36:46 - rules.OneR
19:38:18 - rules.OneR
19:38:38 - rules.OneR
19:39:04 - bayes.NaiveBayes
19:39:25 - bayes.NaiveBayes
19:39:54 - bayes.NaiveBayes
19:41:01 - trees.J48
19:41:19 - trees.J48
19:41:37 - trees.J48
19:42:02 - rules.Prism
19:42:49 - rules.Prism
19:47:05 - rules.Prism
Classifier output
Correctly Classified Instances 113 76.3514 %
Incorrectly Classified Instances 22 14.8649 %
Kappa statistic 0.6866
Mean absolute error 0.0815
Root mean squared error 0.2854
Relative absolute error 33.3392 %
Root relative squared error 82.1504 %
UnClassified Instances 13 8.7838 %
Total Number of Instances 148
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure M
1.000 0.000 1.000 1.000 1.000 1
0.882 0.186 0.859 0.882 0.870 0
0.811 0.122 0.811 0.811 0.811 0
0.250 0.008 0.500 0.250 0.333 0
Weighted Avg. 0.837 0.153 0.832 0.837 0.833 0
=== Confusion Matrix ===
a b c d <-- classified as
2 0 0 0 | a = normal
0 67 9 0 | b = metastases
0 9 43 1 | c = malign_lymph
0 2 1 1 | d = fibrosis

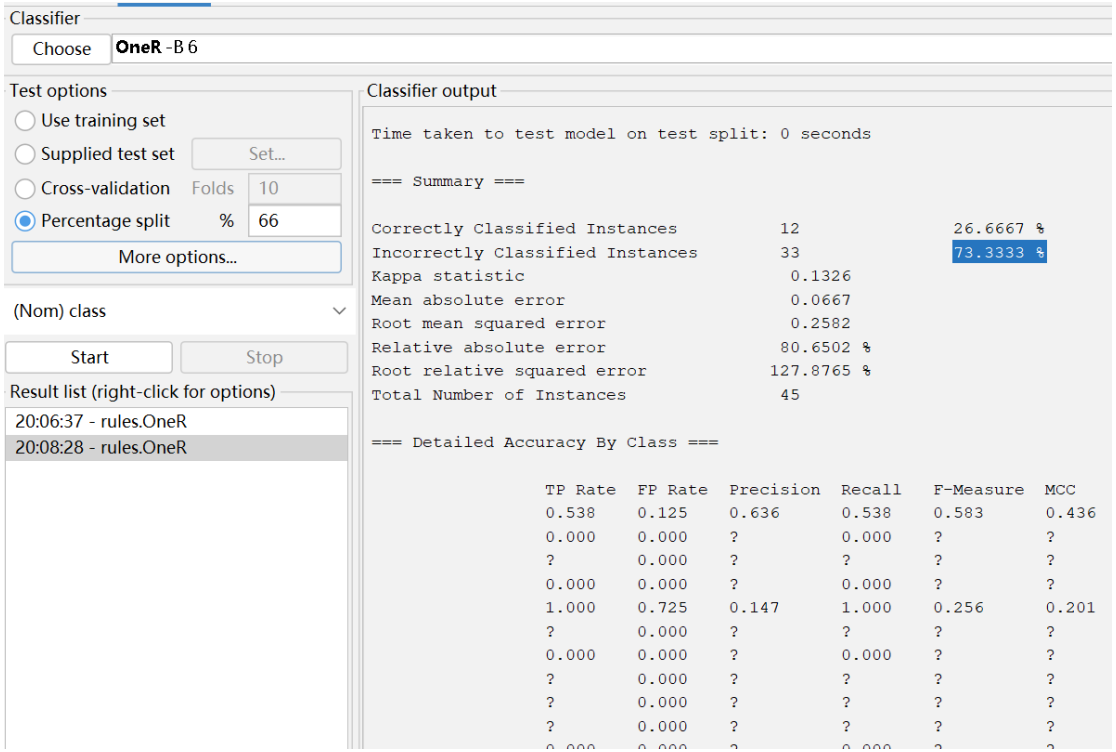

Classifier
Choose
IBk -K 8 -W 0 -A "weka.core.neighboursearch.LinearNNSearch -A \"weka.core.EuclideanDistance -R first-last\""
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
19:42:49 - rules.Prism
19:47:05 - rules.Prism
19:48:08 - lazy.IBk
19:48:20 - lazy.IBk
19:48:29 - lazy.IBk
19:48:36 - lazy.IBk
19:48:51 - lazy.IBk
19:50:21 - lazy.IBk
19:50:46 - lazy.IBk
19:51:01 - lazy.IBk
19:53:06 - lazy.IBk
19:53:18 - lazy.IBk
Classifier output
=== Summary ===
Correctly Classified Instances 36 72 %
Incorrectly Classified Instances 14 28 %
Kappa statistic 0.4462
Mean absolute error 0.1665
Root mean squared error 0.2898
Relative absolute error 61.5711 %
Root relative squared error 78.9609 %
Total Number of Instances 50
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure
0.000 0.000 ? 0.000 ?
0.885 0.458 0.676 0.885 0.767
0.591 0.107 0.813 0.591 0.684
0.000 0.000 ? 0.000 ?
Weighted Avg. 0.720 0.285 ? 0.720 ?
=== Confusion Matrix ===
a b c d <-- classified as
0 1 0 0 | a = normal
0 23 3 0 | b = metastases
0 9 13 0 | c = malign_lymph
0 1 0 0 | d = fibrosis

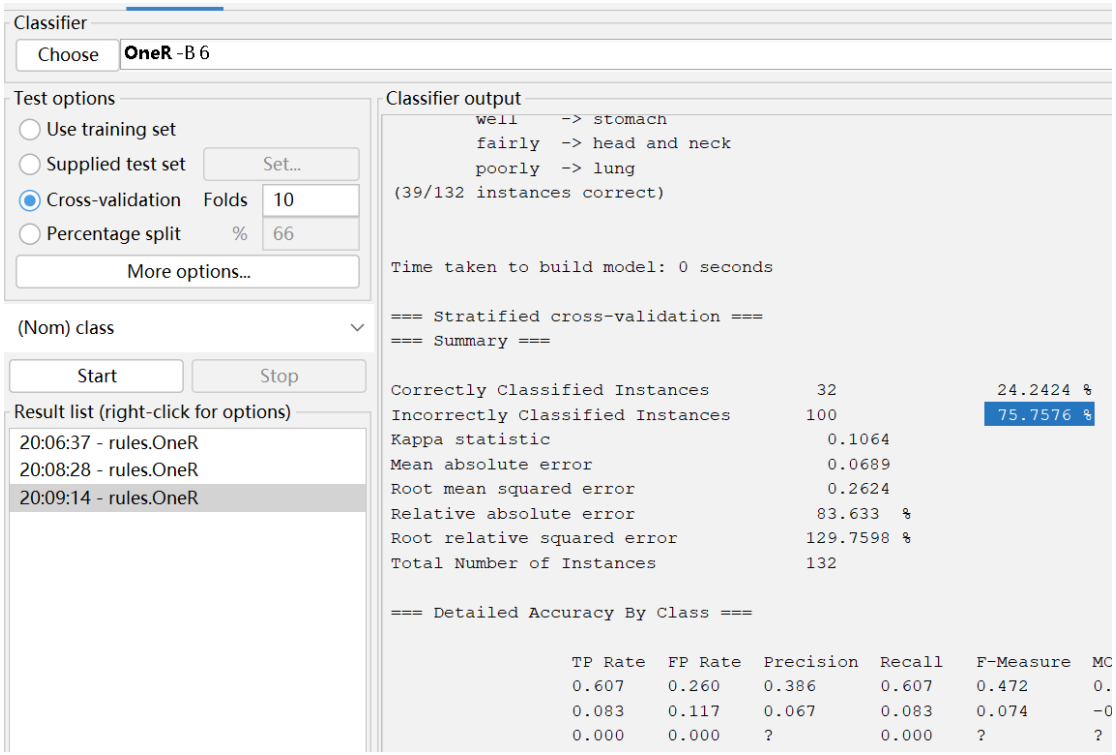

Classifier
Choose
IBk -K 8 -W 0 -A "weka.core.neighboursearch.LinearNNSearch -A \"weka.core.EuclideanDistance -R first-last\""
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
19:47:05 - rules.Prism
19:48:08 - lazy.IBk
19:48:20 - lazy.IBk
19:48:29 - lazy.IBk
19:48:36 - lazy.IBk
19:48:51 - lazy.IBk
19:50:21 - lazy.IBk
19:50:46 - lazy.IBk
19:51:01 - lazy.IBk
19:53:06 - lazy.IBk
19:53:18 - lazy.IBk
19:53:24 - lazy.IBk
19:53:53 - lazy.IBk
Classifier output
=== Summary ===
Correctly Classified Instances 122 82.4324 %
Incorrectly Classified Instances 26 17.5676 %
Kappa statistic 0.6494
Mean absolute error 0.1476
Root mean squared error 0.2633
Relative absolute error 55.0318 %
Root relative squared error 72.3073 %
Total Number of Instances 148
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure M
0.000 0.000 ? 0.000 ? ?
0.938 0.284 0.800 0.938 0.864 0
0.754 0.080 0.868 0.754 0.807 0
0.000 0.000 ? 0.000 ? ?
Weighted Avg. 0.824 0.188 ? 0.824 ? ?
=== Confusion Matrix ===
a b c d <-- classified as
0 2 0 0 | a = normal
0 76 5 0 | b = metastases
0 15 46 0 | c = malign_lymph
0 2 2 0 | d = fibrosis

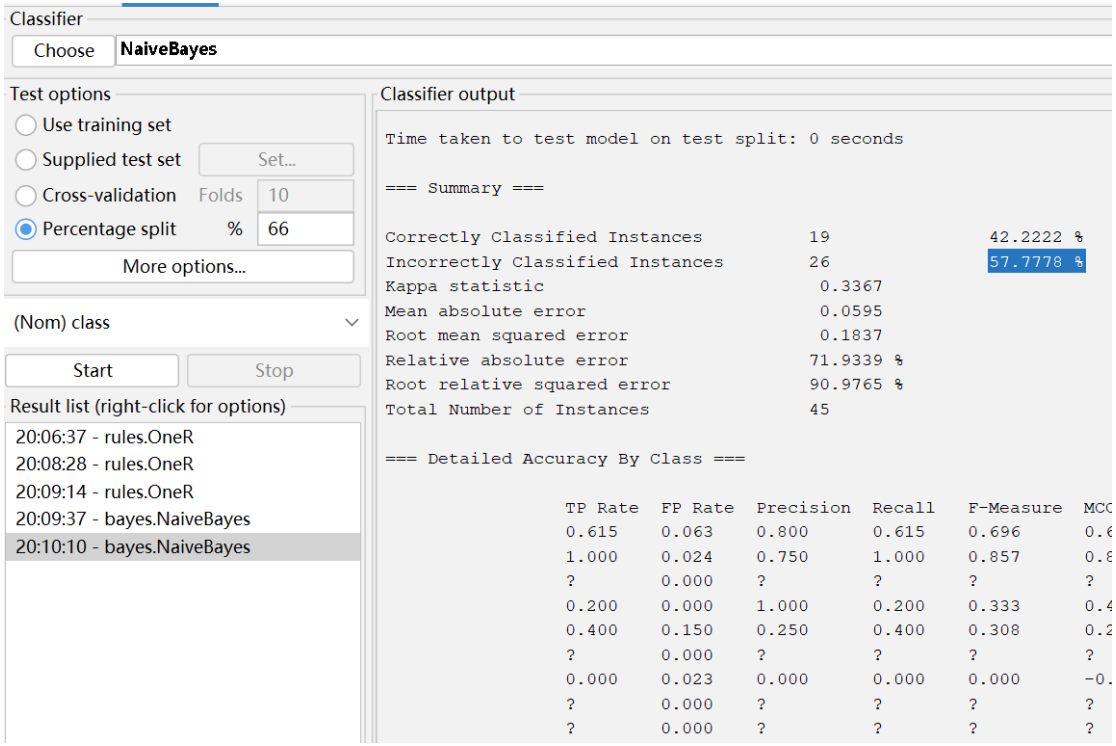


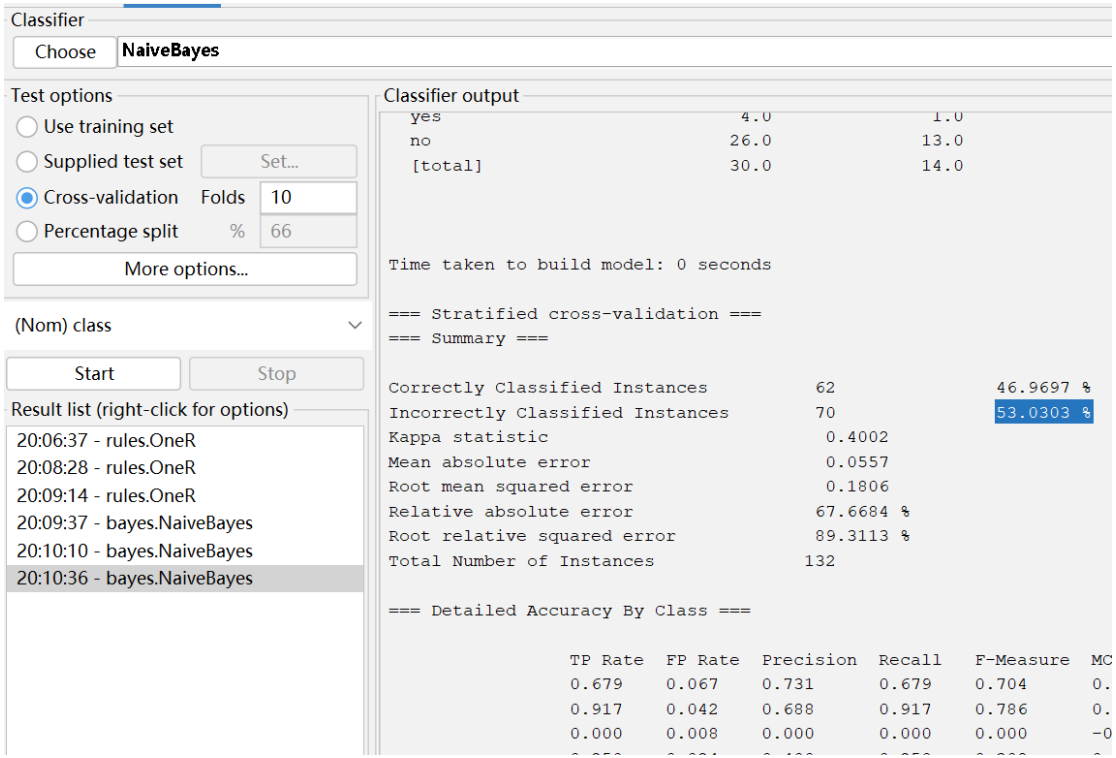
Primary-tumor


Classifier
Choose
OneR -B 6
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:06:37 - rules.OneR
Classifier output
(39/132 instances correct)
Time taken to build model: 0 seconds
=== Evaluation on training set ===
Time taken to test model on training data: 0 seconds
=== Summary ===
Correctly Classified Instances 39 29.5455 %
Incorrectly Classified Instances 93 70.4545 %
Kappa statistic 0.1677
Mean absolute error 0.064
Root mean squared error 0.2531
Relative absolute error 77.998 %
Root relative squared error 125.4078 %
Total Number of Instances 132


Classifier
Choose
OneR -B 6
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:06:37 - rules.OneR
20:08:28 - rules.OneR
Classifier output
Time taken to test model on test split: 0 seconds
=== Summary ===
Correctly Classified Instances 12 26.6667 %
Incorrectly Classified Instances 33 73.3333 %
Kappa statistic 0.1326
Mean absolute error 0.0667
Root mean squared error 0.2582
Relative absolute error 80.6502 %
Root relative squared error 127.8765 %
Total Number of Instances 45
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MCC
0.538 0.125 0.636 0.538 0.583 0.436
0.000 0.000 ? 0.000 ? ?
? 0.000 ? ? ? ?
0.000 0.000 ? 0.000 ? ?
1.000 0.725 0.147 1.000 0.256 0.201
? 0.000 ? ? ? ?
0.000 0.000 ? 0.000 ? ?
? 0.000 ? ? ? ?
? 0.000 ? ? ? ?
? 0.000 ? ? ? ?


Classifier
Choose
OneR -B 6
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:06:37 - rules.OneR
20:08:28 - rules.OneR
20:09:14 - rules.OneR
Classifier output
well -> stomach
fairly -> head and neck
poorly -> lung
(39/132 instances correct)
Time taken to build model: 0 seconds
=== Stratified cross-validation ===
=== Summary ===
Correctly Classified Instances 32 24.2424 %
Incorrectly Classified Instances 100 75.7576 %
Kappa statistic 0.1064
Mean absolute error 0.0689
Root mean squared error 0.2624
Relative absolute error 83.633 %
Root relative squared error 129.7598 %
Total Number of Instances 132
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MC
0.607 0.260 0.386 0.607 0.472 0.
0.083 0.117 0.067 0.083 0.074 -0
0.000 0.000 ? 0.000 ? ?


Classifier
Choose
NaiveBayes
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:06:37 - rules.OneR
20:08:28 - rules.OneR
20:09:14 - rules.OneR
20:09:37 - bayes.NaiveBayes
20:10:10 - bayes.NaiveBayes
Classifier output
Time taken to test model on test split: 0 seconds
=== Summary ===
Correctly Classified Instances 19 42.2222 %
Incorrectly Classified Instances 26 57.7778 %
Kappa statistic 0.3367
Mean absolute error 0.0595
Root mean squared error 0.1837
Relative absolute error 71.9339 %
Root relative squared error 90.9765 %
Total Number of Instances 45
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MCC
0.615 0.063 0.800 0.615 0.696 0.6
1.000 0.024 0.750 1.000 0.857 0.8
? 0.000 ? ? ? ?
0.200 0.000 1.000 0.200 0.333 0.4
0.400 0.150 0.250 0.400 0.308 0.2
? 0.000 ? ? ? ?
0.000 0.023 0.000 0.000 0.000 -0.
? 0.000 ? ? ? ?
? 0.000 ? ? ? ?


Classifier
Choose
NaiveBayes
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:06:37 - rules.OneR
20:08:28 - rules.OneR
20:09:14 - rules.OneR
20:09:37 - bayes.NaiveBayes
20:10:10 - bayes.NaiveBayes
20:10:36 - bayes.NaiveBayes
Classifier output
yes 4.0 1.0
no 26.0 13.0
[total] 30.0 14.0
Time taken to build model: 0 seconds
=== Stratified cross-validation ===
=== Summary ===
Correctly Classified Instances 62 46.9697 %
Incorrectly Classified Instances 70 53.0303 %
Kappa statistic 0.4002
Mean absolute error 0.0557
Root mean squared error 0.1806
Relative absolute error 67.6684 %
Root relative squared error 89.3113 %
Total Number of Instances 132
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MC
0.679 0.067 0.731 0.679 0.704 0.
0.917 0.042 0.688 0.917 0.786 0.
0.000 0.008 0.000 0.000 0.000 -0

Classifier

Choose **J48** -C 0.25 -M 2

Test options

- (•) Use training set
- ( ) Supplied test set — Set...
- ( ) Cross-validation — Folds 10
- ( ) Percentage split — % 66

More options...

(Nom) class

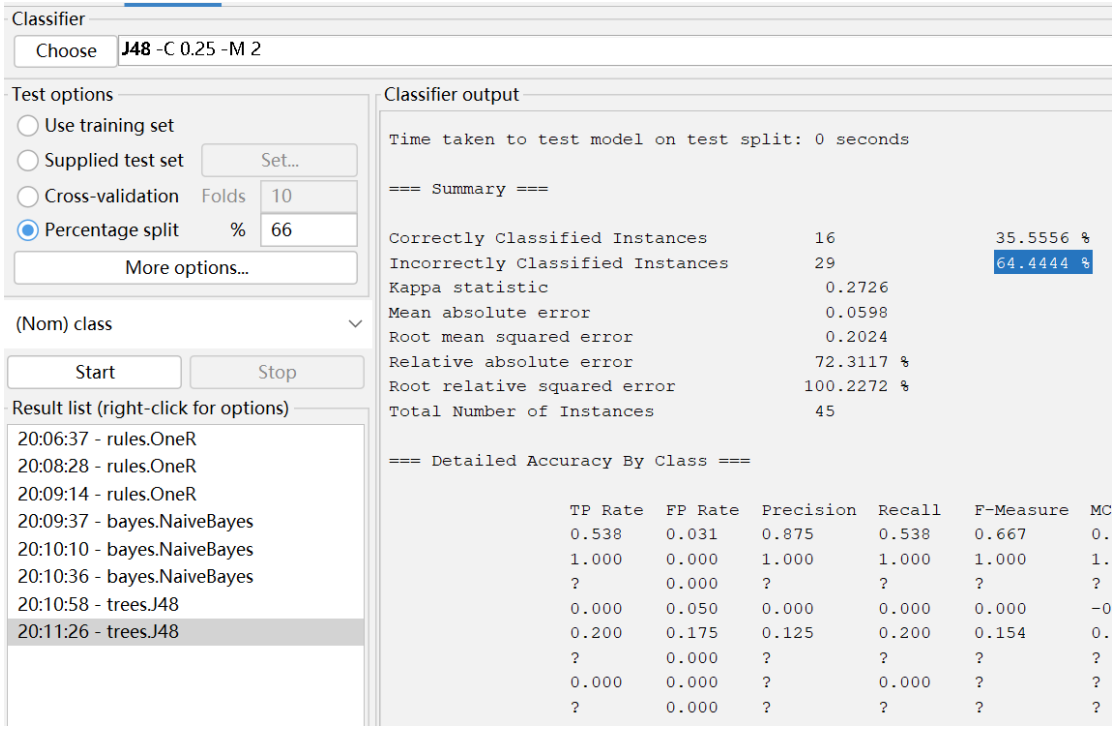
Start | Stop

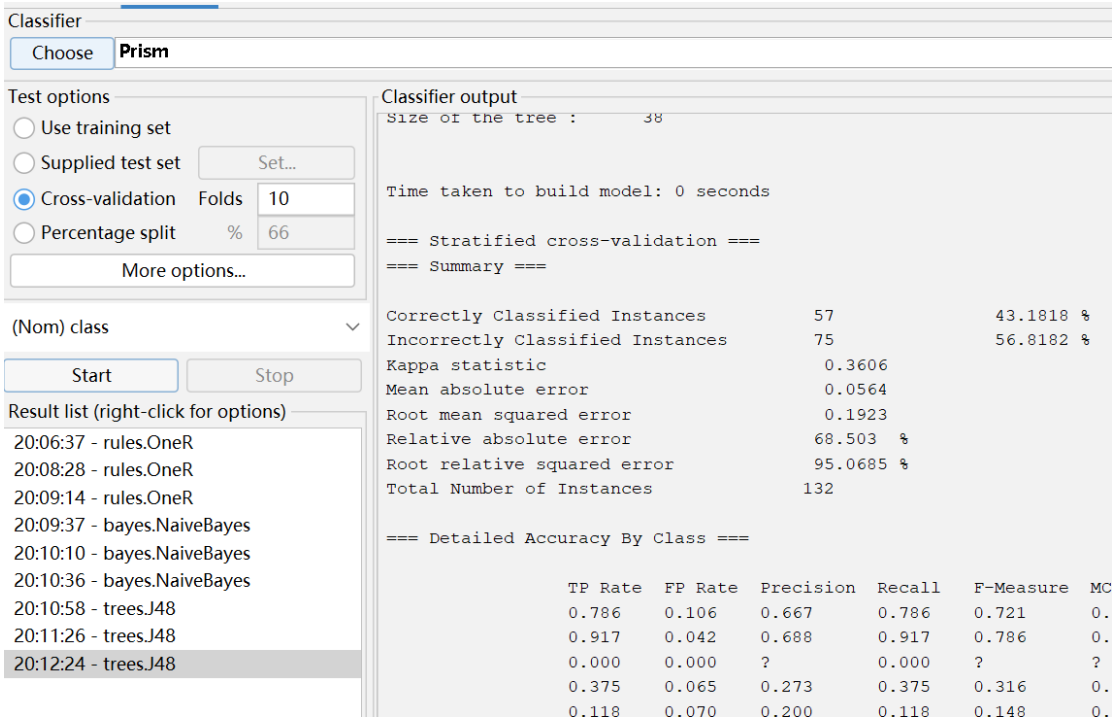
Result list (right-click for options)

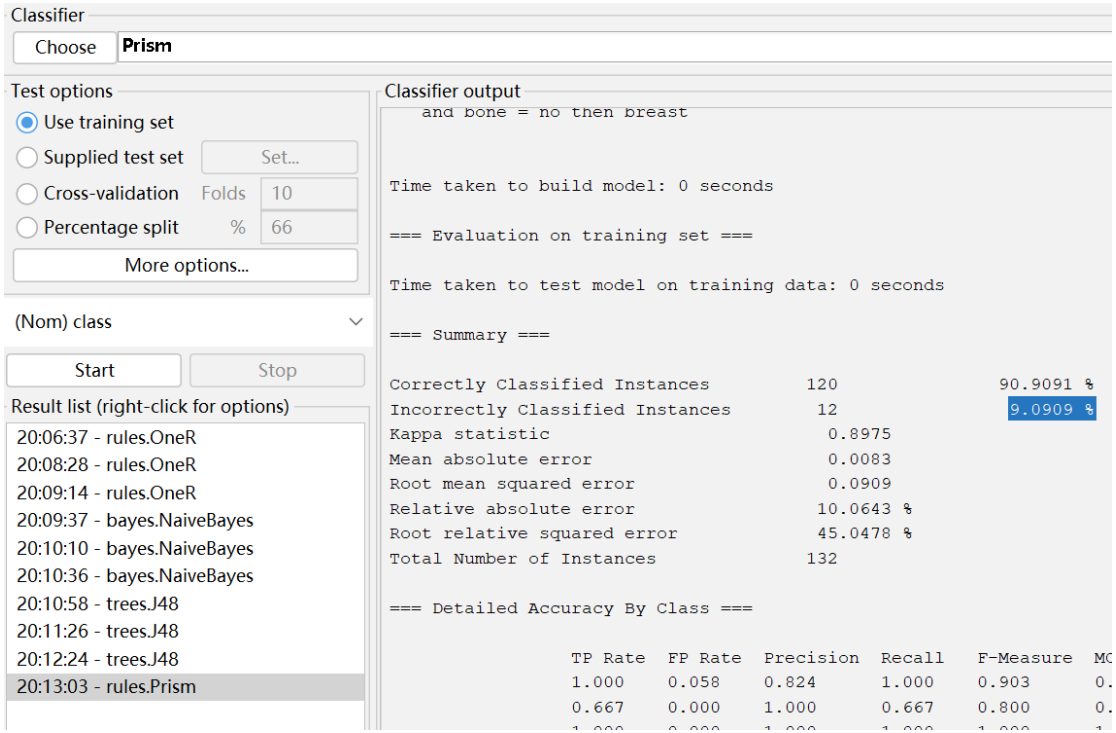
- 20:06:37 - rules.OneR
- 20:08:28 - rules.OneR
- 20:09:14 - rules.OneR
- 20:09:37 - bayes.NaiveBayes
- 20:10:10 - bayes.NaiveBayes
- 20:10:36 - bayes.NaiveBayes
- 20:10:58 - trees.J48

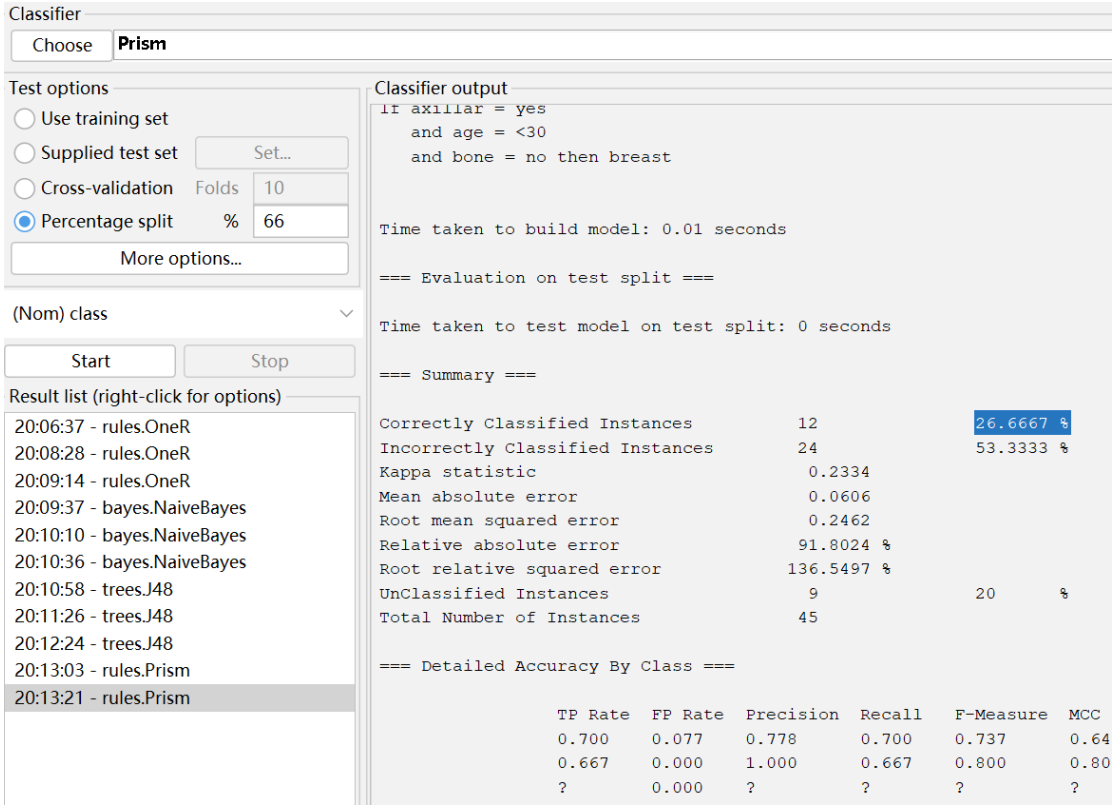
Classifier output

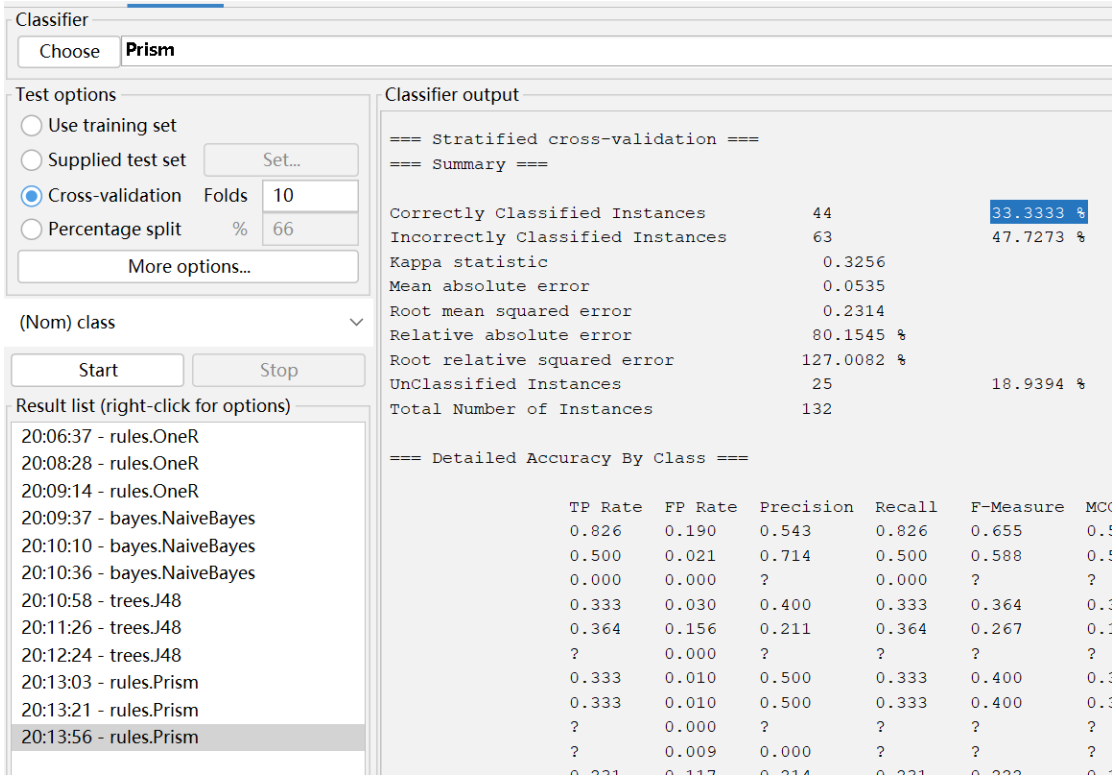
```
Time taken to test model on training data: 0 seconds

=== Summary ===

Correctly Classified Instances          85               64.3939 %
Incorrectly Classified Instances        47               35.6061 %
Kappa statistic                          0.5995
Mean absolute error                      0.0439
Root mean squared error                  0.1482
Relative absolute error                 53.4901 %
Root relative squared error             73.4352 %
Total Number of Instances              132

=== Detailed Accuracy By Class ===

                 TP Rate  FP Rate  Precision  Recall   F-Measure  M
                 0.821    0.048    0.821      0.821    0.821      0
                 1.000    0.042    0.706      1.000    0.828      0
                 0.000    0.000    ?          0.000    ?          ?
                 0.625    0.032    0.556      0.625    0.588      0
                 0.412    0.052    0.538      0.412    0.467      0
                 ?        0.000    ?          ?        ?          ?
                 0.500    0.008    0.667      0.500    0.571      0
```

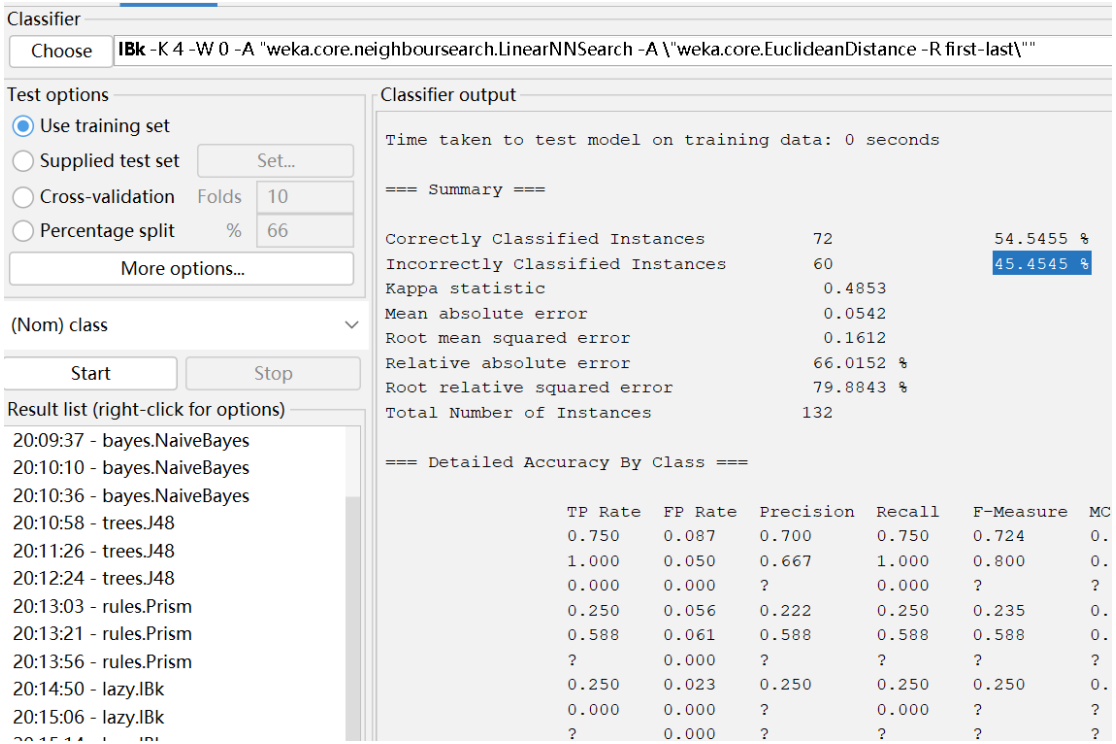

Classifier
Choose
J48 -C 0.25 -M 2
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:06:37 - rules.OneR
20:08:28 - rules.OneR
20:09:14 - rules.OneR
20:09:37 - bayes.NaiveBayes
20:10:10 - bayes.NaiveBayes
20:10:36 - bayes.NaiveBayes
20:10:58 - trees.J48
20:11:26 - trees.J48
Classifier output
Time taken to test model on test split: 0 seconds
=== Summary ===
Correctly Classified Instances 16 35.5556 %
Incorrectly Classified Instances 29 64.4444 %
Kappa statistic 0.2726
Mean absolute error 0.0598
Root mean squared error 0.2024
Relative absolute error 72.3117 %
Root relative squared error 100.2272 %
Total Number of Instances 45
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MC
0.538 0.031 0.875 0.538 0.667 0.
1.000 0.000 1.000 1.000 1.000 1.
? 0.000 ? ? ? ?
0.000 0.050 0.000 0.000 0.000 -0
0.200 0.175 0.125 0.200 0.154 0.
? 0.000 ? ? ? ?
0.000 0.000 ? 0.000 ? ?
? 0.000 ? ? ? ?

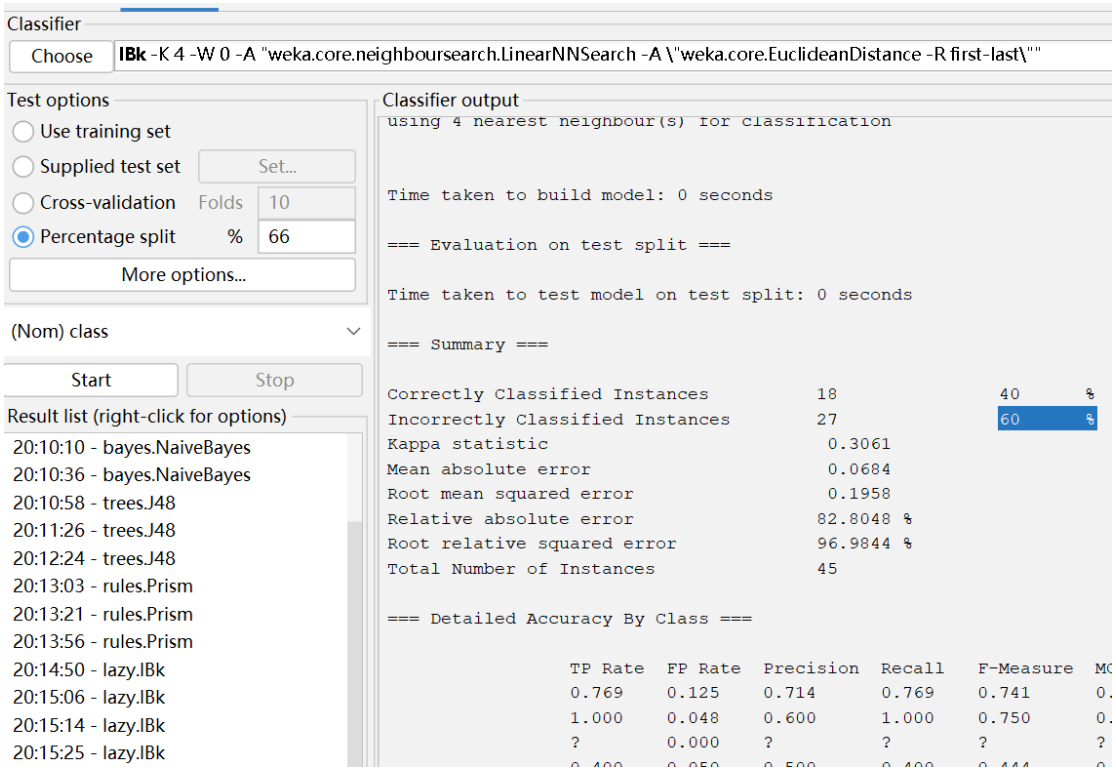

Classifier
Choose
Prism
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:06:37 - rules.OneR
20:08:28 - rules.OneR
20:09:14 - rules.OneR
20:09:37 - bayes.NaiveBayes
20:10:10 - bayes.NaiveBayes
20:10:36 - bayes.NaiveBayes
20:10:58 - trees.J48
20:11:26 - trees.J48
20:12:24 - trees.J48
Classifier output
Size of the tree : 38
Time taken to build model: 0 seconds
=== Stratified cross-validation ===
=== Summary ===
Correctly Classified Instances 57 43.1818 %
Incorrectly Classified Instances 75 56.8182 %
Kappa statistic 0.3606
Mean absolute error 0.0564
Root mean squared error 0.1923
Relative absolute error 68.503 %
Root relative squared error 95.0685 %
Total Number of Instances 132
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MC
0.786 0.106 0.667 0.786 0.721 0.
0.917 0.042 0.688 0.917 0.786 0.
0.000 0.000 ? 0.000 ? ?
0.375 0.065 0.273 0.375 0.316 0.
0.118 0.070 0.200 0.118 0.148 0.

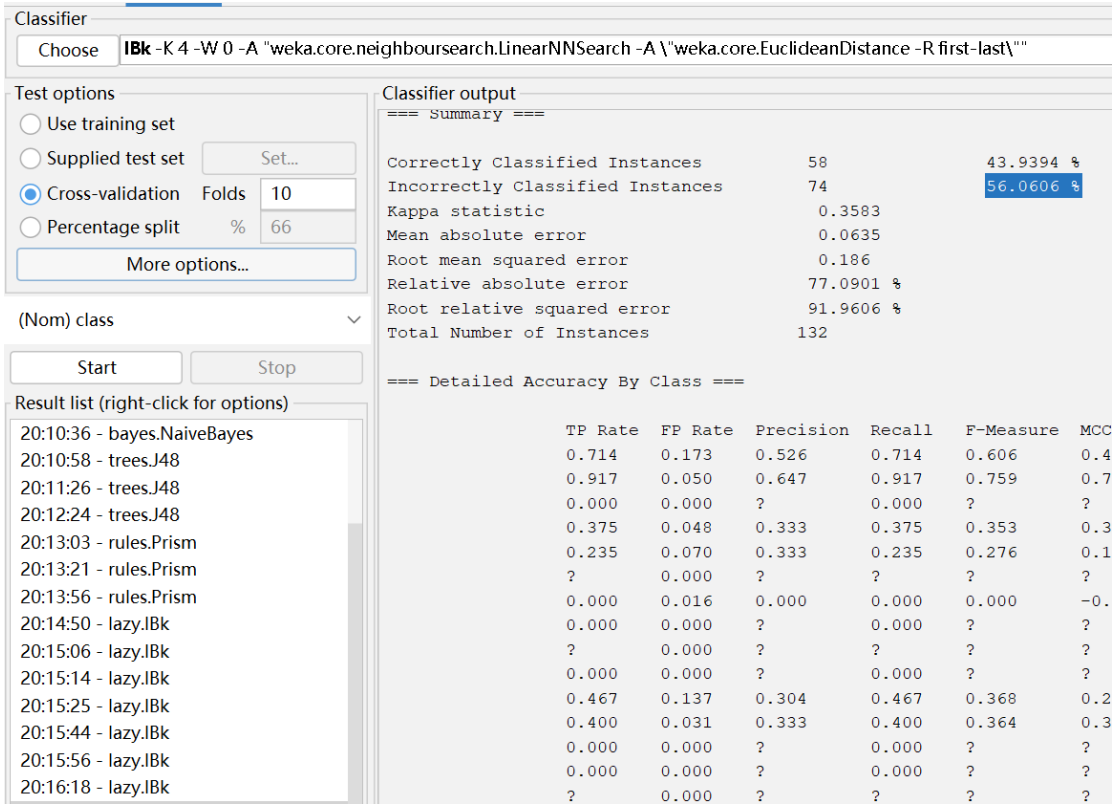

Classifier
Choose
Prism
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:06:37 - rules.OneR
20:08:28 - rules.OneR
20:09:14 - rules.OneR
20:09:37 - bayes.NaiveBayes
20:10:10 - bayes.NaiveBayes
20:10:36 - bayes.NaiveBayes
20:10:58 - trees.J48
20:11:26 - trees.J48
20:12:24 - trees.J48
20:13:03 - rules.Prism
Classifier output
and bone = no then breast
Time taken to build model: 0 seconds
=== Evaluation on training set ===
Time taken to test model on training data: 0 seconds
=== Summary ===
Correctly Classified Instances 120 90.9091 %
Incorrectly Classified Instances 12 9.0909 %
Kappa statistic 0.8975
Mean absolute error 0.0083
Root mean squared error 0.0909
Relative absolute error 10.0643 %
Root relative squared error 45.0478 %
Total Number of Instances 132
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MC
1.000 0.058 0.824 1.000 0.903 0.
0.667 0.000 1.000 0.667 0.800 0.


Classifier
Choose
Prism
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:06:37 - rules.OneR
20:08:28 - rules.OneR
20:09:14 - rules.OneR
20:09:37 - bayes.NaiveBayes
20:10:10 - bayes.NaiveBayes
20:10:36 - bayes.NaiveBayes
20:10:58 - trees.J48
20:11:26 - trees.J48
20:12:24 - trees.J48
20:13:03 - rules.Prism
20:13:21 - rules.Prism
Classifier output
If axillar = yes
and age = <30
and bone = no then breast
Time taken to build model: 0.01 seconds
=== Evaluation on test split ===
Time taken to test model on test split: 0 seconds
=== Summary ===
Correctly Classified Instances 12 26.6667 %
Incorrectly Classified Instances 24 53.3333 %
Kappa statistic 0.2334
Mean absolute error 0.0606
Root mean squared error 0.2462
Relative absolute error 91.8024 %
Root relative squared error 136.5497 %
UnClassified Instances 9 20 %
Total Number of Instances 45
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MCC
0.700 0.077 0.778 0.700 0.737 0.64
0.667 0.000 1.000 0.667 0.800 0.80
? 0.000 ? ? ? ?

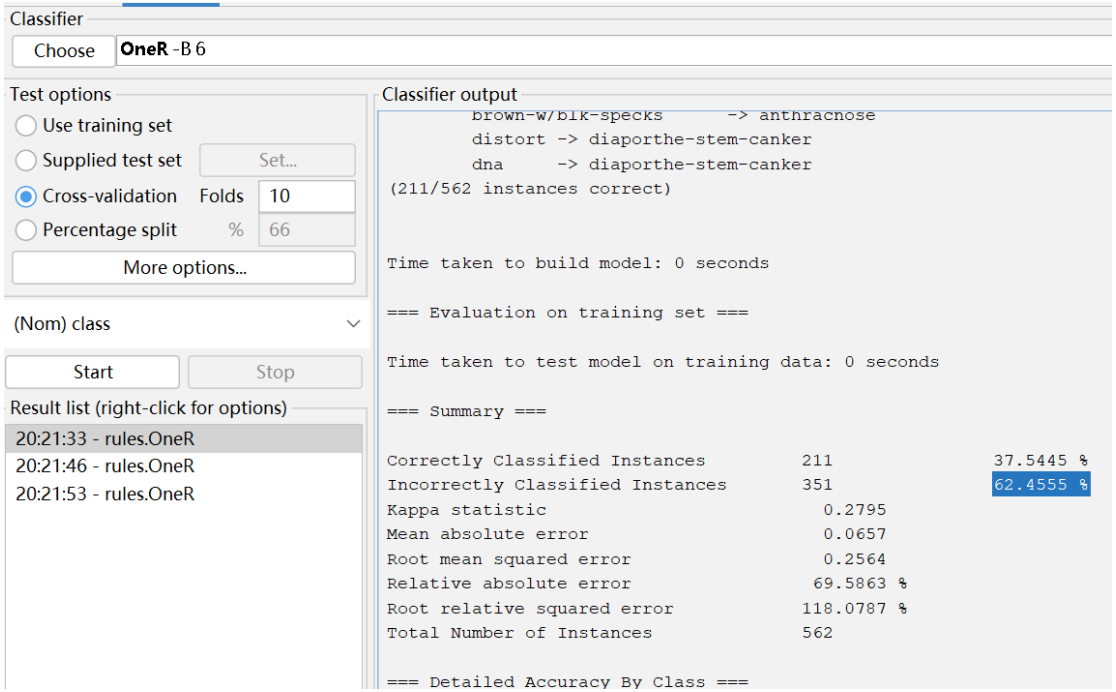

Classifier
Choose
Prism
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:06:37 - rules.OneR
20:08:28 - rules.OneR
20:09:14 - rules.OneR
20:09:37 - bayes.NaiveBayes
20:10:10 - bayes.NaiveBayes
20:10:36 - bayes.NaiveBayes
20:10:58 - trees.J48
20:11:26 - trees.J48
20:12:24 - trees.J48
20:13:03 - rules.Prism
20:13:21 - rules.Prism
20:13:56 - rules.Prism
Classifier output
=== Stratified cross-validation ===
=== Summary ===
Correctly Classified Instances 44 33.3333 %
Incorrectly Classified Instances 63 47.7273 %
Kappa statistic 0.3256
Mean absolute error 0.0535
Root mean squared error 0.2314
Relative absolute error 80.1545 %
Root relative squared error 127.0082 %
UnClassified Instances 25 18.9394 %
Total Number of Instances 132
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MC
0.826 0.190 0.543 0.826 0.655
0.500 0.021 0.714 0.500 0.588
0.000 0.000 ? 0.000 ? ?
0.333 0.030 0.400 0.333 0.364
0.364 0.156 0.211 0.364 0.267
? 0.000 ? ? ? ?
0.333 0.010 0.500 0.333 0.400
0.333 0.010 0.500 0.333 0.400
? 0.000 ? ? ? ?
? 0.009 0.000 ? ? ?

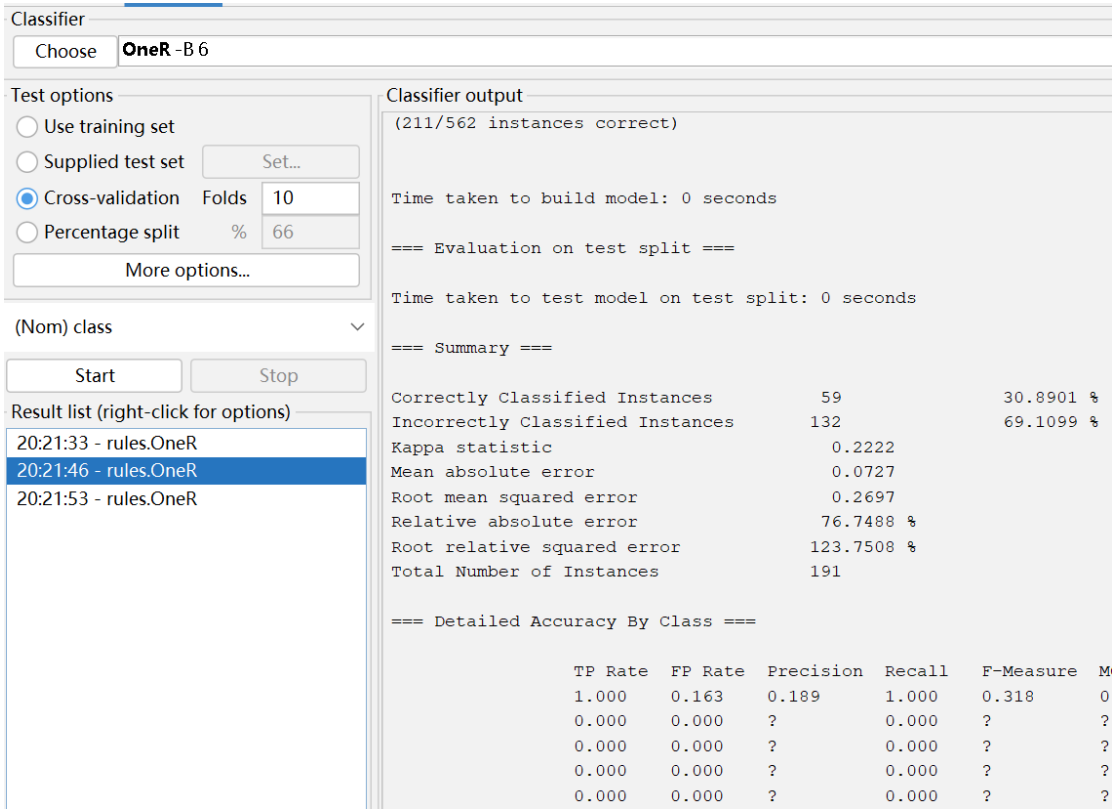

Classifier
Choose
IBk -K 4 -W 0 -A "weka.core.neighboursearch.LinearNNSearch -A \"weka.core.EuclideanDistance -R first-last\""
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:09:37 - bayes.NaiveBayes
20:10:10 - bayes.NaiveBayes
20:10:36 - bayes.NaiveBayes
20:10:58 - trees.J48
20:11:26 - trees.J48
20:12:24 - trees.J48
20:13:03 - rules.Prism
20:13:21 - rules.Prism
20:13:56 - rules.Prism
20:14:50 - lazy.IBk
20:15:06 - lazy.IBk
Classifier output
Time taken to test model on training data: 0 seconds
=== Summary ===
Correctly Classified Instances 72 54.5455 %
Incorrectly Classified Instances 60 45.4545 %
Kappa statistic 0.4853
Mean absolute error 0.0542
Root mean squared error 0.1612
Relative absolute error 66.0152 %
Root relative squared error 79.8843 %
Total Number of Instances 132
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MC
0.750 0.087 0.700 0.750 0.724 0.
1.000 0.050 0.667 1.000 0.800 0.
0.000 0.000 ? 0.000 ? ?
0.250 0.056 0.222 0.250 0.235 0.
0.588 0.061 0.588 0.588 0.588 0.
? 0.000 ? ? ? ?
0.250 0.023 0.250 0.250 0.250 0.
0.000 0.000 ? 0.000 ? ?
? 0.000 ? ? ? ?

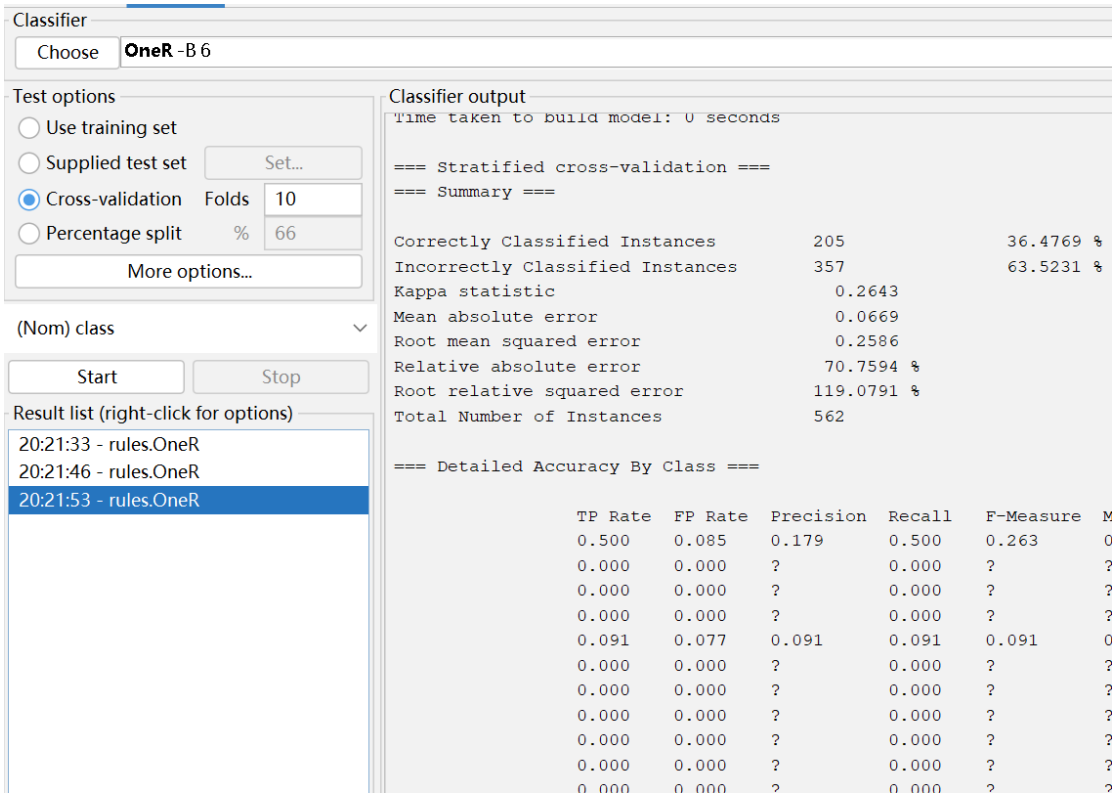

Classifier
Choose
IBk -K 4 -W 0 -A "weka.core.neighboursearch.LinearNNSearch -A \"weka.core.EuclideanDistance -R first-last\""
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:10:10 - bayes.NaiveBayes
20:10:36 - bayes.NaiveBayes
20:10:58 - trees.J48
20:11:26 - trees.J48
20:12:24 - trees.J48
20:13:03 - rules.Prism
20:13:21 - rules.Prism
20:13:56 - rules.Prism
20:14:50 - lazy.IBk
20:15:06 - lazy.IBk
20:15:14 - lazy.IBk
20:15:25 - lazy.IBk
Classifier output
using 4 nearest neighbour(s) for classification
Time taken to build model: 0 seconds
=== Evaluation on test split ===
Time taken to test model on test split: 0 seconds
=== Summary ===
Correctly Classified Instances 18 40 %
Incorrectly Classified Instances 27 60 %
Kappa statistic 0.3061
Mean absolute error 0.0684
Root mean squared error 0.1958
Relative absolute error 82.8048 %
Root relative squared error 96.9844 %
Total Number of Instances 45
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MC
0.769 0.125 0.714 0.769 0.741 0.
1.000 0.048 0.600 1.000 0.750 0.
? 0.000 ? ? ? ?

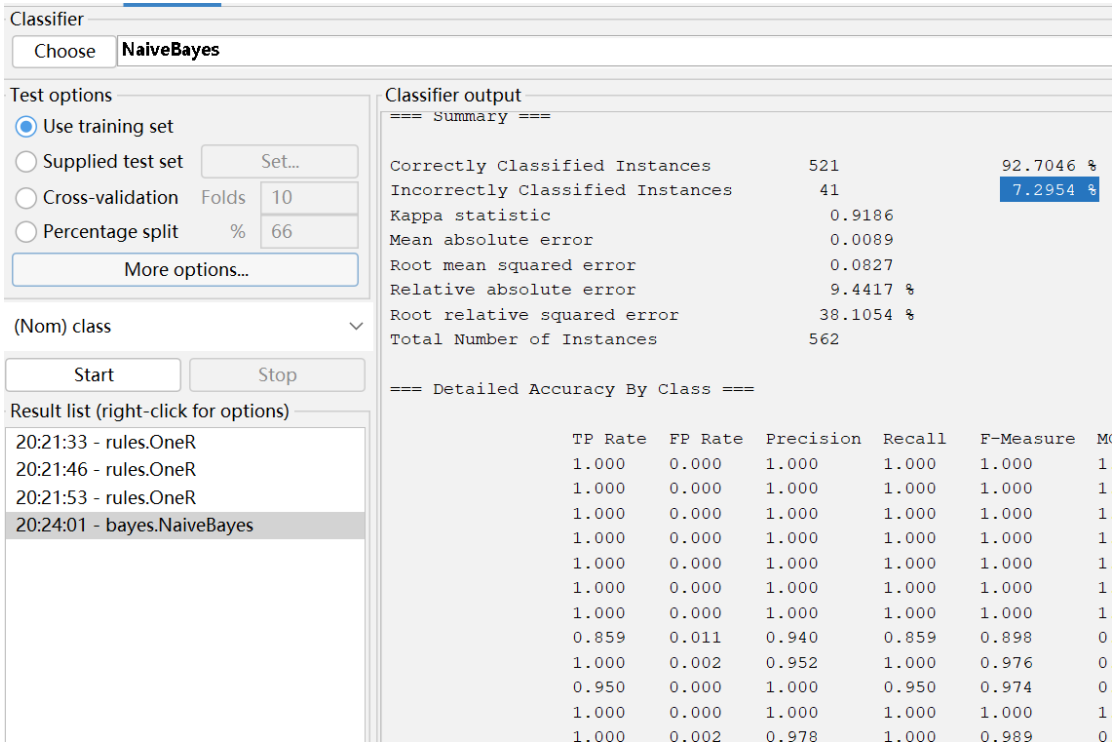

Classifier
Choose
IBk -K 4 -W 0 -A "weka.core.neighboursearch.LinearNNSearch -A \"weka.core.EuclideanDistance -R first-last\""
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:10:36 - bayes.NaiveBayes
20:10:58 - trees.J48
20:11:26 - trees.J48
20:12:24 - trees.J48
20:13:03 - rules.Prism
20:13:21 - rules.Prism
20:13:56 - rules.Prism
20:14:50 - lazy.IBk
20:15:06 - lazy.IBk
20:15:14 - lazy.IBk
20:15:25 - lazy.IBk
20:15:44 - lazy.IBk
20:15:56 - lazy.IBk
20:16:18 - lazy.IBk
Classifier output
=== Summary ===
Correctly Classified Instances 58 43.9394 %
Incorrectly Classified Instances 74 56.0606 %
Kappa statistic 0.3583
Mean absolute error 0.0635
Root mean squared error 0.186
Relative absolute error 77.0901 %
Root relative squared error 91.9606 %
Total Number of Instances 132
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MCC
0.714 0.173 0.526 0.714 0.606 0.4
0.917 0.050 0.647 0.917 0.759 0.7
0.000 0.000 ? 0.000 ? ?
0.375 0.048 0.333 0.375 0.353 0.3
0.235 0.070 0.333 0.235 0.276 0.1
? 0.000 ? ? ? ?
0.000 0.016 0.000 0.000 0.000 -0.
0.000 0.000 ? 0.000 ? ?
? 0.000 ? ? ? ?
0.000 0.000 ? 0.000 ? ?
0.467 0.137 0.304 0.467 0.368 0.2
0.400 0.031 0.333 0.400 0.364 0.3
0.000 0.000 ? 0.000 ? ?
0.000 0.000 ? 0.000 ? ?
? 0.000 ? ? ? ?

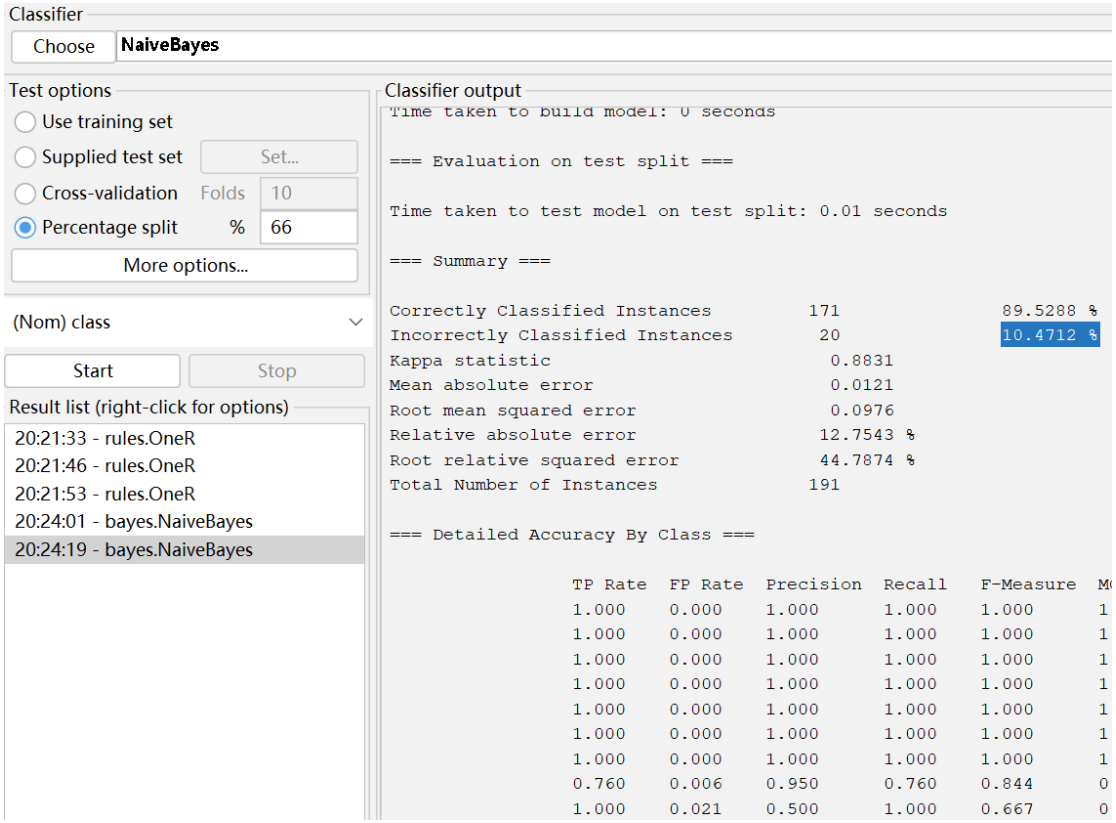
Soybean

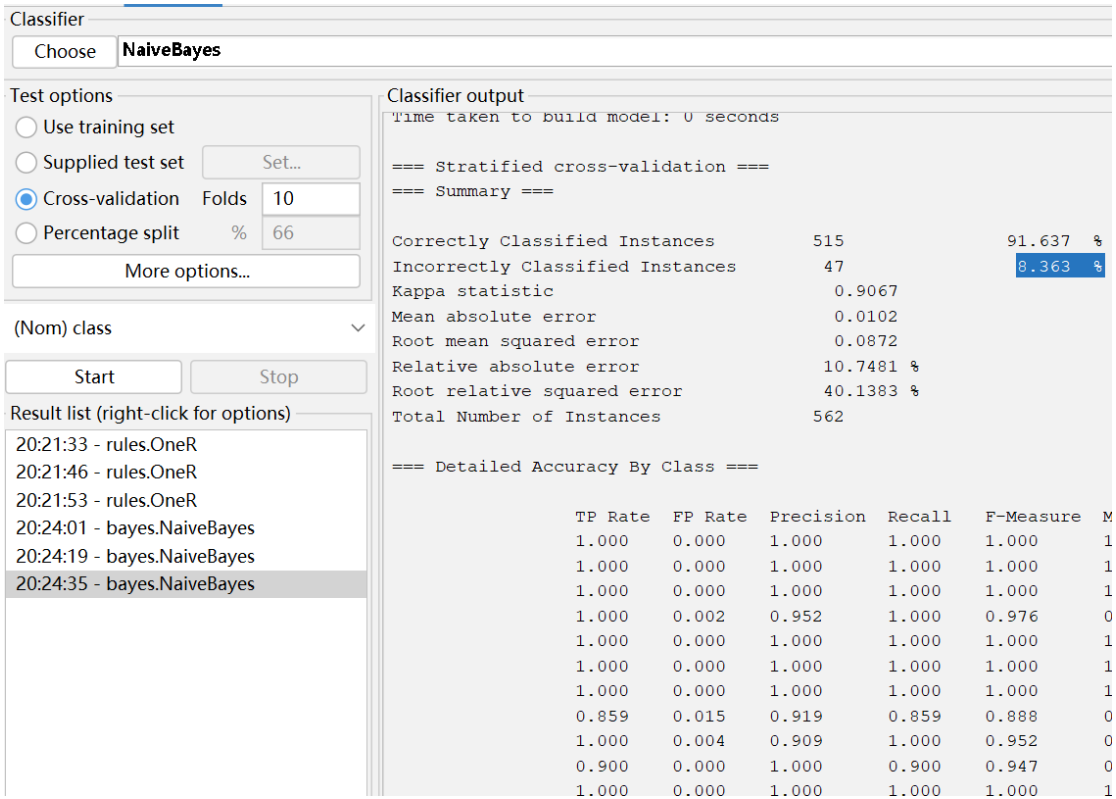

Classifier
Choose
OneR -B 6
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:21:33 - rules.OneR
20:21:46 - rules.OneR
20:21:53 - rules.OneR
Classifier output
brown-w/blk-specks -> anthracnose
distort -> diaporthe-stem-canker
dna -> diaporthe-stem-canker
(211/562 instances correct)
Time taken to build model: 0 seconds
=== Evaluation on training set ===
Time taken to test model on training data: 0 seconds
=== Summary ===
Correctly Classified Instances 211 37.5445 %
Incorrectly Classified Instances 351 62.4555 %
Kappa statistic 0.2795
Mean absolute error 0.0657
Root mean squared error 0.2564
Relative absolute error 69.5863 %
Root relative squared error 118.0787 %
Total Number of Instances 562
=== Detailed Accuracy By Class ===

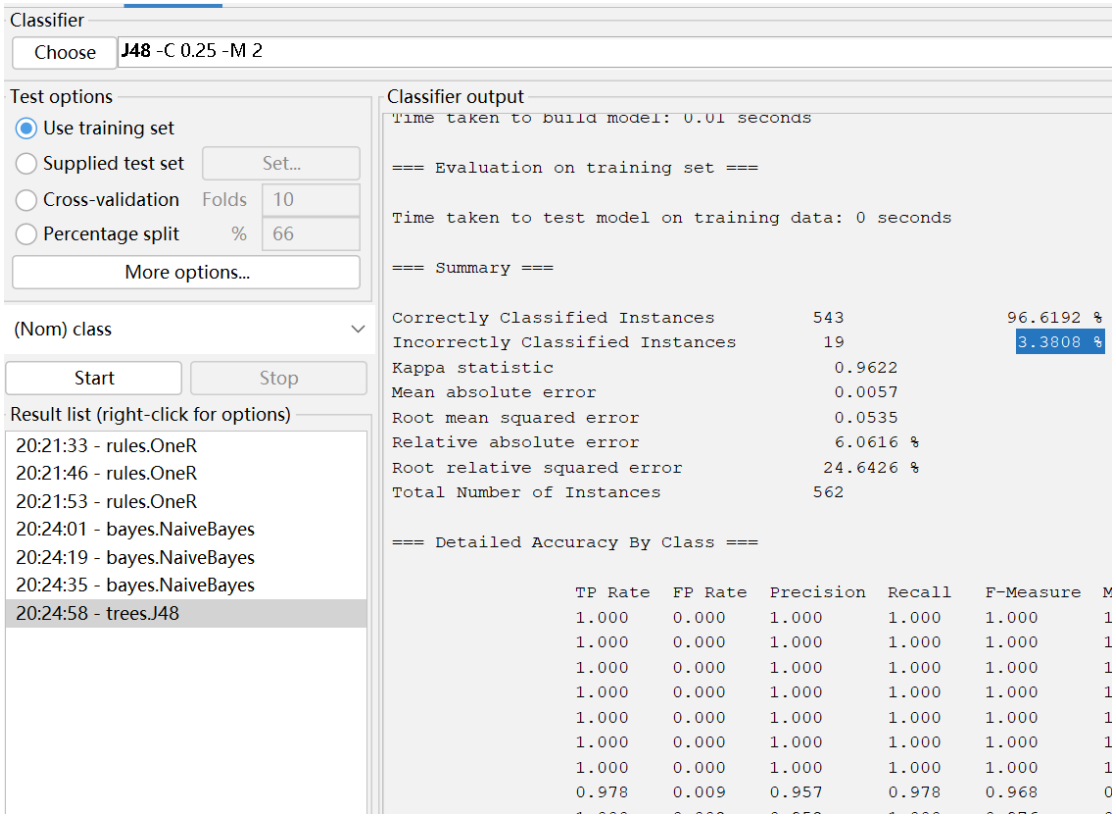

Classifier
Choose
OneR -B 6
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:21:33 - rules.OneR
20:21:46 - rules.OneR
20:21:53 - rules.OneR
Classifier output
(211/562 instances correct)
Time taken to build model: 0 seconds
=== Evaluation on test split ===
Time taken to test model on test split: 0 seconds
=== Summary ===
Correctly Classified Instances 59 30.8901 %
Incorrectly Classified Instances 132 69.1099 %
Kappa statistic 0.2222
Mean absolute error 0.0727
Root mean squared error 0.2697
Relative absolute error 76.7488 %
Root relative squared error 123.7508 %
Total Number of Instances 191
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure
1.000 0.163 0.189 1.000 0.318
0.000 0.000 ? 0.000 ?
0.000 0.000 ? 0.000 ?
0.000 0.000 ? 0.000 ?
0.000 0.000 ? 0.000 ?

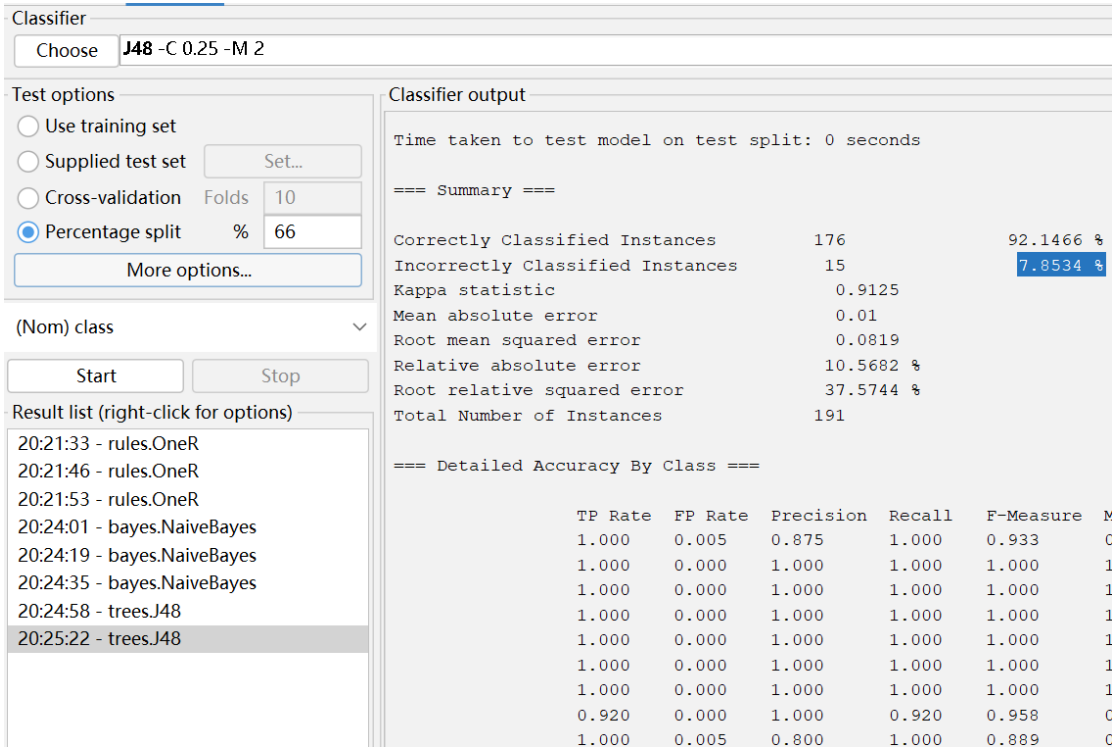

Classifier
Choose
OneR -B 6
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:21:33 - rules.OneR
20:21:46 - rules.OneR
20:21:53 - rules.OneR
Classifier output
Time taken to build model: 0 seconds
=== Stratified cross-validation ===
=== Summary ===
Correctly Classified Instances 205 36.4769 %
Incorrectly Classified Instances 357 63.5231 %
Kappa statistic 0.2643
Mean absolute error 0.0669
Root mean squared error 0.2586
Relative absolute error 70.7594 %
Root relative squared error 119.0791 %
Total Number of Instances 562
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure M
0.500 0.085 0.179 0.500 0.263 0
0.000 0.000 ? 0.000 ? ?
0.000 0.000 ? 0.000 ? ?
0.000 0.000 ? 0.000 ? ?
0.091 0.077 0.091 0.091 0.091 0
0.000 0.000 ? 0.000 ? ?
0.000 0.000 ? 0.000 ? ?
0.000 0.000 ? 0.000 ? ?
0.000 0.000 ? 0.000 ? ?
0.000 0.000 ? 0.000 ? ?

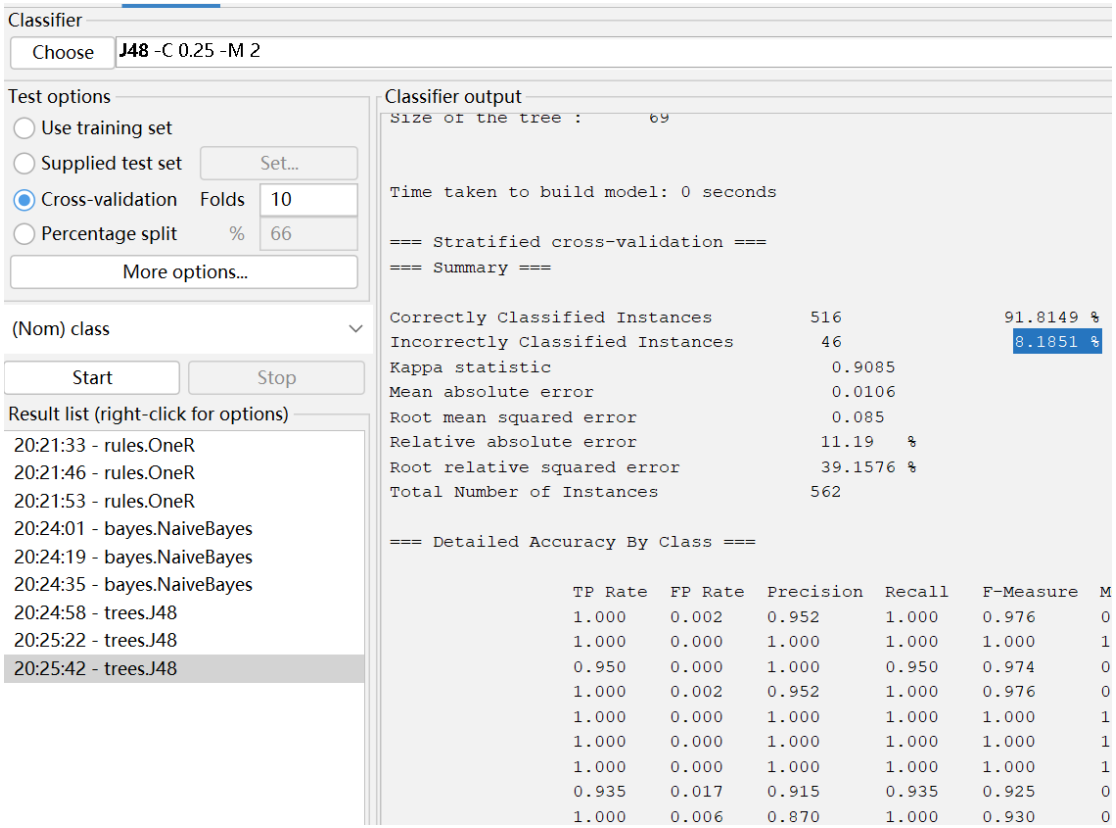

Classifier
Choose
NaiveBayes
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:21:33 - rules.OneR
20:21:46 - rules.OneR
20:21:53 - rules.OneR
20:24:01 - bayes.NaiveBayes
Classifier output
=== Summary ===
Correctly Classified Instances 521 92.7046 %
Incorrectly Classified Instances 41 7.2954 %
Kappa statistic 0.9186
Mean absolute error 0.0089
Root mean squared error 0.0827
Relative absolute error 9.4417 %
Root relative squared error 38.1054 %
Total Number of Instances 562
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure
1.000 0.000 1.000 1.000 1.000
1.000 0.000 1.000 1.000 1.000
1.000 0.000 1.000 1.000 1.000
1.000 0.000 1.000 1.000 1.000
1.000 0.000 1.000 1.000 1.000
1.000 0.000 1.000 1.000 1.000
1.000 0.000 1.000 1.000 1.000
0.859 0.011 0.940 0.859 0.898
1.000 0.002 0.952 1.000 0.976
0.950 0.000 1.000 0.950 0.974
1.000 0.000 1.000 1.000 1.000
1.000 0.002 0.978 1.000 0.989

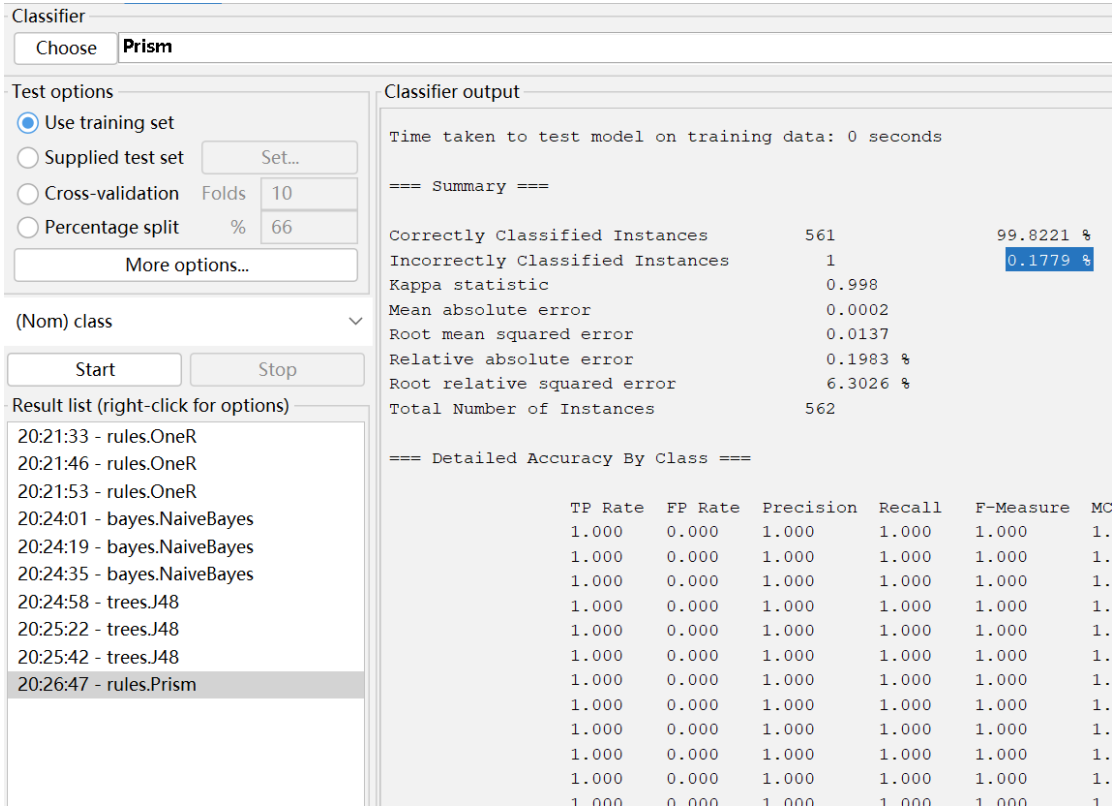

Classifier
Choose
NaiveBayes
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:21:33 - rules.OneR
20:21:46 - rules.OneR
20:21:53 - rules.OneR
20:24:01 - bayes.NaiveBayes
20:24:19 - bayes.NaiveBayes
Classifier output
Time taken to build model: 0 seconds
=== Evaluation on test split ===
Time taken to test model on test split: 0.01 seconds
=== Summary ===
Correctly Classified Instances 171 89.5288 %
Incorrectly Classified Instances 20 10.4712 %
Kappa statistic 0.8831
Mean absolute error 0.0121
Root mean squared error 0.0976
Relative absolute error 12.7543 %
Root relative squared error 44.7874 %
Total Number of Instances 191
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure M
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
0.760 0.006 0.950 0.760 0.844 0
1.000 0.021 0.500 1.000 0.667 0

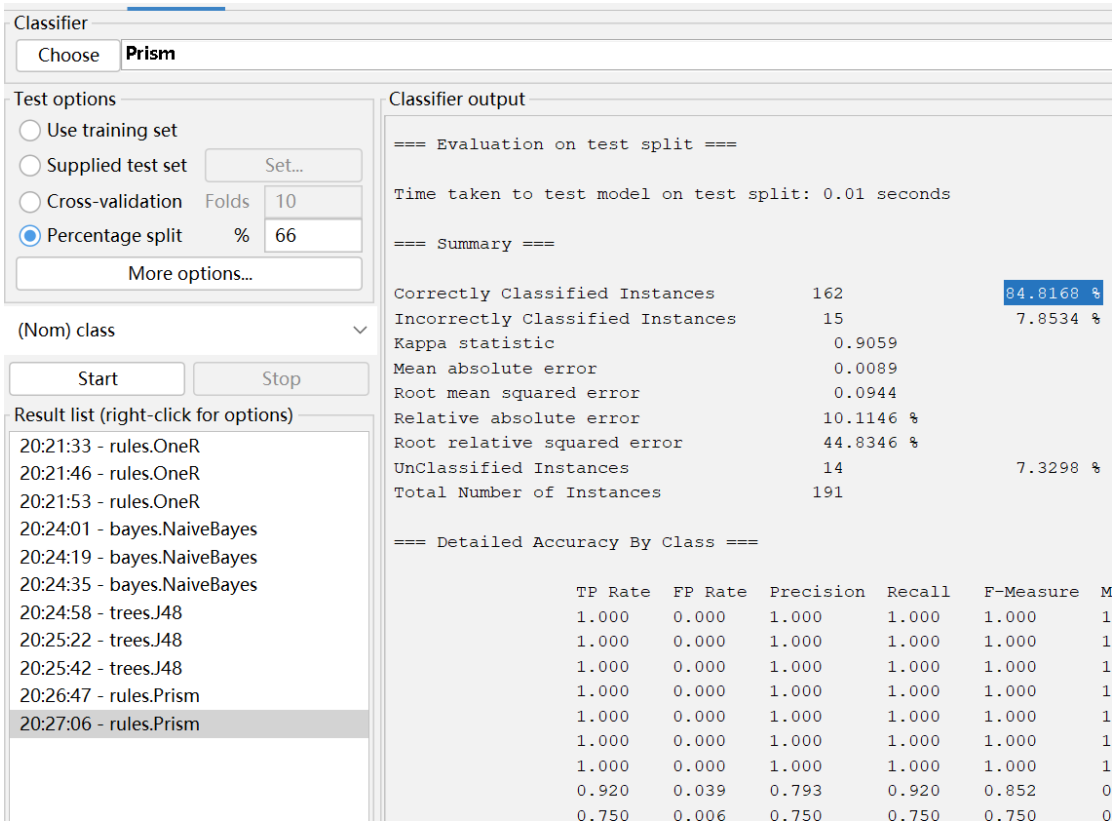

Classifier
Choose
NaiveBayes
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:21:33 - rules.OneR
20:21:46 - rules.OneR
20:21:53 - rules.OneR
20:24:01 - bayes.NaiveBayes
20:24:19 - bayes.NaiveBayes
20:24:35 - bayes.NaiveBayes
Classifier output
Time taken to build model: 0 seconds
=== Stratified cross-validation ===
=== Summary ===
Correctly Classified Instances 515 91.637 %
Incorrectly Classified Instances 47 8.363 %
Kappa statistic 0.9067
Mean absolute error 0.0102
Root mean squared error 0.0872
Relative absolute error 10.7481 %
Root relative squared error 40.1383 %
Total Number of Instances 562
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure M
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
1.000 0.002 0.952 1.000 0.976 0
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
0.859 0.015 0.919 0.859 0.888 0
1.000 0.004 0.909 1.000 0.952 0
0.900 0.000 1.000 0.900 0.947 0
1.000 0.000 1.000 1.000 1.000 1

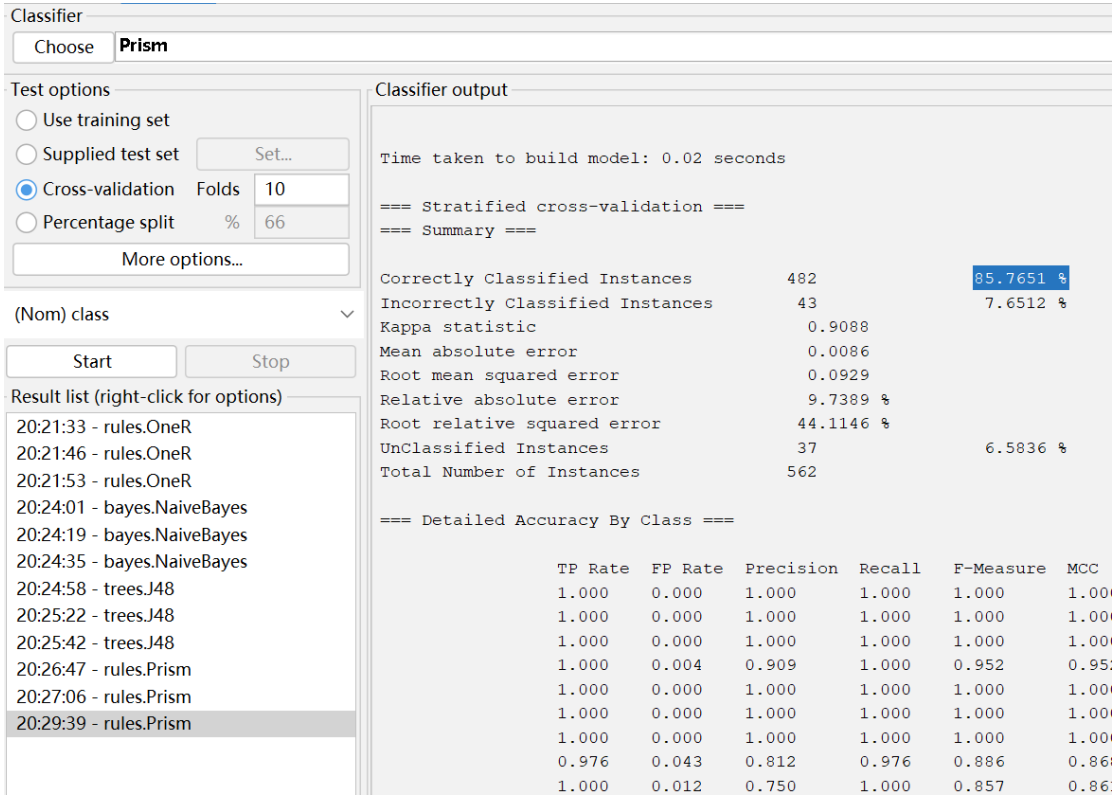

Classifier
Choose
J48 -C 0.25 -M 2
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:21:33 - rules.OneR
20:21:46 - rules.OneR
20:21:53 - rules.OneR
20:24:01 - bayes.NaiveBayes
20:24:19 - bayes.NaiveBayes
20:24:35 - bayes.NaiveBayes
20:24:58 - trees.J48
Classifier output
Time taken to build model: 0.01 seconds
=== Evaluation on training set ===
Time taken to test model on training data: 0 seconds
=== Summary ===
Correctly Classified Instances 543 96.6192 %
Incorrectly Classified Instances 19 3.3808 %
Kappa statistic 0.9622
Mean absolute error 0.0057
Root mean squared error 0.0535
Relative absolute error 6.0616 %
Root relative squared error 24.6426 %
Total Number of Instances 562
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure M
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
0.978 0.009 0.957 0.978 0.968 0

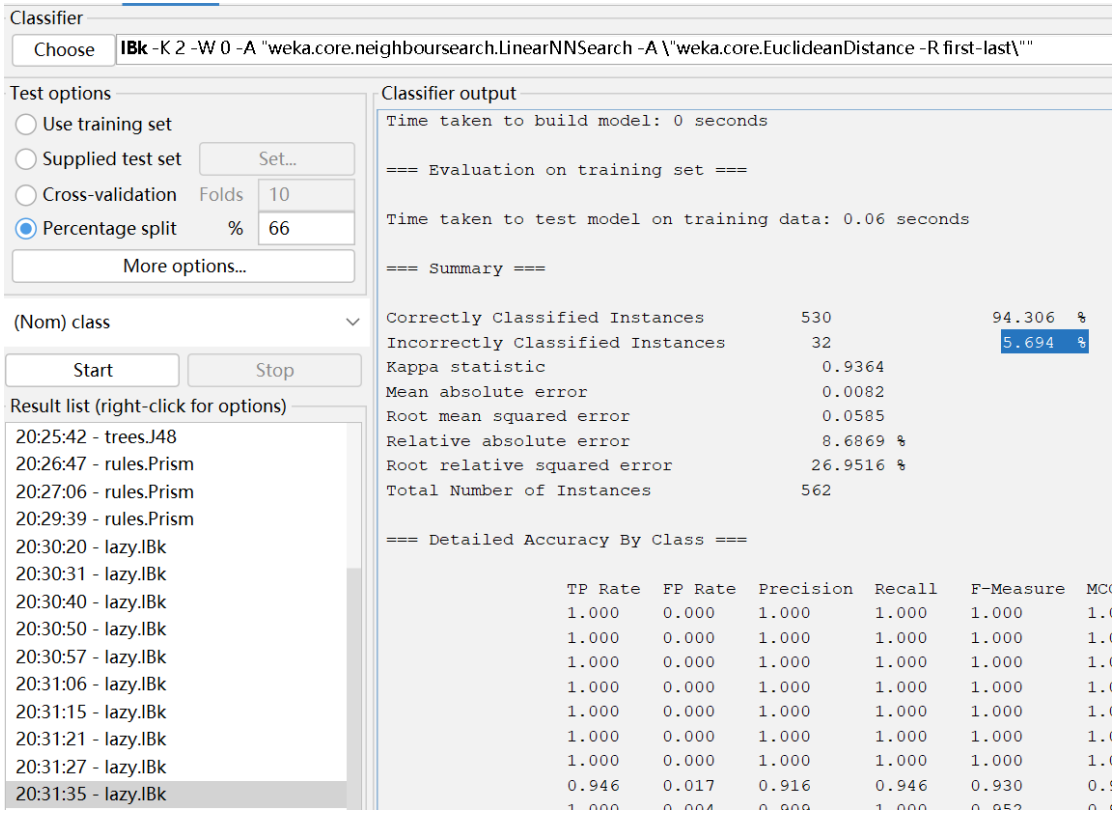

Classifier
Choose
J48 -C 0.25 -M 2
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:21:33 - rules.OneR
20:21:46 - rules.OneR
20:21:53 - rules.OneR
20:24:01 - bayes.NaiveBayes
20:24:19 - bayes.NaiveBayes
20:24:35 - bayes.NaiveBayes
20:24:58 - trees.J48
20:25:22 - trees.J48
Classifier output
Time taken to test model on test split: 0 seconds
=== Summary ===
Correctly Classified Instances 176 92.1466 %
Incorrectly Classified Instances 15 7.8534 %
Kappa statistic 0.9125
Mean absolute error 0.01
Root mean squared error 0.0819
Relative absolute error 10.5682 %
Root relative squared error 37.5744 %
Total Number of Instances 191
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure
1.000 0.005 0.875 1.000 0.933
1.000 0.000 1.000 1.000 1.000
1.000 0.000 1.000 1.000 1.000
1.000 0.000 1.000 1.000 1.000
1.000 0.000 1.000 1.000 1.000
1.000 0.000 1.000 1.000 1.000
1.000 0.000 1.000 1.000 1.000
0.920 0.000 1.000 0.920 0.958
1.000 0.005 0.800 1.000 0.889

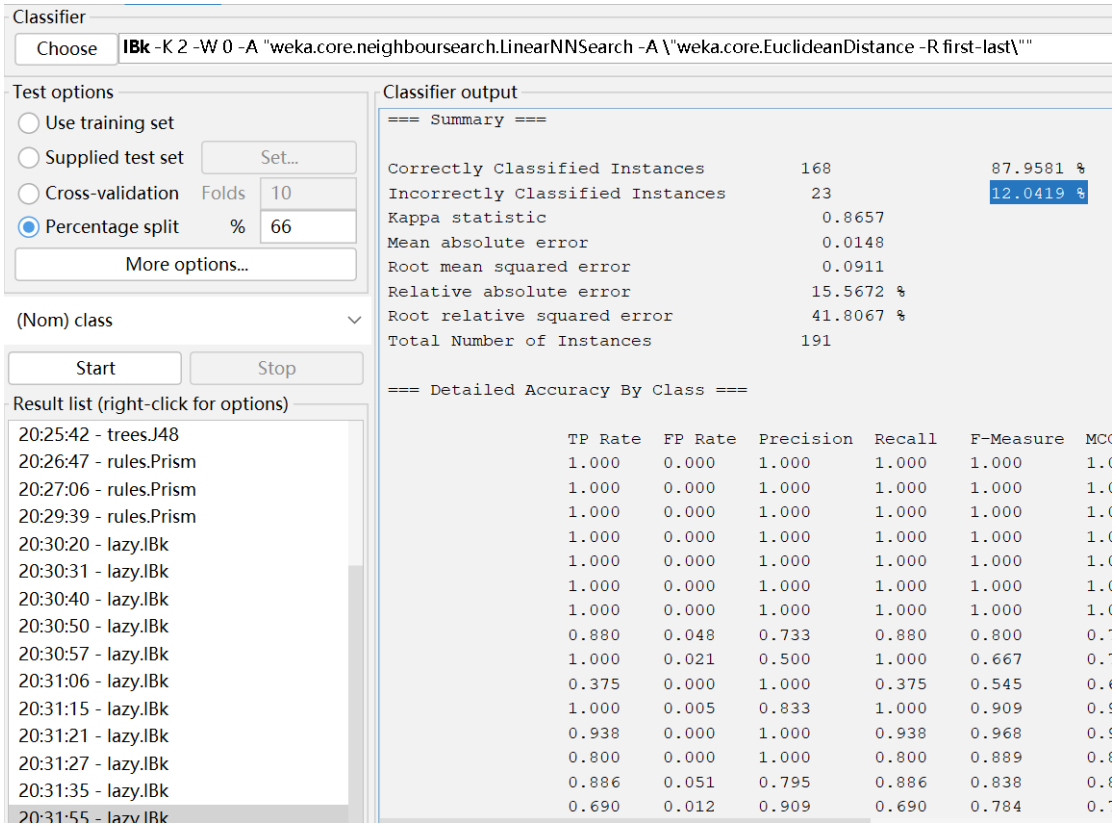

Classifier
Choose
J48 -C 0.25 -M 2
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:21:33 - rules.OneR
20:21:46 - rules.OneR
20:21:53 - rules.OneR
20:24:01 - bayes.NaiveBayes
20:24:19 - bayes.NaiveBayes
20:24:35 - bayes.NaiveBayes
20:24:58 - trees.J48
20:25:22 - trees.J48
20:25:42 - trees.J48
Classifier output
Size of the tree : 69
Time taken to build model: 0 seconds
=== Stratified cross-validation ===
=== Summary ===
Correctly Classified Instances 516 91.8149 %
Incorrectly Classified Instances 46 8.1851 %
Kappa statistic 0.9085
Mean absolute error 0.0106
Root mean squared error 0.085
Relative absolute error 11.19 %
Root relative squared error 39.1576 %
Total Number of Instances 562
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure M
1.000 0.002 0.952 1.000 0.976 0
1.000 0.000 1.000 1.000 1.000 1
0.950 0.000 1.000 0.950 0.974 0
1.000 0.002 0.952 1.000 0.976 0
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
0.935 0.017 0.915 0.935 0.925 0
1.000 0.006 0.870 1.000 0.930 0

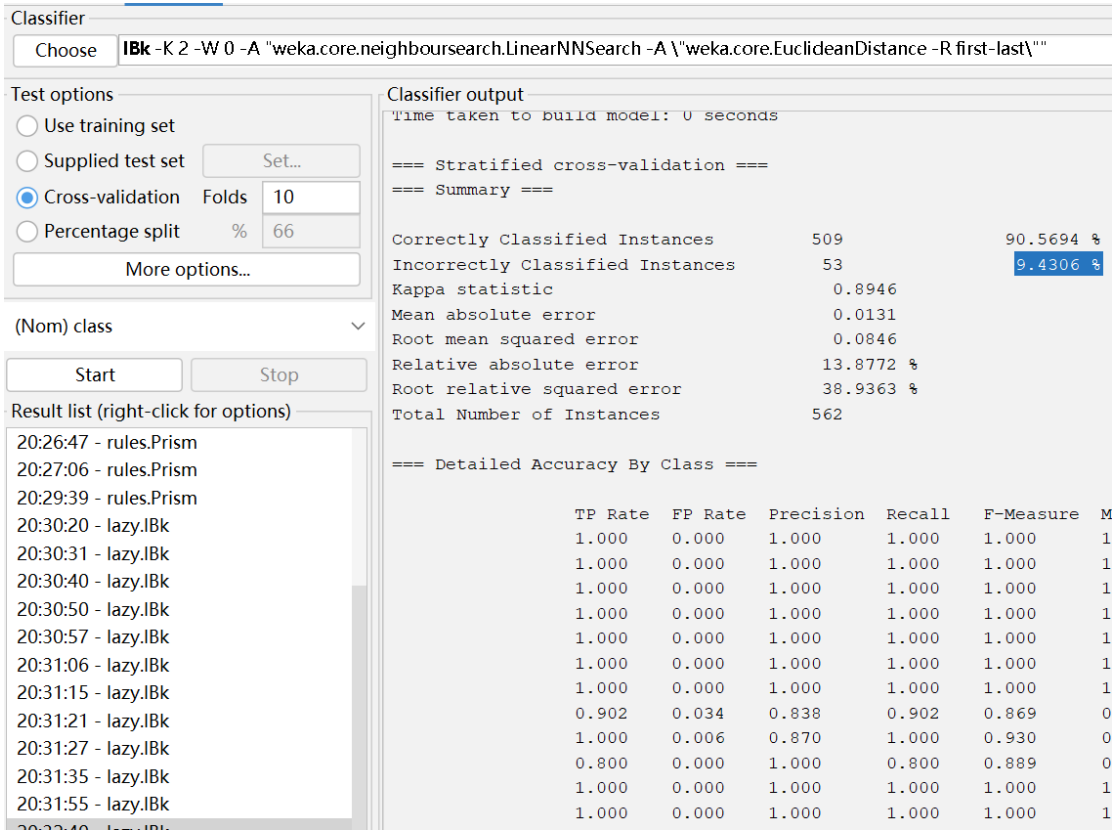

Classifier
Choose
Prism
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:21:33 - rules.OneR
20:21:46 - rules.OneR
20:21:53 - rules.OneR
20:24:01 - bayes.NaiveBayes
20:24:19 - bayes.NaiveBayes
20:24:35 - bayes.NaiveBayes
20:24:58 - trees.J48
20:25:22 - trees.J48
20:25:42 - trees.J48
20:26:47 - rules.Prism
Classifier output
Time taken to test model on training data: 0 seconds
=== Summary ===
Correctly Classified Instances 561 99.8221 %
Incorrectly Classified Instances 1 0.1779 %
Kappa statistic 0.998
Mean absolute error 0.0002
Root mean squared error 0.0137
Relative absolute error 0.1983 %
Root relative squared error 6.3026 %
Total Number of Instances 562
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MC
1.000 0.000 1.000 1.000 1.000 1.
1.000 0.000 1.000 1.000 1.000 1.
1.000 0.000 1.000 1.000 1.000 1.
1.000 0.000 1.000 1.000 1.000 1.
1.000 0.000 1.000 1.000 1.000 1.
1.000 0.000 1.000 1.000 1.000 1.
1.000 0.000 1.000 1.000 1.000 1.
1.000 0.000 1.000 1.000 1.000 1.
1.000 0.000 1.000 1.000 1.000 1.
1.000 0.000 1.000 1.000 1.000 1.
1.000 0.000 1.000 1.000 1.000 1.


Classifier
Choose
Prism
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:21:33 - rules.OneR
20:21:46 - rules.OneR
20:21:53 - rules.OneR
20:24:01 - bayes.NaiveBayes
20:24:19 - bayes.NaiveBayes
20:24:35 - bayes.NaiveBayes
20:24:58 - trees.J48
20:25:22 - trees.J48
20:25:42 - trees.J48
20:26:47 - rules.Prism
20:27:06 - rules.Prism
Classifier output
=== Evaluation on test split ===
Time taken to test model on test split: 0.01 seconds
=== Summary ===
Correctly Classified Instances 162 84.8168 %
Incorrectly Classified Instances 15 7.8534 %
Kappa statistic 0.9059
Mean absolute error 0.0089
Root mean squared error 0.0944
Relative absolute error 10.1146 %
Root relative squared error 44.8346 %
UnClassified Instances 14 7.3298 %
Total Number of Instances 191
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure M
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
0.920 0.039 0.793 0.920 0.852 0
0.750 0.006 0.750 0.750 0.750 0


Classifier
Choose
Prism
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:21:33 - rules.OneR
20:21:46 - rules.OneR
20:21:53 - rules.OneR
20:24:01 - bayes.NaiveBayes
20:24:19 - bayes.NaiveBayes
20:24:35 - bayes.NaiveBayes
20:24:58 - trees.J48
20:25:22 - trees.J48
20:25:42 - trees.J48
20:26:47 - rules.Prism
20:27:06 - rules.Prism
20:29:39 - rules.Prism
Classifier output
Time taken to build model: 0.02 seconds
=== Stratified cross-validation ===
=== Summary ===
Correctly Classified Instances 482 85.7651 %
Incorrectly Classified Instances 43 7.6512 %
Kappa statistic 0.9088
Mean absolute error 0.0086
Root mean squared error 0.0929
Relative absolute error 9.7389 %
Root relative squared error 44.1146 %
UnClassified Instances 37 6.5836 %
Total Number of Instances 562
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MCC
1.000 0.000 1.000 1.000 1.000 1.000
1.000 0.000 1.000 1.000 1.000 1.000
1.000 0.000 1.000 1.000 1.000 1.000
1.000 0.004 0.909 1.000 0.952 0.95
1.000 0.000 1.000 1.000 1.000 1.000
1.000 0.000 1.000 1.000 1.000 1.000
1.000 0.000 1.000 1.000 1.000 1.000
0.976 0.043 0.812 0.976 0.886 0.86
1.000 0.012 0.750 1.000 0.857 0.86


Classifier
Choose
IBk -K 2 -W 0 -A "weka.core.neighboursearch.LinearNNSearch -A \"weka.core.EuclideanDistance -R first-last\""
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:25:42 - trees.J48
20:26:47 - rules.Prism
20:27:06 - rules.Prism
20:29:39 - rules.Prism
20:30:20 - lazy.IBk
20:30:31 - lazy.IBk
20:30:40 - lazy.IBk
20:30:50 - lazy.IBk
20:30:57 - lazy.IBk
20:31:06 - lazy.IBk
20:31:15 - lazy.IBk
20:31:21 - lazy.IBk
20:31:27 - lazy.IBk
20:31:35 - lazy.IBk
Classifier output
Time taken to build model: 0 seconds
=== Evaluation on training set ===
Time taken to test model on training data: 0.06 seconds
=== Summary ===
Correctly Classified Instances 530 94.306 %
Incorrectly Classified Instances 32 5.694 %
Kappa statistic 0.9364
Mean absolute error 0.0082
Root mean squared error 0.0585
Relative absolute error 8.6869 %
Root relative squared error 26.9516 %
Total Number of Instances 562
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure
1.000 0.000 1.000 1.000 1.000
1.000 0.000 1.000 1.000 1.000
1.000 0.000 1.000 1.000 1.000
1.000 0.000 1.000 1.000 1.000
1.000 0.000 1.000 1.000 1.000
1.000 0.000 1.000 1.000 1.000
1.000 0.000 1.000 1.000 1.000
0.946 0.017 0.916 0.946 0.930


Classifier
Choose
IBk -K 2 -W 0 -A "weka.core.neighboursearch.LinearNNSearch -A \"weka.core.EuclideanDistance -R first-last\""
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:25:42 - trees.J48
20:26:47 - rules.Prism
20:27:06 - rules.Prism
20:29:39 - rules.Prism
20:30:20 - lazy.IBk
20:30:31 - lazy.IBk
20:30:40 - lazy.IBk
20:30:50 - lazy.IBk
20:30:57 - lazy.IBk
20:31:06 - lazy.IBk
20:31:15 - lazy.IBk
20:31:21 - lazy.IBk
20:31:27 - lazy.IBk
20:31:35 - lazy.IBk
20:31:55 - lazy.IBk
Classifier output
=== Summary ===
Correctly Classified Instances 168 87.9581 %
Incorrectly Classified Instances 23 12.0419 %
Kappa statistic 0.8657
Mean absolute error 0.0148
Root mean squared error 0.0911
Relative absolute error 15.5672 %
Root relative squared error 41.8067 %
Total Number of Instances 191
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure MC
1.000 0.000 1.000 1.000 1.000 1.
1.000 0.000 1.000 1.000 1.000 1.
1.000 0.000 1.000 1.000 1.000 1.
1.000 0.000 1.000 1.000 1.000 1.
1.000 0.000 1.000 1.000 1.000 1.
1.000 0.000 1.000 1.000 1.000 1.
1.000 0.000 1.000 1.000 1.000 1.
0.880 0.048 0.733 0.880 0.800 0.
1.000 0.021 0.500 1.000 0.667 0.
0.375 0.000 1.000 0.375 0.545 0.
1.000 0.005 0.833 1.000 0.909 0.
0.938 0.000 1.000 0.938 0.968 0.
0.800 0.000 1.000 0.800 0.889 0.
0.886 0.051 0.795 0.886 0.838 0.
0.690 0.012 0.909 0.690 0.784 0.


Classifier
Choose
IBk -K 2 -W 0 -A "weka.core.neighboursearch.LinearNNSearch -A \"weka.core.EuclideanDistance -R first-last\""
Test options
Use training set
Supplied test set
Set...
Cross-validation
Folds
10
Percentage split
%
66
More options...
(Nom) class
Start
Stop
Result list (right-click for options)
20:26:47 - rules.Prism
20:27:06 - rules.Prism
20:29:39 - rules.Prism
20:30:20 - lazy.IBk
20:30:31 - lazy.IBk
20:30:40 - lazy.IBk
20:30:50 - lazy.IBk
20:30:57 - lazy.IBk
20:31:06 - lazy.IBk
20:31:15 - lazy.IBk
20:31:21 - lazy.IBk
20:31:27 - lazy.IBk
20:31:35 - lazy.IBk
20:31:55 - lazy.IBk
Classifier output
Time taken to build model: 0 seconds
=== Stratified cross-validation ===
=== Summary ===
Correctly Classified Instances 509 90.5694 %
Incorrectly Classified Instances 53 9.4306 %
Kappa statistic 0.8946
Mean absolute error 0.0131
Root mean squared error 0.0846
Relative absolute error 13.8772 %
Root relative squared error 38.9363 %
Total Number of Instances 562
=== Detailed Accuracy By Class ===
TP Rate FP Rate Precision Recall F-Measure M
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1
0.902 0.034 0.838 0.902 0.869 0
1.000 0.006 0.870 1.000 0.930 0
0.800 0.000 1.000 0.800 0.889 0
1.000 0.000 1.000 1.000 1.000 1
1.000 0.000 1.000 1.000 1.000 1