

Weka Explorer

Preprocess **Classify** Cluster Associate Select attributes Visualize

Classifier Choose **NaiveBayes**

Test options

☐ Use training set

☐ Supplied test set Set...

☒ Cross-validation Folds **10**

☐ Percentage split % **66**

More options...

(Nom) Class

Start Stop

Result list (right-click for options)

194552 - bayes.NaiveBayes

Classifier output

```

=== Run information ===

Scheme:      weka.classifiers.bayes.NaiveBayes
Relation:     breast-cancer
Instances:    286
Attributes:   10
age
menopause
tumor-size
inv-nodes
node-caps
deg-malign
breast
breast-quad
irradiat
Class

Test mode:   10-fold cross-validation

=== Classifier model (full training set) ===

Naive Bayes Classifier

Attribute    no-recurrence-events    recurrence-events
              (0.7)              (0.3)
=====
age
10-19                1.0                1.0
20-29                2.0                1.0
30-39                22.0               16.0
40-49                64.0                28.0
50-59                72.0                26.0
60-69                41.0                18.0
70-79                6.0                 2.0
80-89                1.0                 1.0
90-99                1.0                 1.0
[total]              210.0               94.0

```

Status OK Log x0

Weka Explorer

Preprocess **Classify** Cluster Associate Select attributes Visualize

Classifier Choose **NaiveBayes**

Test options

☐ Use training set

☐ Supplied test set Set...

☒ Cross-validation Folds **10**

☐ Percentage split % **66**

More options...

(Nom) Class

Start Stop

Result list (right-click for options)

194552 - bayes.NaiveBayes

Classifier output

```

Attribute    no-recurrence-events    recurrence-events
              (0.7)              (0.3)
=====
age
10-19                1.0                1.0
20-29                2.0                1.0
30-39                22.0               16.0
40-49                64.0                28.0
50-59                72.0                26.0
60-69                41.0                18.0
70-79                6.0                 2.0
80-89                1.0                 1.0
90-99                1.0                 1.0
[total]              210.0               94.0

menopause
1640                 6.0                 3.0
ge40                 95.0                36.0
premeno              103.0               49.0
[total]              204.0               88.0

tumor-size
0-4                  8.0                 2.0
5-9                  5.0                 1.0
10-14                28.0                2.0
15-19                24.0                8.0
20-24                35.0                17.0
25-29                37.0                19.0
30-34                36.0                26.0
35-39                13.0                8.0
40-44                17.0                7.0
45-49                3.0                 2.0
50-54                6.0                 4.0
55-59                1.0                 1.0
[total]              213.0               97.0

```

Status OK Log x0

Weka Explorer

Preprocess **Classify** Cluster Associate Select attributes Visualize

Classifier Choose **NaiveBayes**

Test options

☐ Use training set

☐ Supplied test set Set...

☒ Cross-validation Folds **10**

☐ Percentage split % **66**

More options...

(Nom) Class

Start Stop

Result list (right-click for options)

194552 - bayes.NaiveBayes

Classifier output

```

inv-nodes
0-2      168.0      47.0
3-5      20.0      10.0
6-9      8.0       11.0
9-11     5.0       7.0
12-14    2.0       3.0
15-17    4.0       4.0
18-20    1.0       1.0
21-23    1.0       1.0
24-26    1.0       2.0
27-29    1.0       1.0
30-32    1.0       1.0
33-35    1.0       1.0
36-39    1.0       1.0
[total]  214.0     98.0

node-caps
yes      26.0      32.0
no       172.0     52.0
[total]  198.0     84.0

deg-malig
1        60.0      13.0
2        103.0     29.0
3        41.0      46.0
[total]  204.0     88.0

breast
left     104.0     50.0
right    99.0      37.0
[total]  203.0     87.0

breast-quad
left_up  72.0      27.0
left_low 76.0      36.0
right_up 21.0      14.0
right_low 19.0      7.0
central  18.0      5.0

```

Status OK Log x0

Weka Explorer

Preprocess **Classify** Cluster Associate Select attributes Visualize

Classifier Choose **NaiveBayes**

Test options

☐ Use training set

☐ Supplied test set Set...

☒ Cross-validation Folds **10**

☐ Percentage split % **66**

More options...

(Nom) Class

Start Stop

Result list (right-click for options)

194552 - bayes.NaiveBayes

Classifier output

```

breast-quad
[total]  206.0     89.0

irradiat
yes      38.0      32.0
no       165.0     55.0
[total]  203.0     87.0

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      ROC Area  PRC Area  Class
0.836   0.565   0.778   0.836   0.806   0.288   0.701   0.637   no-recurrence-events
0.435   0.164   0.529   0.435   0.477   0.288   0.701   0.514   recurrence-events
Weighted Avg.  0.717   0.446   0.704   0.717   0.708   0.288   0.701   0.741

=== Confusion Matrix ===
 a  b  <-- classified as
160 33 | a = no-recurrence-events
 48 37 | b = recurrence-events

```

Status OK Log x0