**Assignment 4 Feature Selection Appendices**

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**Assignment 4 Feature Selection Appendices**

This experimentation implement the use of feature selection techniques (NaiveBayes in the "bayes" directory) and 5-Nearest Neighbor (IBk in the "lazy" directory, with the KNN parameter changed to 5), in comparison with the top 5, 6, 7, 8, 9, 10, 20, 50, 100, and 200 feature attributes using Information Gain, Chi Squared, Gain Ratio (GainRatioAttributeEval), Symmetric Uncertainty (SymmetricalUncertaintyAttributeEval), ReliefF (ReliefFAttributeEval with the weightByDistance parameter set to False), and ReliefF-W (ReliefFAttributeEval with the weightByDistance parameter set to True),feature rankers (InfoGainAttributeEval and ChiSquaredAttributeEval in Weka). The following is the appendices of experiment Weka experiment data for assignment 4.

**Appendices:**

1. NaiveBayes (NB) without feature selection
2. K-nearest neighbors (KNN) without feature selection
3. NaiveBayes (NB) with feature selection Information Gain (IG) 5 features selected
4. NaiveBayes (NB) with feature selection Information Gain (IG) 6 features selected
5. NaiveBayes (NB) with feature selection Information Gain (IG) 7 features selected
6. NaiveBayes (NB) with feature selection Information Gain (IG) 8 features selected
7. NaiveBayes (NB) with feature selection Information Gain (IG) 9 features selected
8. NaiveBayes (NB) with feature selection Information Gain (IG) 10 features selected
9. NaiveBayes (NB) with feature selection Information Gain (IG) 20 features selected
10. NaiveBayes (NB) with feature selection Information Gain (IG) 50 features selected
11. NaiveBayes (NB) with feature selection Information Gain (IG) 100 features selected
12. NaiveBayes (NB) with feature selection Information Gain (IG) 200 features selected
13. K-nearest neighbors (KNN) with feature selection Information Gain (IG) 5 features selected
14. K-nearest neighbors (KNN) with feature selection Information Gain (IG) 6 features selected
15. K-nearest neighbors (KNN) with feature selection Information Gain (IG) 7 features selected
16. K-nearest neighbors (KNN) with feature selection Information Gain (IG) 8 features selected
17. K-nearest neighbors (KNN) with feature selection Information Gain (IG) 9 features selected
18. K-nearest neighbors (KNN) with feature selection Information Gain (IG) 10 features selected
19. K-nearest neighbors (KNN) with feature selection Information Gain (IG) 20 features selected
20. K-nearest neighbors (KNN) with feature selection Information Gain (IG) 50 features selected
21. K-nearest neighbors (KNN) with feature selection Information Gain (IG) 100 features selected
22. K-nearest neighbors (KNN) with feature selection Information Gain (IG) 200 features selected
23. NaiveBayes (NB) with feature selection Chi-Square(X2)   5 features selected
24. NaiveBayes (NB) with feature selection Chi-Square(X2) 6 features selected
25. NaiveBayes (NB) with feature selection Chi-Square(X2) 7 features selected
26. NaiveBayes (NB) with feature selection Chi-Square(X2) 8 features selected
27. NaiveBayes (NB) with feature selection Chi-Square(X2) 9 features selected
28. NaiveBayes (NB) with feature selection Chi-Square(X2) 10 features selected
29. NaiveBayes (NB) with feature selection Chi-Square(X2) 20 features selected
30. NaiveBayes (NB) with feature selection Chi-Square(X2) 50 features selected
31. NaiveBayes (NB) with feature selection Chi-Square(X2) 100 features selected
32. NaiveBayes (NB) with feature selection Chi-Square(X2) 200 features selected
33. K-nearest neighbors (KNN) with feature selection Chi-Square(X2) 5 features selected
34. K-nearest neighbors (KNN) with feature selection Chi-Square(X2) 6 features selected
35. K-nearest neighbors (KNN) with feature selection Chi-Square(X2) 7 features selected
36. K-nearest neighbors (KNN) with feature selection Chi-Square(X2) 8 features selected
37. K-nearest neighbors (KNN) with feature selection Chi-Square(X2) 9 features selected
38. K-nearest neighbors (KNN) with feature selection Chi-Square(X2) 10 features selected
39. K-nearest neighbors (KNN) with feature selection Chi-Square(X2) 20 features selected
40. K-nearest neighbors (KNN) with feature selection Chi-Square(X2) 50 features selected
41. K-nearest neighbors (KNN) with feature selection Chi-Square(X2) 100 features selected
42. K-nearest neighbors (KNN) with feature selection Chi-Square(X2) 200 features selected
43. NaiveBayes (NB) with feature selection Gain Ratio(GR) 5 features selected
44. NaiveBayes (NB) with feature selection Gain Ratio(GR) 6 features selected
45. NaiveBayes (NB) with feature selection Gain Ratio(GR) 7 features selected
46. NaiveBayes (NB) with feature selection Gain Ratio(GR) 8 features selected
47. NaiveBayes (NB) with feature selection Gain Ratio(GR) 9 features selected
48. NaiveBayes (NB) with feature selection Gain Ratio(GR) 10 features selected
49. NaiveBayes (NB) with feature selection Gain Ratio(GR) 20 features selected
50. NaiveBayes (NB) with feature selection Gain Ratio(GR) 50 features selected
51. NaiveBayes (NB) with feature selection Gain Ratio(GR) 100 features selected
52. NaiveBayes (NB) with feature selection Gain Ratio(GR) 200 features selected
53. K-nearest neighbors (KNN) with feature selection Gain Ratio(GR) 5 features selected
54. K-nearest neighbors (KNN) with feature selection Gain Ratio(GR) 6 features selected
55. K-nearest neighbors (KNN) with feature selection Gain Ratio(GR) 7 features selected
56. K-nearest neighbors (KNN) with feature selection Gain Ratio(GR) 8 features selected
57. K-nearest neighbors (KNN) with feature selection Gain Ratio(GR) 9 features selected
58. K-nearest neighbors (KNN) with feature selection Gain Ratio(GR) 10 features selected
59. K-nearest neighbors (KNN) with feature selection Gain Ratio(GR) 20 features selected
60. K-nearest neighbors (KNN) with feature selection Gain Ratio(GR) 50 features selected
61. K-nearest neighbors (KNN) with feature selection Gain Ratio(GR) 100 features selected
62. K-nearest neighbors (KNN) with feature selection Information Gain (IG) 200 features selected
63. NaiveBayes (NB) with feature selection Symmetric Uncertainty(SUA) 5 features selected
64. NaiveBayes (NB) with feature selection Symmetric Uncertainty(SUA) 6 features selected
65. NaiveBayes (NB) with feature selection Symmetric Uncertainty(SUA) 7 features selected
66. NaiveBayes (NB) with feature selection Symmetric Uncertainty(SUA) 8 features selected
67. NaiveBayes (NB) with feature selection Symmetric Uncertainty(SUA) 9 features selected
68. NaiveBayes (NB) with feature selection Symmetric Uncertainty(SUA) 10 features selected
69. NaiveBayes (NB) with feature selection Symmetric Uncertainty(SUA) 20 features selected
70. NaiveBayes (NB) with feature selection Symmetric Uncertainty(SUA) 50 features selected
71. NaiveBayes (NB) with feature selection Symmetric Uncertainty(SUA) 100 features selected
72. NaiveBayes (NB) with feature selection Symmetric Uncertainty(SUA) 200 features selected
73. K-nearest neighbors (KNN) with feature selection Symmetric Uncertainty(SUA) 5 features selected
74. K-nearest neighbors (KNN) with feature selection Symmetric Uncertainty(SUA) 6 features selected
75. K-nearest neighbors (KNN) with feature selection Symmetric Uncertainty(SUA) 7 features selected
76. K-nearest neighbors (KNN) with feature selection Symmetric Uncertainty(SUA) 8 features selected
77. K-nearest neighbors (KNN) with feature selection Symmetric Uncertainty(SUA) 9 features selected
78. K-nearest neighbors (KNN) with feature selection Symmetric Uncertainty(SUA) 10 features selected
79. K-nearest neighbors (KNN) with feature selection Symmetric Uncertainty(SUA) 20 features selected
80. K-nearest neighbors (KNN) with feature selection Symmetric Uncertainty(SUA) 50 features selected
81. K-nearest neighbors (KNN) with feature selection Symmetric Uncertainty(SUA) 100 features selected
82. K-nearest neighbors (KNN) with feature selection Symmetric Uncertainty(SUA) 200 features selected
83. NaiveBayes (NB) with feature selection ReliefF-set to false (RF-f)   5 features selected
84. NaiveBayes (NB) with feature selection ReliefF-set to false (RF-f)   6 features selected
85. NaiveBayes (NB) with feature selection ReliefF-set to false (RF-f)   7 features selected
86. NaiveBayes (NB) with feature selection ReliefF-set to false (RF-f)   8 features selected
87. NaiveBayes (NB) with feature selection ReliefF-set to false (RF-f)   9 features selected
88. NaiveBayes (NB) with feature selection ReliefF-set to false (RF-f)   10 features selected
89. NaiveBayes (NB) with feature selection ReliefF-set to false (RF-f)   20 features selected
90. NaiveBayes (NB) with feature selection ReliefF-set to false (RF-f)   50 features selected
91. NaiveBayes (NB) with feature selection ReliefF-set to false (RF-f)   100 features selected
92. NaiveBayes (NB) with feature selection ReliefF-set to false (RF-f)   200 features selected
93. K-nearest neighbors (KNN) with feature selection ReliefF-set to false (RF-f)   5 features selected
94. K-nearest neighbors (KNN) with feature selection ReliefF-set to false (RF-f)   6 features selected
95. K-nearest neighbors (KNN) with feature selection ReliefF-set to false (RF-f)   7 features selected
96. K-nearest neighbors (KNN) with feature selection ReliefF-set to false (RF-f)   8 features selected
97. K-nearest neighbors (KNN) with feature selection ReliefF-set to false (RF-f)   9 features selected
98. K-nearest neighbors (KNN) with feature selection ReliefF-set to false (RF-f)   10 features selected
99. K-nearest neighbors (KNN) with feature selection ReliefF-set to false (RF-f)   20 features selected
100. K-nearest neighbors (KNN) with feature selection ReliefF-set to false (RF-f)   50 features selected
101. K-nearest neighbors (KNN) with feature selection ReliefF-set to false (RF-f)   100 features selected
102. K-nearest neighbors (KNN) with feature selection ReliefF-set to false (RF-f)   200 features selected
103. NaiveBayes (NB) with feature selection ReliefF-W-set to true (RFW-t)   5 features selected
104. NaiveBayes (NB) with feature selection ReliefF-W-set to true (RFW-t) 6 features selected
105. NaiveBayes (NB) with feature selection ReliefF-W-set to true (RFW-t) 7 features selected
106. NaiveBayes (NB) with feature selection ReliefF-W-set to true (RFW-t) 8 features selected
107. NaiveBayes (NB) with feature selection ReliefF-W-set to true (RFW-t) 9 features selected
108. NaiveBayes (NB) with feature selection ReliefF-W-set to true (RFW-t) 10 features selected
109. NaiveBayes (NB) with feature selection ReliefF-W-set to true (RFW-t) 20 features selected
110. NaiveBayes (NB) with feature selection ReliefF-W-set to true (RFW-t) 50 features selected
111. NaiveBayes (NB) with feature selection ReliefF-W-set to true (RFW-t) 100 features selected
112. NaiveBayes (NB) with feature selection ReliefF-W-set to true (RFW-t) 200 features selected
113. K-nearest neighbors (KNN) with feature selection ReliefF-W-set to true (RFW-t) 5 features selected
114. K-nearest neighbors (KNN) with feature selection ReliefF-W-set to true (RFW-t) 6 features selected
115. K-nearest neighbors (KNN) with feature selection ReliefF-W-set to true (RFW-t) 7 features selected
116. K-nearest neighbors (KNN) with feature selection ReliefF-W-set to true (RFW-t) 8 features selected
117. K-nearest neighbors (KNN) with feature selection ReliefF-W-set to true (RFW-t) 9 features selected
118. K-nearest neighbors (KNN) with feature selection ReliefF-W-set to true (RFW-t) 10 features selected
119. K-nearest neighbors (KNN) with feature selection ReliefF-W-set to true (RFW-t) 20 features selected
120. K-nearest neighbors (KNN) with feature selection ReliefF-W-set to true (RFW-t) 50 features selected
121. K-nearest neighbors (KNN) with feature selection ReliefF-W-set to true (RFW-t) 100 features selected
122. K-nearest neighbors (KNN) with feature selection ReliefF-W-set to true (RFW-t) 200 features selected

**Data Inferences:**

1. NaiveBayes (NB) without feature selection

Time taken to build model: 0.08 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 79 83.1579 %

Incorrectly Classified Instances 16 16.8421 %

Kappa statistic 0.5785

Mean absolute error 0.1715

Root mean squared error 0.4115

Relative absolute error 46.322 %

Root relative squared error 95.9589 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.783 0.153 0.621 0.783 0.692 0.586 0.851 0.569 ACL

0.847 0.217 0.924 0.847 0.884 0.586 0.842 0.916 nonACL

Weighted Avg. 0.832 0.202 0.851 0.832 0.838 0.586 0.844 0.832

=== Confusion Matrix ===

a b <-- classified as

18 5 | a = ACL

11 61 | b = nonACL

1. K-nearest neighbors (KNN) without feature selection

=== Run information ===

Scheme: weka.classifiers.lazy.IBk -K 5 -W 0 -A "weka.core.neighboursearch.LinearNNSearch -A \"weka.core.EuclideanDistance -R first-last\""

Relation: figure1

Instances: 95

Attributes: 4027

[list of attributes omitted]

Test mode: 10-fold cross-validation

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

IB1 instance-based classifier

using 5 nearest neighbour(s) for classification

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 79 83.1579 %

Incorrectly Classified Instances 16 16.8421 %

Kappa statistic 0.5271

Mean absolute error 0.2685

Root mean squared error 0.3573

Relative absolute error 72.4907 %

Root relative squared error 83.3082 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.609 0.097 0.667 0.609 0.636 0.528 0.863 0.583 ACL

0.903 0.391 0.878 0.903 0.890 0.528 0.863 0.947 nonACL

Weighted Avg. 0.832 0.320 0.827 0.832 0.829 0.528 0.863 0.858

=== Confusion Matrix ===

a b <-- classified as

14 9 | a = ACL

7 65 | b = nonACL

1. NaiveBayes (NB) with feature selection Information Gain (IG) 5 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 84 88.4211 %

Incorrectly Classified Instances 11 11.5789 %

Kappa statistic 0.7141

Mean absolute error 0.1316

Root mean squared error 0.2969

Relative absolute error 35.5263 %

Root relative squared error 69.2322 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.913 0.125 0.700 0.913 0.792 0.726 0.944 0.839 ACL

0.875 0.087 0.969 0.875 0.920 0.726 0.944 0.983 nonACL

Weighted Avg. 0.884 0.096 0.904 0.884 0.889 0.726 0.944 0.948

=== Confusion Matrix ===

a b <-- classified as

21 2 | a = ACL

9 63 | b = nonACL

1. NaiveBayes (NB) with feature selection Information Gain (IG) 6 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 81 85.2632 %

Incorrectly Classified Instances 14 14.7368 %

Kappa statistic 0.6312

Mean absolute error 0.1319

Root mean squared error 0.3172

Relative absolute error 35.6118 %

Root relative squared error 73.9596 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.826 0.139 0.655 0.826 0.731 0.639 0.947 0.865 ACL

0.861 0.174 0.939 0.861 0.899 0.639 0.947 0.983 nonACL

Weighted Avg. 0.853 0.165 0.871 0.853 0.858 0.639 0.947 0.955

=== Confusion Matrix ===

a b <-- classified as

19 4 | a = ACL

10 62 | b = nonACL

1. NaiveBayes (NB) with feature selection Information Gain (IG) 7 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 84 88.4211 %

Incorrectly Classified Instances 11 11.5789 %

Kappa statistic 0.7141

Mean absolute error 0.1221

Root mean squared error 0.3116

Relative absolute error 32.9678 %

Root relative squared error 72.6511 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.913 0.125 0.700 0.913 0.792 0.726 0.949 0.877 ACL

0.875 0.087 0.969 0.875 0.920 0.726 0.949 0.982 nonACL

Weighted Avg. 0.884 0.096 0.904 0.884 0.889 0.726 0.949 0.957

=== Confusion Matrix ===

a b <-- classified as

21 2 | a = ACL

9 63 | b = nonACL

1. NaiveBayes (NB) with feature selection Information Gain (IG) 8 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 85 89.4737 %

Incorrectly Classified Instances 10 10.5263 %

Kappa statistic 0.7366

Mean absolute error 0.1151

Root mean squared error 0.3105

Relative absolute error 31.0821 %

Root relative squared error 72.393 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.913 0.111 0.724 0.913 0.808 0.746 0.960 0.906 ACL

0.889 0.087 0.970 0.889 0.928 0.746 0.960 0.987 nonACL

Weighted Avg. 0.895 0.093 0.910 0.895 0.899 0.746 0.960 0.967

=== Confusion Matrix ===

a b <-- classified as

21 2 | a = ACL

8 64 | b = nonACL

1. NaiveBayes (NB) with feature selection Information Gain (IG) 9 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 84 88.4211 %

Incorrectly Classified Instances 11 11.5789 %

Kappa statistic 0.7141

Mean absolute error 0.1165

Root mean squared error 0.3119

Relative absolute error 31.4649 %

Root relative squared error 72.7394 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.913 0.125 0.700 0.913 0.792 0.726 0.944 0.902 ACL

0.875 0.087 0.969 0.875 0.920 0.726 0.944 0.973 nonACL

Weighted Avg. 0.884 0.096 0.904 0.884 0.889 0.726 0.944 0.956

=== Confusion Matrix ===

a b <-- classified as

21 2 | a = ACL

9 63 | b = nonACL

1. NaiveBayes (NB) with feature selection Information Gain (IG) 10 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 85 89.4737 %

Incorrectly Classified Instances 10 10.5263 %

Kappa statistic 0.7366

Mean absolute error 0.111

Root mean squared error 0.3094

Relative absolute error 29.9632 %

Root relative squared error 72.1474 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.913 0.111 0.724 0.913 0.808 0.746 0.944 0.914 ACL

0.889 0.087 0.970 0.889 0.928 0.746 0.944 0.971 nonACL

Weighted Avg. 0.895 0.093 0.910 0.895 0.899 0.746 0.944 0.957

=== Confusion Matrix ===

a b <-- classified as

21 2 | a = ACL

8 64 | b = nonACL

1. NaiveBayes (NB) with feature selection Information Gain (IG) 20 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 88 92.6316 %

Incorrectly Classified Instances 7 7.3684 %

Kappa statistic 0.813

Mean absolute error 0.0811

Root mean squared error 0.2652

Relative absolute error 21.895 %

Root relative squared error 61.834 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.957 0.083 0.786 0.957 0.863 0.820 0.968 0.933 ACL

0.917 0.043 0.985 0.917 0.950 0.820 0.968 0.988 nonACL

Weighted Avg. 0.926 0.053 0.937 0.926 0.929 0.820 0.968 0.975

=== Confusion Matrix ===

a b <-- classified as

22 1 | a = ACL

6 66 | b = nonACL

1. NaiveBayes (NB) with feature selection Information Gain (IG) 50 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 84 88.4211 %

Incorrectly Classified Instances 11 11.5789 %

Kappa statistic 0.7216

Mean absolute error 0.1115

Root mean squared error 0.3298

Relative absolute error 30.0953 %

Root relative squared error 76.9076 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.957 0.139 0.688 0.957 0.800 0.741 0.978 0.954 ACL

0.861 0.043 0.984 0.861 0.919 0.741 0.965 0.979 nonACL

Weighted Avg. 0.884 0.067 0.912 0.884 0.890 0.741 0.968 0.973

=== Confusion Matrix ===

a b <-- classified as

22 1 | a = ACL

1. NaiveBayes (NB) with feature selection Information Gain (IG) 100 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 83 87.3684 %

Incorrectly Classified Instances 12 12.6316 %

Kappa statistic 0.7002

Mean absolute error 0.1261

Root mean squared error 0.3546

Relative absolute error 34.0387 %

Root relative squared error 82.6877 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.957 0.153 0.667 0.957 0.786 0.723 0.952 0.793 ACL

0.847 0.043 0.984 0.847 0.910 0.723 0.956 0.978 nonACL

Weighted Avg. 0.874 0.070 0.907 0.874 0.880 0.723 0.955 0.933

=== Confusion Matrix ===

a b <-- classified as

22 1 | a = ACL

11 61 | b = nonACL

1. NaiveBayes (NB) with feature selection Information Gain (IG) 200 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 83 87.3684 %

Incorrectly Classified Instances 12 12.6316 %

Kappa statistic 0.7002

Mean absolute error 0.1261

Root mean squared error 0.3546

Relative absolute error 34.0387 %

Root relative squared error 82.6877 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.957 0.153 0.667 0.957 0.786 0.723 0.952 0.793 ACL

0.847 0.043 0.984 0.847 0.910 0.723 0.956 0.978 nonACL

Weighted Avg. 0.874 0.070 0.907 0.874 0.880 0.723 0.955 0.933

=== Confusion Matrix ===

a b <-- classified as

22 1 | a = ACL

11 61 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Information Gain (IG) 5 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 86 90.5263 %

Incorrectly Classified Instances 9 9.4737 %

Kappa statistic 0.7456

Mean absolute error 0.17

Root mean squared error 0.2902

Relative absolute error 45.8961 %

Root relative squared error 67.6688 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.826 0.069 0.792 0.826 0.809 0.746 0.927 0.805 ACL

0.931 0.174 0.944 0.931 0.937 0.746 0.927 0.963 nonACL

Weighted Avg. 0.905 0.149 0.907 0.905 0.906 0.746 0.927 0.925

=== Confusion Matrix ===

a b <-- classified as

19 4 | a = ACL

5 67 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Information Gain (IG) 6 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 86 90.5263 %

Incorrectly Classified Instances 9 9.4737 %

Kappa statistic 0.738

Mean absolute error 0.1637

Root mean squared error 0.2669

Relative absolute error 44.1984 %

Root relative squared error 62.2443 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.783 0.056 0.818 0.783 0.800 0.738 0.960 0.867 ACL

0.944 0.217 0.932 0.944 0.938 0.738 0.960 0.984 nonACL

Weighted Avg. 0.905 0.178 0.904 0.905 0.905 0.738 0.960 0.956

=== Confusion Matrix ===

a b <-- classified as

18 5 | a = ACL

4 68 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Information Gain (IG) 7 features selected

Test mode: 10-fold cross-validation

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

IB1 instance-based classifier

using 5 nearest neighbour(s) for classification

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 85 89.4737 %

Incorrectly Classified Instances 10 10.5263 %

Kappa statistic 0.6852

Mean absolute error 0.17

Root mean squared error 0.2916

Relative absolute error 45.8962 %

Root relative squared error 68.0034 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.652 0.028 0.882 0.652 0.750 0.698 0.917 0.792 ACL

0.972 0.348 0.897 0.972 0.933 0.698 0.917 0.957 nonACL

Weighted Avg. 0.895 0.270 0.894 0.895 0.889 0.698 0.917 0.917

=== Confusion Matrix ===

a b <-- classified as

15 8 | a = ACL

2 70 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Information Gain (IG) 8 features selected

Test mode: 10-fold cross-validation

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

IB1 instance-based classifier

using 5 nearest neighbour(s) for classification

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 86 90.5263 %

Incorrectly Classified Instances 9 9.4737 %

Kappa statistic 0.7212

Mean absolute error 0.1511

Root mean squared error 0.2745

Relative absolute error 40.8035 %

Root relative squared error 64.0157 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.696 0.028 0.889 0.696 0.780 0.730 0.929 0.866 ACL

0.972 0.304 0.909 0.972 0.940 0.730 0.929 0.961 nonACL

Weighted Avg. 0.905 0.237 0.904 0.905 0.901 0.730 0.929 0.938

=== Confusion Matrix ===

a b <-- classified as

16 7 | a = ACL

2 70 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Information Gain (IG) 9 features selected

Test mode: 10-fold cross-validation

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

IB1 instance-based classifier

using 5 nearest neighbour(s) for classification

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 86 90.5263 %

Incorrectly Classified Instances 9 9.4737 %

Kappa statistic 0.7299

Mean absolute error 0.1574

Root mean squared error 0.2843

Relative absolute error 42.501 %

Root relative squared error 66.2906 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.739 0.042 0.850 0.739 0.791 0.733 0.924 0.827 ACL

0.958 0.261 0.920 0.958 0.939 0.733 0.924 0.960 nonACL

Weighted Avg. 0.905 0.208 0.903 0.905 0.903 0.733 0.924 0.928

=== Confusion Matrix ===

a b <-- classified as

17 6 | a = ACL

3 69 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Information Gain (IG) 10 features selected

Test mode: 10-fold cross-validation

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

IB1 instance-based classifier

using 5 nearest neighbour(s) for classification

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 85 89.4737 %

Incorrectly Classified Instances 10 10.5263 %

Kappa statistic 0.6951

Mean absolute error 0.1427

Root mean squared error 0.262

Relative absolute error 38.5402 %

Root relative squared error 61.098 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.696 0.042 0.842 0.696 0.762 0.700 0.939 0.879 ACL

0.958 0.304 0.908 0.958 0.932 0.700 0.939 0.967 nonACL

Weighted Avg. 0.895 0.241 0.892 0.895 0.891 0.700 0.939 0.945

=== Confusion Matrix ===

a b <-- classified as

16 7 | a = ACL

3 69 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Information Gain (IG) 20 features selected

Test mode: 10-fold cross-validation

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

IB1 instance-based classifier

using 5 nearest neighbour(s) for classification

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 85 89.4737 %

Incorrectly Classified Instances 10 10.5263 %

Kappa statistic 0.6951

Mean absolute error 0.1427

Root mean squared error 0.262

Relative absolute error 38.5402 %

Root relative squared error 61.098 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.696 0.042 0.842 0.696 0.762 0.700 0.939 0.879 ACL

0.958 0.304 0.908 0.958 0.932 0.700 0.939 0.967 nonACL

Weighted Avg. 0.895 0.241 0.892 0.895 0.891 0.700 0.939 0.945

=== Confusion Matrix ===

a b <-- classified as

16 7 | a = ACL

3 69 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Information Gain (IG) 50 features selected

Test mode: 10-fold cross-validation

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

IB1 instance-based classifier

using 5 nearest neighbour(s) for classification

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 86 90.5263 %

Incorrectly Classified Instances 9 9.4737 %

Kappa statistic 0.7528

Mean absolute error 0.1427

Root mean squared error 0.2636

Relative absolute error 38.5404 %

Root relative squared error 61.4684 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.870 0.083 0.769 0.870 0.816 0.755 0.930 0.872 ACL

0.917 0.130 0.957 0.917 0.936 0.755 0.930 0.964 nonACL

Weighted Avg. 0.905 0.119 0.911 0.905 0.907 0.755 0.930 0.942

=== Confusion Matrix ===

a b <-- classified as

20 3 | a = ACL

6 66 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Information Gain (IG) 100 features selected

Test mode: 10-fold cross-validation

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

IB1 instance-based classifier

using 5 nearest neighbour(s) for classification

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 89 93.6842 %

Incorrectly Classified Instances 6 6.3158 %

Kappa statistic 0.8328

Mean absolute error 0.1302

Root mean squared error 0.2386

Relative absolute error 35.1453 %

Root relative squared error 55.6299 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.913 0.056 0.840 0.913 0.875 0.834 0.956 0.937 ACL

0.944 0.087 0.971 0.944 0.958 0.834 0.956 0.971 nonACL

Weighted Avg. 0.937 0.079 0.940 0.937 0.938 0.834 0.956 0.963

=== Confusion Matrix ===

a b <-- classified as

21 2 | a = ACL

4 68 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Information Gain (IG) 200 features selected

=== Run information ===

Scheme: weka.classifiers.lazy.IBk -K 5 -W 0 -A "weka.core.neighboursearch.LinearNNSearch -A \"weka.core.EuclideanDistance -R first-last\""

Relation: figure1-weka.filters.supervised.attribute.AttributeSelection-Eweka.attributeSelection.InfoGainAttributeEval-Sweka.attributeSelection.Ranker -T -1.7976931348623157E308 -N 200

Instances: 95

Attributes: 201

[list of attributes omitted]

Test mode: 10-fold cross-validation

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

IB1 instance-based classifier

using 5 nearest neighbour(s) for classification

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 88 92.6316 %

Incorrectly Classified Instances 7 7.3684 %

Kappa statistic 0.8021

Mean absolute error 0.1406

Root mean squared error 0.2498

Relative absolute error 37.9745 %

Root relative squared error 58.2429 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.870 0.056 0.833 0.870 0.851 0.802 0.944 0.919 ACL

0.944 0.130 0.958 0.944 0.951 0.802 0.944 0.966 nonACL

Weighted Avg. 0.926 0.112 0.928 0.926 0.927 0.802 0.944 0.955

=== Confusion Matrix ===

a b <-- classified as

20 3 | a = ACL

4 68 | b = nonACL

1. NaiveBayes (NB) with feature selection Chi-Square(X2)   5 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 85 89.4737 %

Incorrectly Classified Instances 10 10.5263 %

Kappa statistic 0.7435

Mean absolute error 0.1053

Root mean squared error 0.3244

Relative absolute error 28.4236 %

Root relative squared error 75.6504 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.957 0.125 0.710 0.957 0.815 0.760 0.958 0.819 ACL

0.875 0.043 0.984 0.875 0.926 0.760 0.959 0.979 nonACL

Weighted Avg. 0.895 0.063 0.918 0.895 0.899 0.760 0.959 0.940

=== Confusion Matrix ===

a b <-- classified as

22 1 | a = ACL

9 63 | b = nonACL

1. NaiveBayes (NB) with feature selection Chi-Square(X2) 6 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 85 89.4737 %

Incorrectly Classified Instances 10 10.5263 %

Kappa statistic 0.7435

Mean absolute error 0.1047

Root mean squared error 0.3228

Relative absolute error 28.2739 %

Root relative squared error 75.2634 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.957 0.125 0.710 0.957 0.815 0.760 0.970 0.885 ACL

0.875 0.043 0.984 0.875 0.926 0.760 0.967 0.981 nonACL

Weighted Avg. 0.895 0.063 0.918 0.895 0.899 0.760 0.968 0.958

=== Confusion Matrix ===

a b <-- classified as

22 1 | a = ACL

9 63 | b = nonACL

1. NaiveBayes (NB) with feature selection Chi-Square(X2) 7 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 88 92.6316 %

Incorrectly Classified Instances 7 7.3684 %

Kappa statistic 0.813

Mean absolute error 0.077

Root mean squared error 0.2604

Relative absolute error 20.7933 %

Root relative squared error 60.7265 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.957 0.083 0.786 0.957 0.863 0.820 0.978 0.961 ACL

0.917 0.043 0.985 0.917 0.950 0.820 0.968 0.981 nonACL

Weighted Avg. 0.926 0.053 0.937 0.926 0.929 0.820 0.970 0.976

=== Confusion Matrix ===

a b <-- classified as

22 1 | a = ACL

6 66 | b = nonACL

1. NaiveBayes (NB) with feature selection Chi-Square(X2) 8 features selected
2. NaiveBayes (NB) with feature selection Chi-Square(X2) 9 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 86 90.5263 %

Incorrectly Classified Instances 9 9.4737 %

Kappa statistic 0.7661

Mean absolute error 0.0843

Root mean squared error 0.2671

Relative absolute error 22.7752 %

Root relative squared error 62.2814 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.957 0.111 0.733 0.957 0.830 0.779 0.978 0.961 ACL

0.889 0.043 0.985 0.889 0.934 0.779 0.978 0.992 nonACL

Weighted Avg. 0.905 0.060 0.924 0.905 0.909 0.779 0.978 0.985

=== Confusion Matrix ===

a b <-- classified as

22 1 | a = ACL

8 64 | b = nonACL

1. NaiveBayes (NB) with feature selection Chi-Square(X2) 10 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 85 89.4737 %

Incorrectly Classified Instances 10 10.5263 %

Kappa statistic 0.7435

Mean absolute error 0.1039

Root mean squared error 0.3016

Relative absolute error 28.0479 %

Root relative squared error 70.3259 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.957 0.125 0.710 0.957 0.815 0.760 0.965 0.940 ACL

0.875 0.043 0.984 0.875 0.926 0.760 0.965 0.986 nonACL

Weighted Avg. 0.895 0.063 0.918 0.895 0.899 0.760 0.965 0.975

=== Confusion Matrix ===

a b <-- classified as

22 1 | a = ACL

9 63 | b = nonACL

1. NaiveBayes (NB) with feature selection Chi-Square(X2) 20 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 87 91.5789 %

Incorrectly Classified Instances 8 8.4211 %

Kappa statistic 0.7892

Mean absolute error 0.1025

Root mean squared error 0.2886

Relative absolute error 27.691 %

Root relative squared error 67.302 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.957 0.097 0.759 0.957 0.846 0.799 0.961 0.939 ACL

0.903 0.043 0.985 0.903 0.942 0.799 0.961 0.983 nonACL

Weighted Avg. 0.916 0.056 0.930 0.916 0.919 0.799 0.961 0.972

=== Confusion Matrix ===

a b <-- classified as

22 1 | a = ACL

7 65 | b = nonACL

1. NaiveBayes (NB) with feature selection Chi-Square(X2) 50 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 86 90.5263 %

Incorrectly Classified Instances 9 9.4737 %

Kappa statistic 0.7596

Mean absolute error 0.1076

Root mean squared error 0.2882

Relative absolute error 29.0421 %

Root relative squared error 67.2124 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.913 0.097 0.750 0.913 0.824 0.766 0.958 0.927 ACL

0.903 0.087 0.970 0.903 0.935 0.766 0.958 0.982 nonACL

Weighted Avg. 0.905 0.089 0.917 0.905 0.908 0.766 0.958 0.969

=== Confusion Matrix ===

a b <-- classified as

21 2 | a = ACL

7 65 | b = nonACL

1. NaiveBayes (NB) with feature selection Chi-Square(X2) 100 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 84 88.4211 %

Incorrectly Classified Instances 11 11.5789 %

Kappa statistic 0.7062

Mean absolute error 0.1205

Root mean squared error 0.3072

Relative absolute error 32.5428 %

Root relative squared error 71.6323 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.870 0.111 0.714 0.870 0.784 0.713 0.958 0.919 ACL

0.889 0.130 0.955 0.889 0.921 0.713 0.958 0.984 nonACL

Weighted Avg. 0.884 0.126 0.897 0.884 0.888 0.713 0.958 0.969

=== Confusion Matrix ===

a b <-- classified as

20 3 | a = ACL

8 64 | b = nonACL

1. NaiveBayes (NB) with feature selection Chi-Square(X2) 200 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 82 86.3158 %

Incorrectly Classified Instances 13 13.6842 %

Kappa statistic 0.6621

Mean absolute error 0.127

Root mean squared error 0.3167

Relative absolute error 34.3052 %

Root relative squared error 73.8547 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.870 0.139 0.667 0.870 0.755 0.673 0.953 0.900 ACL

0.861 0.130 0.954 0.861 0.905 0.673 0.953 0.982 nonACL

Weighted Avg. 0.863 0.132 0.884 0.863 0.869 0.673 0.953 0.962

=== Confusion Matrix ===

a b <-- classified as

20 3 | a = ACL

10 62 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Chi-Square(X2) 5 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 83 87.3684 %

Incorrectly Classified Instances 12 12.6316 %

Kappa statistic 0.6839

Mean absolute error 0.1301

Root mean squared error 0.3128

Relative absolute error 35.1345 %

Root relative squared error 72.9333 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.870 0.125 0.690 0.870 0.769 0.693 0.951 0.883 ACL

0.875 0.130 0.955 0.875 0.913 0.693 0.951 0.983 nonACL

Weighted Avg. 0.874 0.129 0.890 0.874 0.878 0.693 0.951 0.959

=== Confusion Matrix ===

a b <-- classified as

20 3 | a = ACL

9 63 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Chi-Square(X2) 6 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 90 94.7368 %

Incorrectly Classified Instances 5 5.2632 %

Kappa statistic 0.8544

Mean absolute error 0.126

Root mean squared error 0.2403

Relative absolute error 34.0137 %

Root relative squared error 56.027 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.870 0.028 0.909 0.870 0.889 0.855 0.943 0.893 ACL

0.972 0.130 0.959 0.972 0.966 0.855 0.943 0.968 nonACL

Weighted Avg. 0.947 0.106 0.947 0.947 0.947 0.855 0.943 0.950

=== Confusion Matrix ===

a b <-- classified as

20 3 | a = ACL

2 70 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Chi-Square(X2) 7 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 90 94.7368 %

Incorrectly Classified Instances 5 5.2632 %

Kappa statistic 0.8544

Mean absolute error 0.1322

Root mean squared error 0.2497

Relative absolute error 35.7112 %

Root relative squared error 58.2247 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.870 0.028 0.909 0.870 0.889 0.855 0.918 0.881 ACL

0.972 0.130 0.959 0.972 0.966 0.855 0.918 0.949 nonACL

Weighted Avg. 0.947 0.106 0.947 0.947 0.947 0.855 0.918 0.932

=== Confusion Matrix ===

a b <-- classified as

20 3 | a = ACL

2 70 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Chi-Square(X2) 8 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 88 92.6316 %

Incorrectly Classified Instances 7 7.3684 %

Kappa statistic 0.7899

Mean absolute error 0.1071

Root mean squared error 0.2303

Relative absolute error 28.9211 %

Root relative squared error 53.7098 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.783 0.028 0.900 0.783 0.837 0.793 0.952 0.921 ACL

0.972 0.217 0.933 0.972 0.952 0.793 0.952 0.972 nonACL

Weighted Avg. 0.926 0.171 0.925 0.926 0.924 0.793 0.952 0.960

=== Confusion Matrix ===

a b <-- classified as

18 5 | a = ACL

2 70 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Chi-Square(X2) 9 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 87 91.5789 %

Incorrectly Classified Instances 8 8.4211 %

Kappa statistic 0.7482

Mean absolute error 0.1155

Root mean squared error 0.2479

Relative absolute error 31.1843 %

Root relative squared error 57.797 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.696 0.014 0.941 0.696 0.800 0.762 0.950 0.906 ACL

0.986 0.304 0.910 0.986 0.947 0.762 0.950 0.972 nonACL

Weighted Avg. 0.916 0.234 0.918 0.916 0.911 0.762 0.950 0.956

=== Confusion Matrix ===

a b <-- classified as

16 7 | a = ACL

1 71 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Chi-Square(X2) 10 features selected

Test mode: 10-fold cross-validation

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

IB1 instance-based classifier

using 5 nearest neighbour(s) for classification

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 83 87.3684 %

Incorrectly Classified Instances 12 12.6316 %

Kappa statistic 0.6453

Mean absolute error 0.1469

Root mean squared error 0.2805

Relative absolute error 39.6718 %

Root relative squared error 65.4094 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.696 0.069 0.762 0.696 0.727 0.646 0.927 0.837 ACL

0.931 0.304 0.905 0.931 0.918 0.646 0.927 0.963 nonACL

Weighted Avg. 0.874 0.247 0.871 0.874 0.872 0.646 0.927 0.932

=== Confusion Matrix ===

a b <-- classified as

16 7 | a = ACL

5 67 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Chi-Square(X2) 20 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 84 88.4211 %

Incorrectly Classified Instances 11 11.5789 %

Kappa statistic 0.6797

Mean absolute error 0.1364

Root mean squared error 0.2628

Relative absolute error 36.8426 %

Root relative squared error 61.2703 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.739 0.069 0.773 0.739 0.756 0.680 0.938 0.875 ACL

0.931 0.261 0.918 0.931 0.924 0.680 0.938 0.966 nonACL

Weighted Avg. 0.884 0.215 0.883 0.884 0.883 0.680 0.938 0.944

=== Confusion Matrix ===

a b <-- classified as

17 6 | a = ACL

5 67 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Chi-Square(X2) 50 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 85 89.4737 %

Incorrectly Classified Instances 10 10.5263 %

Kappa statistic 0.7132

Mean absolute error 0.1448

Root mean squared error 0.266

Relative absolute error 39.1061 %

Root relative squared error 62.0234 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.783 0.069 0.783 0.783 0.783 0.713 0.934 0.866 ACL

0.931 0.217 0.931 0.931 0.931 0.713 0.934 0.964 nonACL

Weighted Avg. 0.895 0.182 0.895 0.895 0.895 0.713 0.934 0.940

=== Confusion Matrix ===

a b <-- classified as

18 5 | a = ACL

5 67 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Chi-Square(X2) 100 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 84 88.4211 %

Incorrectly Classified Instances 11 11.5789 %

Kappa statistic 0.6797

Mean absolute error 0.1427

Root mean squared error 0.2745

Relative absolute error 38.5402 %

Root relative squared error 63.9991 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.739 0.069 0.773 0.739 0.756 0.680 0.927 0.858 ACL

0.931 0.261 0.918 0.931 0.924 0.680 0.927 0.961 nonACL

Weighted Avg. 0.884 0.215 0.883 0.884 0.883 0.680 0.927 0.936

=== Confusion Matrix ===

a b <-- classified as

17 6 | a = ACL

5 67 | b = nonACL

Test mode: 10-fold cross-validation

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

IB1 instance-based classifier

using 5 nearest neighbour(s) for classification

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 85 89.4737 %

Incorrectly Classified Instances 10 10.5263 %

Kappa statistic 0.6951

Mean absolute error 0.1616

Root mean squared error 0.2901

Relative absolute error 43.6327 %

Root relative squared error 67.6533 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.696 0.042 0.842 0.696 0.762 0.700 0.918 0.808 ACL

0.958 0.304 0.908 0.958 0.932 0.700 0.918 0.958 nonACL

Weighted Avg. 0.895 0.241 0.892 0.895 0.891 0.700 0.918 0.922

=== Confusion Matrix ===

a b <-- classified as

16 7 | a = ACL

3 69 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Chi-Square(X2) 200 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 84 88.4211 %

Incorrectly Classified Instances 11 11.5789 %

Kappa statistic 0.6797

Mean absolute error 0.1804

Root mean squared error 0.3184

Relative absolute error 48.7251 %

Root relative squared error 74.2405 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.739 0.069 0.773 0.739 0.756 0.680 0.887 0.753 ACL

0.931 0.261 0.918 0.931 0.924 0.680 0.887 0.942 nonACL

Weighted Avg. 0.884 0.215 0.883 0.884 0.883 0.680 0.887 0.896

=== Confusion Matrix ===

a b <-- classified as

17 6 | a = ACL

5 67 | b = nonACL

1. NaiveBayes (NB) with feature selection Gain Ratio(GR) 5 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 85 89.4737 %

Incorrectly Classified Instances 10 10.5263 %

Kappa statistic 0.7435

Mean absolute error 0.1108

Root mean squared error 0.3271

Relative absolute error 29.9241 %

Root relative squared error 76.2705 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.957 0.125 0.710 0.957 0.815 0.760 0.969 0.866 ACL

0.875 0.043 0.984 0.875 0.926 0.760 0.966 0.981 nonACL

Weighted Avg. 0.895 0.063 0.918 0.895 0.899 0.760 0.967 0.953

=== Confusion Matrix ===

a b <-- classified as

22 1 | a = ACL

9 63 | b = nonACL

1. NaiveBayes (NB) with feature selection Gain Ratio(GR) 6 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 86 90.5263 %

Incorrectly Classified Instances 9 9.4737 %

Kappa statistic 0.7661

Mean absolute error 0.0967

Root mean squared error 0.2989

Relative absolute error 26.1185 %

Root relative squared error 69.6992 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.957 0.111 0.733 0.957 0.830 0.779 0.977 0.927 ACL

0.889 0.043 0.985 0.889 0.934 0.779 0.968 0.981 nonACL

Weighted Avg. 0.905 0.060 0.924 0.905 0.909 0.779 0.970 0.968

=== Confusion Matrix ===

a b <-- classified as

22 1 | a = ACL

8 64 | b = nonACL

1. NaiveBayes (NB) with feature selection Gain Ratio(GR) 7 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 90 94.7368 %

Incorrectly Classified Instances 5 5.2632 %

Kappa statistic 0.8627

Mean absolute error 0.0595

Root mean squared error 0.2181

Relative absolute error 16.059 %

Root relative squared error 50.8555 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.957 0.056 0.846 0.957 0.898 0.866 0.977 0.959 ACL

0.944 0.043 0.986 0.944 0.965 0.866 0.966 0.979 nonACL

Weighted Avg. 0.947 0.046 0.952 0.947 0.948 0.866 0.969 0.974

=== Confusion Matrix ===

a b <-- classified as

22 1 | a = ACL

4 68 | b = nonACL

1. NaiveBayes (NB) with feature selection Gain Ratio(GR) 8 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 89 93.6842 %

Incorrectly Classified Instances 6 6.3158 %

Kappa statistic 0.8328

Mean absolute error 0.0702

Root mean squared error 0.2357

Relative absolute error 18.9597 %

Root relative squared error 54.9568 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.913 0.056 0.840 0.913 0.875 0.834 0.970 0.954 ACL

0.944 0.087 0.971 0.944 0.958 0.834 0.970 0.988 nonACL

Weighted Avg. 0.937 0.079 0.940 0.937 0.938 0.834 0.970 0.980

=== Confusion Matrix ===

a b <-- classified as

21 2 | a = ACL

4 68 | b = nonACL

1. NaiveBayes (NB) with feature selection Gain Ratio(GR) 9 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 82 86.3158 %

Incorrectly Classified Instances 13 13.6842 %

Kappa statistic 0.6528

Mean absolute error 0.1525

Root mean squared error 0.3213

Relative absolute error 41.1702 %

Root relative squared error 74.912 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.826 0.125 0.679 0.826 0.745 0.659 0.923 0.864 ACL

0.875 0.174 0.940 0.875 0.906 0.659 0.923 0.965 nonACL

Weighted Avg. 0.863 0.162 0.877 0.863 0.867 0.659 0.923 0.940

=== Confusion Matrix ===

a b <-- classified as

19 4 | a = ACL

9 63 | b = nonACL

1. NaiveBayes (NB) with feature selection Gain Ratio(GR) 10 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 83 87.3684 %

Incorrectly Classified Instances 12 12.6316 %

Kappa statistic 0.675

Mean absolute error 0.1472

Root mean squared error 0.307

Relative absolute error 39.747 %

Root relative squared error 71.5978 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.826 0.111 0.704 0.826 0.760 0.679 0.926 0.886 ACL

0.889 0.174 0.941 0.889 0.914 0.679 0.926 0.965 nonACL

Weighted Avg. 0.874 0.159 0.884 0.874 0.877 0.679 0.926 0.946

=== Confusion Matrix ===

a b <-- classified as

19 4 | a = ACL

8 64 | b = nonACL

1. NaiveBayes (NB) with feature selection Gain Ratio(GR) 20 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 75 78.9474 %

Incorrectly Classified Instances 20 21.0526 %

Kappa statistic 0.4263

Mean absolute error 0.2133

Root mean squared error 0.3929

Relative absolute error 57.6106 %

Root relative squared error 91.6197 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.565 0.139 0.565 0.565 0.565 0.426 0.830 0.703 ACL

0.861 0.435 0.861 0.861 0.861 0.426 0.830 0.933 nonACL

Weighted Avg. 0.789 0.363 0.789 0.789 0.789 0.426 0.830 0.877

=== Confusion Matrix ===

a b <-- classified as

13 10 | a = ACL

10 62 | b = nonACL

1. NaiveBayes (NB) with feature selection Gain Ratio(GR) 50 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 77 81.0526 %

Incorrectly Classified Instances 18 18.9474 %

Kappa statistic 0.4985

Mean absolute error 0.2169

Root mean squared error 0.3828

Relative absolute error 58.5725 %

Root relative squared error 89.2591 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.652 0.139 0.600 0.652 0.625 0.499 0.827 0.694 ACL

0.861 0.348 0.886 0.861 0.873 0.499 0.827 0.927 nonACL

Weighted Avg. 0.811 0.297 0.817 0.811 0.813 0.499 0.827 0.871

=== Confusion Matrix ===

a b <-- classified as

15 8 | a = ACL

10 62 | b = nonACL

1. NaiveBayes (NB) with feature selection Gain Ratio(GR) 100 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 73 76.8421 %

Incorrectly Classified Instances 22 23.1579 %

Kappa statistic 0.3871

Mean absolute error 0.2358

Root mean squared error 0.4044

Relative absolute error 63.6673 %

Root relative squared error 94.2931 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.565 0.167 0.520 0.565 0.542 0.388 0.817 0.687 ACL

0.833 0.435 0.857 0.833 0.845 0.388 0.817 0.922 nonACL

Weighted Avg. 0.768 0.370 0.776 0.768 0.772 0.388 0.817 0.865

=== Confusion Matrix ===

a b <-- classified as

13 10 | a = ACL

12 60 | b = nonACL

1. NaiveBayes (NB) with feature selection Gain Ratio(GR) 200 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 75 78.9474 %

Incorrectly Classified Instances 20 21.0526 %

Kappa statistic 0.4088

Mean absolute error 0.2288

Root mean squared error 0.3869

Relative absolute error 61.786 %

Root relative squared error 90.2169 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.522 0.125 0.571 0.522 0.545 0.410 0.830 0.690 ACL

0.875 0.478 0.851 0.875 0.863 0.410 0.830 0.931 nonACL

Weighted Avg. 0.789 0.393 0.784 0.789 0.786 0.410 0.830 0.873

=== Confusion Matrix ===

a b <-- classified as

12 11 | a = ACL

9 63 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Gain Ratio(GR) 5 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 88 92.6316 %

Incorrectly Classified Instances 7 7.3684 %

Kappa statistic 0.8021

Mean absolute error 0.1532

Root mean squared error 0.2645

Relative absolute error 41.3696 %

Root relative squared error 61.6741 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.870 0.056 0.833 0.870 0.851 0.802 0.920 0.907 ACL

0.944 0.130 0.958 0.944 0.951 0.802 0.920 0.947 nonACL

Weighted Avg. 0.926 0.112 0.928 0.926 0.927 0.802 0.920 0.937

=== Confusion Matrix ===

a b <-- classified as

20 3 | a = ACL

4 68 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Gain Ratio(GR) 6 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 88 92.6316 %

Incorrectly Classified Instances 7 7.3684 %

Kappa statistic 0.7962

Mean absolute error 0.1385

Root mean squared error 0.2506

Relative absolute error 37.4088 %

Root relative squared error 58.4327 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.826 0.042 0.864 0.826 0.844 0.797 0.942 0.902 ACL

0.958 0.174 0.945 0.958 0.952 0.797 0.942 0.966 nonACL

Weighted Avg. 0.926 0.142 0.925 0.926 0.926 0.797 0.942 0.951

=== Confusion Matrix ===

a b <-- classified as

19 4 | a = ACL

3 69 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Gain Ratio(GR) 7 features selected

Test mode: 10-fold cross-validation

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

IB1 instance-based classifier

using 5 nearest neighbour(s) for classification

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 89 93.6842 %

Incorrectly Classified Instances 6 6.3158 %

Kappa statistic 0.8171

Mean absolute error 0.1302

Root mean squared error 0.2666

Relative absolute error 35.1453 %

Root relative squared error 62.1763 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.783 0.014 0.947 0.783 0.857 0.823 0.912 0.862 ACL

0.986 0.217 0.934 0.986 0.959 0.823 0.912 0.949 nonACL

Weighted Avg. 0.937 0.168 0.937 0.937 0.935 0.823 0.912 0.928

=== Confusion Matrix ===

a b <-- classified as

18 5 | a = ACL

1 71 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Gain Ratio(GR) 8 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 86 90.5263 %

Incorrectly Classified Instances 9 9.4737 %

Kappa statistic 0.712

Mean absolute error 0.1406

Root mean squared error 0.2752

Relative absolute error 37.9743 %

Root relative squared error 64.1719 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.652 0.014 0.938 0.652 0.769 0.731 0.906 0.866 ACL

0.986 0.348 0.899 0.986 0.940 0.731 0.906 0.943 nonACL

Weighted Avg. 0.905 0.267 0.908 0.905 0.899 0.731 0.906 0.924

=== Confusion Matrix ===

a b <-- classified as

15 8 | a = ACL

1 71 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Gain Ratio(GR) 9 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 84 88.4211 %

Incorrectly Classified Instances 11 11.5789 %

Kappa statistic 0.648

Mean absolute error 0.1532

Root mean squared error 0.2929

Relative absolute error 41.3693 %

Root relative squared error 68.305 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.609 0.028 0.875 0.609 0.718 0.665 0.921 0.806 ACL

0.972 0.391 0.886 0.972 0.927 0.665 0.921 0.961 nonACL

Weighted Avg. 0.884 0.303 0.883 0.884 0.877 0.665 0.921 0.923

=== Confusion Matrix ===

a b <-- classified as

14 9 | a = ACL

2 70 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Gain Ratio(GR) 10 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 83 87.3684 %

Incorrectly Classified Instances 12 12.6316 %

Kappa statistic 0.6096

Mean absolute error 0.1469

Root mean squared error 0.2922

Relative absolute error 39.6719 %

Root relative squared error 68.1271 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.565 0.028 0.867 0.565 0.684 0.631 0.924 0.821 ACL

0.972 0.435 0.875 0.972 0.921 0.631 0.924 0.962 nonACL

Weighted Avg. 0.874 0.336 0.873 0.874 0.864 0.631 0.924 0.928

=== Confusion Matrix ===

a b <-- classified as

13 10 | a = ACL

2 70 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Gain Ratio(GR) 20 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 79 83.1579 %

Incorrectly Classified Instances 16 16.8421 %

Kappa statistic 0.3987

Mean absolute error 0.2161

Root mean squared error 0.3587

Relative absolute error 58.3446 %

Root relative squared error 83.6361 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.304 0.000 1.000 0.304 0.467 0.499 0.812 0.662 ACL

1.000 0.696 0.818 1.000 0.900 0.499 0.812 0.899 nonACL

Weighted Avg. 0.832 0.527 0.862 0.832 0.795 0.499 0.812 0.842

=== Confusion Matrix ===

a b <-- classified as

7 16 | a = ACL

0 72 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Gain Ratio(GR) 50 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 78 82.1053 %

Incorrectly Classified Instances 17 17.8947 %

Kappa statistic 0.3733

Mean absolute error 0.214

Root mean squared error 0.365

Relative absolute error 57.7788 %

Root relative squared error 85.1116 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.304 0.014 0.875 0.304 0.452 0.448 0.811 0.620 ACL

0.986 0.696 0.816 0.986 0.893 0.448 0.811 0.912 nonACL

Weighted Avg. 0.821 0.531 0.830 0.821 0.786 0.448 0.811 0.841

=== Confusion Matrix ===

a b <-- classified as

7 16 | a = ACL

1 71 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Gain Ratio(GR) 100 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 78 82.1053 %

Incorrectly Classified Instances 17 17.8947 %

Kappa statistic 0.3733

Mean absolute error 0.2056

Root mean squared error 0.345

Relative absolute error 55.5153 %

Root relative squared error 80.4406 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.304 0.014 0.875 0.304 0.452 0.448 0.853 0.709 ACL

0.986 0.696 0.816 0.986 0.893 0.448 0.853 0.927 nonACL

Weighted Avg. 0.821 0.531 0.830 0.821 0.786 0.448 0.853 0.874

=== Confusion Matrix ===

a b <-- classified as

7 16 | a = ACL

1 71 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Information Gain (IG) 200 features selected

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

IB1 instance-based classifier

using 5 nearest neighbour(s) for classification

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 79 83.1579 %

Incorrectly Classified Instances 16 16.8421 %

Kappa statistic 0.4212

Mean absolute error 0.2161

Root mean squared error 0.3528

Relative absolute error 58.3446 %

Root relative squared error 82.2692 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.348 0.014 0.889 0.348 0.500 0.488 0.825 0.670 ACL

0.986 0.652 0.826 0.986 0.899 0.488 0.825 0.915 nonACL

Weighted Avg. 0.832 0.498 0.841 0.832 0.802 0.488 0.825 0.856

=== Confusion Matrix ===

a b <-- classified as

8 15 | a = ACL

1 71 | b = nonACL

1. NaiveBayes (NB) with feature selection Symmetric Uncertainty(SUA) 5 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 84 88.4211 %

Incorrectly Classified Instances 11 11.5789 %

Kappa statistic 0.7216

Mean absolute error 0.1155

Root mean squared error 0.3395

Relative absolute error 31.1914 %

Root relative squared error 79.1576 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.957 0.139 0.688 0.957 0.800 0.741 0.962 0.833 ACL

0.861 0.043 0.984 0.861 0.919 0.741 0.964 0.980 nonACL

Weighted Avg. 0.884 0.067 0.912 0.884 0.890 0.741 0.964 0.945

=== Confusion Matrix ===

a b <-- classified as

22 1 | a = ACL

10 62 | b = nonACL

1. NaiveBayes (NB) with feature selection Symmetric Uncertainty(SUA) 6 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 86 90.5263 %

Incorrectly Classified Instances 9 9.4737 %

Kappa statistic 0.7661

Mean absolute error 0.0914

Root mean squared error 0.2946

Relative absolute error 24.6874 %

Root relative squared error 68.7005 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.957 0.111 0.733 0.957 0.830 0.779 0.981 0.935 ACL

0.889 0.043 0.985 0.889 0.934 0.779 0.970 0.982 nonACL

Weighted Avg. 0.905 0.060 0.924 0.905 0.909 0.779 0.972 0.970

=== Confusion Matrix ===

a b <-- classified as

22 1 | a = ACL

8 64 | b = nonACL

1. NaiveBayes (NB) with feature selection Symmetric Uncertainty(SUA) 7 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 86 90.5263 %

Incorrectly Classified Instances 9 9.4737 %

Kappa statistic 0.7661

Mean absolute error 0.0917

Root mean squared error 0.2978

Relative absolute error 24.7616 %

Root relative squared error 69.4425 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.957 0.111 0.733 0.957 0.830 0.779 0.981 0.964 ACL

0.889 0.043 0.985 0.889 0.934 0.779 0.967 0.980 nonACL

Weighted Avg. 0.905 0.060 0.924 0.905 0.909 0.779 0.971 0.976

=== Confusion Matrix ===

a b <-- classified as

22 1 | a = ACL

8 64 | b = nonACL

1. NaiveBayes (NB) with feature selection Symmetric Uncertainty(SUA) 8 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 87 91.5789 %

Incorrectly Classified Instances 8 8.4211 %

Kappa statistic 0.7892

Mean absolute error 0.0709

Root mean squared error 0.2363

Relative absolute error 19.1535 %

Root relative squared error 55.1125 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.957 0.097 0.759 0.957 0.846 0.799 0.977 0.970 ACL

0.903 0.043 0.985 0.903 0.942 0.799 0.977 0.990 nonACL

Weighted Avg. 0.916 0.056 0.930 0.916 0.919 0.799 0.977 0.985

=== Confusion Matrix ===

a b <-- classified as

22 1 | a = ACL

7 65 | b = nonACL

1. NaiveBayes (NB) with feature selection Symmetric Uncertainty(SUA) 9 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 86 90.5263 %

Incorrectly Classified Instances 9 9.4737 %

Kappa statistic 0.7661

Mean absolute error 0.1013

Root mean squared error 0.2895

Relative absolute error 27.3656 %

Root relative squared error 67.4969 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.957 0.111 0.733 0.957 0.830 0.779 0.969 0.954 ACL

0.889 0.043 0.985 0.889 0.934 0.779 0.969 0.986 nonACL

Weighted Avg. 0.905 0.060 0.924 0.905 0.909 0.779 0.969 0.978

=== Confusion Matrix ===

a b <-- classified as

22 1 | a = ACL

1. NaiveBayes (NB) with feature selection Symmetric Uncertainty(SUA) 10 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 85 89.4737 %

Incorrectly Classified Instances 10 10.5263 %

Kappa statistic 0.7435

Mean absolute error 0.1024

Root mean squared error 0.2937

Relative absolute error 27.6413 %

Root relative squared error 68.4862 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.957 0.125 0.710 0.957 0.815 0.760 0.970 0.951 ACL

0.875 0.043 0.984 0.875 0.926 0.760 0.970 0.988 nonACL

Weighted Avg. 0.895 0.063 0.918 0.895 0.899 0.760 0.970 0.979

=== Confusion Matrix ===

a b <-- classified as

22 1 | a = ACL

9 63 | b = nonACL

1. NaiveBayes (NB) with feature selection Symmetric Uncertainty(SUA) 20 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 85 89.4737 %

Incorrectly Classified Instances 10 10.5263 %

Kappa statistic 0.7435

Mean absolute error 0.116

Root mean squared error 0.3047

Relative absolute error 31.3142 %

Root relative squared error 71.0614 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.957 0.125 0.710 0.957 0.815 0.760 0.966 0.943 ACL

0.875 0.043 0.984 0.875 0.926 0.760 0.966 0.986 nonACL

Weighted Avg. 0.895 0.063 0.918 0.895 0.899 0.760 0.966 0.976

=== Confusion Matrix ===

a b <-- classified as

22 1 | a = ACL

9 63 | b = nonACL

1. NaiveBayes (NB) with feature selection Symmetric Uncertainty(SUA) 50 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 84 88.4211 %

Incorrectly Classified Instances 11 11.5789 %

Kappa statistic 0.7141

Mean absolute error 0.1088

Root mean squared error 0.2888

Relative absolute error 29.3923 %

Root relative squared error 67.3383 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.913 0.125 0.700 0.913 0.792 0.726 0.963 0.942 ACL

0.875 0.087 0.969 0.875 0.920 0.726 0.963 0.985 nonACL

Weighted Avg. 0.884 0.096 0.904 0.884 0.889 0.726 0.963 0.974

=== Confusion Matrix ===

a b <-- classified as

21 2 | a = ACL

9 63 | b = nonACL

1. NaiveBayes (NB) with feature selection Symmetric Uncertainty(SUA) 100 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 86 90.5263 %

Incorrectly Classified Instances 9 9.4737 %

Kappa statistic 0.7596

Mean absolute error 0.1056

Root mean squared error 0.2755

Relative absolute error 28.5109 %

Root relative squared error 64.242 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.913 0.097 0.750 0.913 0.824 0.766 0.969 0.947 ACL

0.903 0.087 0.970 0.903 0.935 0.766 0.969 0.988 nonACL

Weighted Avg. 0.905 0.089 0.917 0.905 0.908 0.766 0.969 0.978

=== Confusion Matrix ===

a b <-- classified as

21 2 | a = ACL

7 65 | b = nonACL

1. NaiveBayes (NB) with feature selection Symmetric Uncertainty(SUA) 200 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 87 91.5789 %

Incorrectly Classified Instances 8 8.4211 %

Kappa statistic 0.7771

Mean absolute error 0.1083

Root mean squared error 0.2747

Relative absolute error 29.2471 %

Root relative squared error 64.0543 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.870 0.069 0.800 0.870 0.833 0.778 0.961 0.922 ACL

0.931 0.130 0.957 0.931 0.944 0.778 0.961 0.986 nonACL

Weighted Avg. 0.916 0.116 0.919 0.916 0.917 0.778 0.961 0.971

=== Confusion Matrix ===

a b <-- classified as

20 3 | a = ACL

5 67 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Symmetric Uncertainty(SUA) 5 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 89 93.6842 %

Incorrectly Classified Instances 6 6.3158 %

Kappa statistic 0.8279

Mean absolute error 0.1406

Root mean squared error 0.2447

Relative absolute error 37.9745 %

Root relative squared error 57.0627 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.870 0.042 0.870 0.870 0.870 0.828 0.944 0.911 ACL

0.958 0.130 0.958 0.958 0.958 0.828 0.944 0.967 nonACL

Weighted Avg. 0.937 0.109 0.937 0.937 0.937 0.828 0.944 0.953

=== Confusion Matrix ===

a b <-- classified as

20 3 | a = ACL

3 69 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Symmetric Uncertainty(SUA) 6 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 88 92.6316 %

Incorrectly Classified Instances 7 7.3684 %

Kappa statistic 0.8077

Mean absolute error 0.1155

Root mean squared error 0.234

Relative absolute error 31.1845 %

Root relative squared error 54.5673 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.913 0.069 0.808 0.913 0.857 0.811 0.954 0.927 ACL

0.931 0.087 0.971 0.931 0.950 0.811 0.954 0.971 nonACL

Weighted Avg. 0.926 0.083 0.931 0.926 0.928 0.811 0.954 0.961

=== Confusion Matrix ===

a b <-- classified as

21 2 | a = ACL

5 67 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Symmetric Uncertainty(SUA) 7 features selected

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

IB1 instance-based classifier

using 5 nearest neighbour(s) for classification

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 89 93.6842 %

Incorrectly Classified Instances 6 6.3158 %

Kappa statistic 0.8328

Mean absolute error 0.1218

Root mean squared error 0.2367

Relative absolute error 32.882 %

Root relative squared error 55.2017 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.913 0.056 0.840 0.913 0.875 0.834 0.949 0.905 ACL

0.944 0.087 0.971 0.944 0.958 0.834 0.949 0.970 nonACL

Weighted Avg. 0.937 0.079 0.940 0.937 0.938 0.834 0.949 0.954

=== Confusion Matrix ===

a b <-- classified as

21 2 | a = ACL

4 68 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Symmetric Uncertainty(SUA) 8 features selected

Test mode: 10-fold cross-validation

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

IB1 instance-based classifier

using 5 nearest neighbour(s) for classification

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 86 90.5263 %

Incorrectly Classified Instances 9 9.4737 %

Kappa statistic 0.738

Mean absolute error 0.1281

Root mean squared error 0.253

Relative absolute error 34.5794 %

Root relative squared error 58.9895 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.783 0.056 0.818 0.783 0.800 0.738 0.941 0.885 ACL

0.944 0.217 0.932 0.944 0.938 0.738 0.941 0.967 nonACL

Weighted Avg. 0.905 0.178 0.904 0.905 0.905 0.738 0.941 0.947

=== Confusion Matrix ===

a b <-- classified as

18 5 | a = ACL

4 68 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Symmetric Uncertainty(SUA) 9 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 86 90.5263 %

Incorrectly Classified Instances 9 9.4737 %

Kappa statistic 0.7212

Mean absolute error 0.1281

Root mean squared error 0.2546

Relative absolute error 34.5793 %

Root relative squared error 59.3728 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.696 0.028 0.889 0.696 0.780 0.730 0.944 0.898 ACL

0.972 0.304 0.909 0.972 0.940 0.730 0.944 0.968 nonACL

Weighted Avg. 0.905 0.237 0.904 0.905 0.901 0.730 0.944 0.951

=== Confusion Matrix ===

a b <-- classified as

16 7 | a = ACL

2 70 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Symmetric Uncertainty(SUA) 10 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 84 88.4211 %

Incorrectly Classified Instances 11 11.5789 %

Kappa statistic 0.6593

Mean absolute error 0.1406

Root mean squared error 0.2722

Relative absolute error 37.9743 %

Root relative squared error 63.461 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.652 0.042 0.833 0.652 0.732 0.667 0.934 0.865 ACL

0.958 0.348 0.896 0.958 0.926 0.667 0.934 0.965 nonACL

Weighted Avg. 0.884 0.274 0.881 0.884 0.879 0.667 0.934 0.941

=== Confusion Matrix ===

a b <-- classified as

15 8 | a = ACL

3 69 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Symmetric Uncertainty(SUA) 20 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 85 89.4737 %

Incorrectly Classified Instances 10 10.5263 %

Kappa statistic 0.7132

Mean absolute error 0.1469

Root mean squared error 0.2835

Relative absolute error 39.6718 %

Root relative squared error 66.0993 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.783 0.069 0.783 0.783 0.783 0.713 0.920 0.824 ACL

0.931 0.217 0.931 0.931 0.931 0.713 0.920 0.959 nonACL

Weighted Avg. 0.895 0.182 0.895 0.895 0.895 0.713 0.920 0.927

=== Confusion Matrix ===

a b <-- classified as

18 5 | a = ACL

5 67 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Symmetric Uncertainty(SUA) 50 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 87 91.5789 %

Incorrectly Classified Instances 8 8.4211 %

Kappa statistic 0.7635

Mean absolute error 0.1364

Root mean squared error 0.2659

Relative absolute error 36.8426 %

Root relative squared error 62.0063 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.783 0.042 0.857 0.783 0.818 0.765 0.938 0.877 ACL

0.958 0.217 0.932 0.958 0.945 0.765 0.938 0.966 nonACL

Weighted Avg. 0.916 0.175 0.914 0.916 0.914 0.765 0.938 0.945

=== Confusion Matrix ===

a b <-- classified as

18 5 | a = ACL

3 69 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Symmetric Uncertainty(SUA) 100 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 86 90.5263 %

Incorrectly Classified Instances 9 9.4737 %

Kappa statistic 0.7299

Mean absolute error 0.1448

Root mean squared error 0.2856

Relative absolute error 39.1059 %

Root relative squared error 66.6078 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.739 0.042 0.850 0.739 0.791 0.733 0.918 0.826 ACL

0.958 0.261 0.920 0.958 0.939 0.733 0.918 0.955 nonACL

Weighted Avg. 0.905 0.208 0.903 0.905 0.903 0.733 0.918 0.924

=== Confusion Matrix ===

a b <-- classified as

17 6 | a = ACL

3 69 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection Symmetric Uncertainty(SUA) 200 features selected

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

IB1 instance-based classifier

using 5 nearest neighbour(s) for classification

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 87 91.5789 %

Incorrectly Classified Instances 8 8.4211 %

Kappa statistic 0.7561

Mean absolute error 0.1406

Root mean squared error 0.258

Relative absolute error 37.9743 %

Root relative squared error 60.1582 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.739 0.028 0.895 0.739 0.810 0.762 0.957 0.886 ACL

0.972 0.261 0.921 0.972 0.946 0.762 0.957 0.983 nonACL

Weighted Avg. 0.916 0.204 0.915 0.916 0.913 0.762 0.957 0.959

=== Confusion Matrix ===

a b <-- classified as

17 6 | a = ACL

2 70 | b = nonACL

1. NaiveBayes (NB) with feature selection ReliefF-set to false (RF-f)   5 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 83 87.3684 %

Incorrectly Classified Instances 12 12.6316 %

Kappa statistic 0.6839

Mean absolute error 0.1376

Root mean squared error 0.3199

Relative absolute error 37.1524 %

Root relative squared error 74.6054 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.870 0.125 0.690 0.870 0.769 0.693 0.958 0.918 ACL

0.875 0.130 0.955 0.875 0.913 0.693 0.958 0.986 nonACL

Weighted Avg. 0.874 0.129 0.890 0.874 0.878 0.693 0.958 0.969

=== Confusion Matrix ===

a b <-- classified as

20 3 | a = ACL

9 63 | b = nonACL

1. NaiveBayes (NB) with feature selection ReliefF-set to false (RF-f)   6 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 83 87.3684 %

Incorrectly Classified Instances 12 12.6316 %

Kappa statistic 0.6839

Mean absolute error 0.1226

Root mean squared error 0.2994

Relative absolute error 33.1189 %

Root relative squared error 69.8053 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.870 0.125 0.690 0.870 0.769 0.693 0.961 0.917 ACL

0.875 0.130 0.955 0.875 0.913 0.693 0.961 0.987 nonACL

Weighted Avg. 0.874 0.129 0.890 0.874 0.878 0.693 0.961 0.970

=== Confusion Matrix ===

a b <-- classified as

20 3 | a = ACL

9 63 | b = nonACL

1. NaiveBayes (NB) with feature selection ReliefF-set to false (RF-f)   7 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 86 90.5263 %

Incorrectly Classified Instances 9 9.4737 %

Kappa statistic 0.7596

Mean absolute error 0.1115

Root mean squared error 0.2887

Relative absolute error 30.1043 %

Root relative squared error 67.312 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.913 0.097 0.750 0.913 0.824 0.766 0.961 0.899 ACL

0.903 0.087 0.970 0.903 0.935 0.766 0.961 0.988 nonACL

Weighted Avg. 0.905 0.089 0.917 0.905 0.908 0.766 0.961 0.966

=== Confusion Matrix ===

a b <-- classified as

21 2 | a = ACL

7 65 | b = nonACL

1. NaiveBayes (NB) with feature selection ReliefF-set to false (RF-f)   8 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 84 88.4211 %

Incorrectly Classified Instances 11 11.5789 %

Kappa statistic 0.7141

Mean absolute error 0.1185

Root mean squared error 0.3021

Relative absolute error 31.9862 %

Root relative squared error 70.4559 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.913 0.125 0.700 0.913 0.792 0.726 0.960 0.906 ACL

0.875 0.087 0.969 0.875 0.920 0.726 0.960 0.987 nonACL

Weighted Avg. 0.884 0.096 0.904 0.884 0.889 0.726 0.960 0.967

=== Confusion Matrix ===

a b <-- classified as

21 2 | a = ACL

9 63 | b = nonACL

1. NaiveBayes (NB) with feature selection ReliefF-set to false (RF-f)   9 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 85 89.4737 %

Incorrectly Classified Instances 10 10.5263 %

Kappa statistic 0.7366

Mean absolute error 0.1086

Root mean squared error 0.2975

Relative absolute error 29.3269 %

Root relative squared error 69.3814 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.913 0.111 0.724 0.913 0.808 0.746 0.966 0.914 ACL

0.889 0.087 0.970 0.889 0.928 0.746 0.966 0.989 nonACL

Weighted Avg. 0.895 0.093 0.910 0.895 0.899 0.746 0.966 0.971

=== Confusion Matrix ===

a b <-- classified as

21 2 | a = ACL

1. NaiveBayes (NB) with feature selection ReliefF-set to false (RF-f)   10 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 84 88.4211 %

Incorrectly Classified Instances 11 11.5789 %

Kappa statistic 0.7141

Mean absolute error 0.1186

Root mean squared error 0.3142

Relative absolute error 32.0365 %

Root relative squared error 73.2741 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.913 0.125 0.700 0.913 0.792 0.726 0.957 0.895 ACL

0.875 0.087 0.969 0.875 0.920 0.726 0.957 0.986 nonACL

Weighted Avg. 0.884 0.096 0.904 0.884 0.889 0.726 0.957 0.964

=== Confusion Matrix ===

a b <-- classified as

21 2 | a = ACL

9 63 | b = nonACL

1. NaiveBayes (NB) with feature selection ReliefF-set to false (RF-f)   20 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 81 85.2632 %

Incorrectly Classified Instances 14 14.7368 %

Kappa statistic 0.6502

Mean absolute error 0.143

Root mean squared error 0.3594

Relative absolute error 38.6107 %

Root relative squared error 83.8125 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.913 0.167 0.636 0.913 0.750 0.671 0.944 0.930 ACL

0.833 0.087 0.968 0.833 0.896 0.671 0.949 0.970 nonACL

Weighted Avg. 0.853 0.106 0.888 0.853 0.860 0.671 0.948 0.960

=== Confusion Matrix ===

a b <-- classified as

21 2 | a = ACL

12 60 | b = nonACL

1. NaiveBayes (NB) with feature selection ReliefF-set to false (RF-f)   50 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 80 84.2105 %

Incorrectly Classified Instances 15 15.7895 %

Kappa statistic 0.6391

Mean absolute error 0.1595

Root mean squared error 0.3893

Relative absolute error 43.0795 %

Root relative squared error 90.7859 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.957 0.194 0.611 0.957 0.746 0.673 0.944 0.881 ACL

0.806 0.043 0.983 0.806 0.885 0.673 0.936 0.970 nonACL

Weighted Avg. 0.842 0.080 0.893 0.842 0.852 0.673 0.938 0.948

=== Confusion Matrix ===

a b <-- classified as

22 1 | a = ACL

14 58 | b = nonACL

1. NaiveBayes (NB) with feature selection ReliefF-set to false (RF-f)   100 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 80 84.2105 %

Incorrectly Classified Instances 15 15.7895 %

Kappa statistic 0.6391

Mean absolute error 0.1612

Root mean squared error 0.3972

Relative absolute error 43.5171 %

Root relative squared error 92.6177 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.957 0.194 0.611 0.957 0.746 0.673 0.964 0.906 ACL

0.806 0.043 0.983 0.806 0.885 0.673 0.958 0.977 nonACL

Weighted Avg. 0.842 0.080 0.893 0.842 0.852 0.673 0.959 0.960

=== Confusion Matrix ===

a b <-- classified as

22 1 | a = ACL

14 58 | b = nonACL

1. NaiveBayes (NB) with feature selection ReliefF-set to false (RF-f)   200 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 77 81.0526 %

Incorrectly Classified Instances 18 18.9474 %

Kappa statistic 0.5723

Mean absolute error 0.187

Root mean squared error 0.4272

Relative absolute error 50.5072 %

Root relative squared error 99.6065 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.913 0.222 0.568 0.913 0.700 0.607 0.918 0.696 ACL

0.778 0.087 0.966 0.778 0.862 0.607 0.935 0.971 nonACL

Weighted Avg. 0.811 0.120 0.869 0.811 0.822 0.607 0.931 0.904

=== Confusion Matrix ===

a b <-- classified as

21 2 | a = ACL

16 56 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection ReliefF-set to false (RF-f)   5 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 87 91.5789 %

Incorrectly Classified Instances 8 8.4211 %

Kappa statistic 0.7705

Mean absolute error 0.1218

Root mean squared error 0.2521

Relative absolute error 32.8819 %

Root relative squared error 58.7836 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.826 0.056 0.826 0.826 0.826 0.771 0.917 0.878 ACL

0.944 0.174 0.944 0.944 0.944 0.771 0.917 0.950 nonACL

Weighted Avg. 0.916 0.145 0.916 0.916 0.916 0.771 0.917 0.932

=== Confusion Matrix ===

a b <-- classified as

19 4 | a = ACL

4 68 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection ReliefF-set to false (RF-f)   6 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 82 86.3158 %

Incorrectly Classified Instances 13 13.6842 %

Kappa statistic 0.5546

Mean absolute error 0.1511

Root mean squared error 0.295

Relative absolute error 40.8036 %

Root relative squared error 68.7975 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.478 0.014 0.917 0.478 0.629 0.599 0.912 0.851 ACL

0.986 0.522 0.855 0.986 0.916 0.599 0.912 0.949 nonACL

Weighted Avg. 0.863 0.399 0.870 0.863 0.847 0.599 0.912 0.925

=== Confusion Matrix ===

a b <-- classified as

11 12 | a = ACL

1 71 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection ReliefF-set to false (RF-f)   7 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 83 87.3684 %

Incorrectly Classified Instances 12 12.6316 %

Kappa statistic 0.6096

Mean absolute error 0.1469

Root mean squared error 0.2964

Relative absolute error 39.6719 %

Root relative squared error 69.1186 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.565 0.028 0.867 0.565 0.684 0.631 0.895 0.832 ACL

0.972 0.435 0.875 0.972 0.921 0.631 0.895 0.941 nonACL

Weighted Avg. 0.874 0.336 0.873 0.874 0.864 0.631 0.895 0.914

=== Confusion Matrix ===

a b <-- classified as

13 10 | a = ACL

2 70 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection ReliefF-set to false (RF-f)   8 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 83 87.3684 %

Incorrectly Classified Instances 12 12.6316 %

Kappa statistic 0.6096

Mean absolute error 0.1553

Root mean squared error 0.3062

Relative absolute error 41.9353 %

Root relative squared error 71.3935 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.565 0.028 0.867 0.565 0.684 0.631 0.887 0.818 ACL

0.972 0.435 0.875 0.972 0.921 0.631 0.887 0.938 nonACL

Weighted Avg. 0.874 0.336 0.873 0.874 0.864 0.631 0.887 0.909

=== Confusion Matrix ===

a b <-- classified as

13 10 | a = ACL

2 70 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection ReliefF-set to false (RF-f)   9 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 84 88.4211 %

Incorrectly Classified Instances 11 11.5789 %

Kappa statistic 0.648

Mean absolute error 0.1427

Root mean squared error 0.2878

Relative absolute error 38.5402 %

Root relative squared error 67.1129 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.609 0.028 0.875 0.609 0.718 0.665 0.912 0.867 ACL

0.972 0.391 0.886 0.972 0.927 0.665 0.912 0.949 nonACL

Weighted Avg. 0.884 0.303 0.883 0.884 0.877 0.665 0.912 0.929

=== Confusion Matrix ===

a b <-- classified as

14 9 | a = ACL

2 70 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection ReliefF-set to false (RF-f)   10 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 84 88.4211 %

Incorrectly Classified Instances 11 11.5789 %

Kappa statistic 0.636

Mean absolute error 0.149

Root mean squared error 0.2971

Relative absolute error 40.2377 %

Root relative squared error 69.2864 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.565 0.014 0.929 0.565 0.703 0.666 0.910 0.854 ACL

0.986 0.435 0.877 0.986 0.928 0.666 0.910 0.948 nonACL

Weighted Avg. 0.884 0.333 0.889 0.884 0.874 0.666 0.910 0.925

=== Confusion Matrix ===

a b <-- classified as

13 10 | a = ACL

1 71 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection ReliefF-set to false (RF-f)   20 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 82 86.3158 %

Incorrectly Classified Instances 13 13.6842 %

Kappa statistic 0.5383

Mean absolute error 0.1281

Root mean squared error 0.2956

Relative absolute error 34.5794 %

Root relative squared error 68.9198 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.435 0.000 1.000 0.435 0.606 0.607 0.919 0.898 ACL

1.000 0.565 0.847 1.000 0.917 0.607 0.919 0.951 nonACL

Weighted Avg. 0.863 0.428 0.884 0.863 0.842 0.607 0.919 0.938

=== Confusion Matrix ===

a b <-- classified as

10 13 | a = ACL

0 72 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection ReliefF-set to false (RF-f)   50 features selected

Test mode: 10-fold cross-validation

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

IB1 instance-based classifier

using 5 nearest neighbour(s) for classification

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 84 88.4211 %

Incorrectly Classified Instances 11 11.5789 %

Kappa statistic 0.636

Mean absolute error 0.1406

Root mean squared error 0.2752

Relative absolute error 37.9744 %

Root relative squared error 64.172 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.565 0.014 0.929 0.565 0.703 0.666 0.943 0.872 ACL

0.986 0.435 0.877 0.986 0.928 0.666 0.943 0.969 nonACL

Weighted Avg. 0.884 0.333 0.889 0.884 0.874 0.666 0.943 0.946

=== Confusion Matrix ===

a b <-- classified as

13 10 | a = ACL

1 71 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection ReliefF-set to false (RF-f)   100 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 81 85.2632 %

Incorrectly Classified Instances 14 14.7368 %

Kappa statistic 0.5445

Mean absolute error 0.1448

Root mean squared error 0.2886

Relative absolute error 39.106 %

Root relative squared error 67.2856 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.522 0.042 0.800 0.522 0.632 0.564 0.931 0.838 ACL

0.958 0.478 0.863 0.958 0.908 0.564 0.931 0.966 nonACL

Weighted Avg. 0.853 0.373 0.847 0.853 0.841 0.564 0.931 0.935

=== Confusion Matrix ===

a b <-- classified as

12 11 | a = ACL

3 69 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection ReliefF-set to false (RF-f)   200 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 86 90.5263 %

Incorrectly Classified Instances 9 9.4737 %

Kappa statistic 0.712

Mean absolute error 0.1553

Root mean squared error 0.2879

Relative absolute error 41.9353 %

Root relative squared error 67.1367 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.652 0.014 0.938 0.652 0.769 0.731 0.908 0.841 ACL

0.986 0.348 0.899 0.986 0.940 0.731 0.908 0.946 nonACL

Weighted Avg. 0.905 0.267 0.908 0.905 0.899 0.731 0.908 0.921

=== Confusion Matrix ===

a b <-- classified as

15 8 | a = ACL

1 71 | b = nonACL

1. NaiveBayes (NB) with feature selection ReliefF-W-set to true (RFW-t)   5 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 86 90.5263 %

Incorrectly Classified Instances 9 9.4737 %

Kappa statistic 0.7212

Mean absolute error 0.0878

Root mean squared error 0.2564

Relative absolute error 23.7022 %

Root relative squared error 59.7788 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.696 0.028 0.889 0.696 0.780 0.730 0.978 0.940 ACL

0.972 0.304 0.909 0.972 0.940 0.730 0.978 0.993 nonACL

Weighted Avg. 0.905 0.237 0.904 0.905 0.901 0.730 0.978 0.980

=== Confusion Matrix ===

a b <-- classified as

16 7 | a = ACL

2 70 | b = nonACL

1. NaiveBayes (NB) with feature selection ReliefF-W-set to true (RFW-t) 6 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 90 94.7368 %

Incorrectly Classified Instances 5 5.2632 %

Kappa statistic 0.8544

Mean absolute error 0.0635

Root mean squared error 0.1944

Relative absolute error 17.1521 %

Root relative squared error 45.3304 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.870 0.028 0.909 0.870 0.889 0.855 0.992 0.975 ACL

0.972 0.130 0.959 0.972 0.966 0.855 0.992 0.997 nonACL

Weighted Avg. 0.947 0.106 0.947 0.947 0.947 0.855 0.992 0.992

=== Confusion Matrix ===

a b <-- classified as

20 3 | a = ACL

2 70 | b = nonACL

1. NaiveBayes (NB) with feature selection ReliefF-W-set to true (RFW-t) 7 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 91 95.7895 %

Incorrectly Classified Instances 4 4.2105 %

Kappa statistic 0.8853

Mean absolute error 0.0512

Root mean squared error 0.1853

Relative absolute error 13.8147 %

Root relative squared error 43.2018 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.913 0.028 0.913 0.913 0.913 0.885 0.993 0.980 ACL

0.972 0.087 0.972 0.972 0.972 0.885 0.993 0.998 nonACL

Weighted Avg. 0.958 0.073 0.958 0.958 0.958 0.885 0.993 0.993

=== Confusion Matrix ===

a b <-- classified as

21 2 | a = ACL

2 70 | b = nonACL

1. NaiveBayes (NB) with feature selection ReliefF-W-set to true (RFW-t) 8 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 93 97.8947 %

Incorrectly Classified Instances 2 2.1053 %

Kappa statistic 0.9409

Mean absolute error 0.0374

Root mean squared error 0.1522

Relative absolute error 10.0881 %

Root relative squared error 35.4856 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.913 0.000 1.000 0.913 0.955 0.943 0.981 0.972 ACL

1.000 0.087 0.973 1.000 0.986 0.943 0.981 0.992 nonACL

Weighted Avg. 0.979 0.066 0.980 0.979 0.979 0.943 0.981 0.987

=== Confusion Matrix ===

a b <-- classified as

21 2 | a = ACL

0 72 | b = nonACL

1. NaiveBayes (NB) with feature selection ReliefF-W-set to true (RFW-t) 9 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 92 96.8421 %

Incorrectly Classified Instances 3 3.1579 %

Kappa statistic 0.9127

Mean absolute error 0.0439

Root mean squared error 0.1637

Relative absolute error 11.8426 %

Root relative squared error 38.1796 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.913 0.014 0.955 0.913 0.933 0.913 0.986 0.975 ACL

0.986 0.087 0.973 0.986 0.979 0.913 0.986 0.995 nonACL

Weighted Avg. 0.968 0.069 0.968 0.968 0.968 0.913 0.986 0.990

=== Confusion Matrix ===

a b <-- classified as

21 2 | a = ACL

1 71 | b = nonACL

1. NaiveBayes (NB) with feature selection ReliefF-W-set to true (RFW-t) 10 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 89 93.6842 %

Incorrectly Classified Instances 6 6.3158 %

Kappa statistic 0.8227

Mean absolute error 0.0606

Root mean squared error 0.199

Relative absolute error 16.3657 %

Root relative squared error 46.4061 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.826 0.028 0.905 0.826 0.864 0.824 0.984 0.962 ACL

0.972 0.174 0.946 0.972 0.959 0.824 0.984 0.995 nonACL

Weighted Avg. 0.937 0.139 0.936 0.937 0.936 0.824 0.984 0.987

=== Confusion Matrix ===

a b <-- classified as

19 4 | a = ACL

2 70 | b = nonACL

1. NaiveBayes (NB) with feature selection ReliefF-W-set to true (RFW-t) 20 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 89 93.6842 %

Incorrectly Classified Instances 6 6.3158 %

Kappa statistic 0.8375

Mean absolute error 0.068

Root mean squared error 0.2327

Relative absolute error 18.3567 %

Root relative squared error 54.2645 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.957 0.069 0.815 0.957 0.880 0.842 0.979 0.959 ACL

0.931 0.043 0.985 0.931 0.957 0.842 0.979 0.992 nonACL

Weighted Avg. 0.937 0.050 0.944 0.937 0.938 0.842 0.979 0.984

=== Confusion Matrix ===

a b <-- classified as

22 1 | a = ACL

5 67 | b = nonACL

1. NaiveBayes (NB) with feature selection ReliefF-W-set to true (RFW-t) 50 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 75 78.9474 %

Incorrectly Classified Instances 20 21.0526 %

Kappa statistic 0.5003

Mean absolute error 0.2073

Root mean squared error 0.4483

Relative absolute error 55.9801 %

Root relative squared error 104.5247 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.783 0.208 0.545 0.783 0.643 0.517 0.926 0.857 ACL

0.792 0.217 0.919 0.792 0.851 0.517 0.912 0.962 nonACL

Weighted Avg. 0.789 0.215 0.829 0.789 0.800 0.517 0.916 0.936

=== Confusion Matrix ===

a b <-- classified as

18 5 | a = ACL

15 57 | b = nonACL

1. NaiveBayes (NB) with feature selection ReliefF-W-set to true (RFW-t) 100 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 86 90.5263 %

Incorrectly Classified Instances 9 9.4737 %

Kappa statistic 0.7661

Mean absolute error 0.0865

Root mean squared error 0.2852

Relative absolute error 23.3518 %

Root relative squared error 66.4961 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.957 0.111 0.733 0.957 0.830 0.779 0.975 0.954 ACL

0.889 0.043 0.985 0.889 0.934 0.779 0.966 0.980 nonACL

Weighted Avg. 0.905 0.060 0.924 0.905 0.909 0.779 0.968 0.974

=== Confusion Matrix ===

a b <-- classified as

22 1 | a = ACL

1. NaiveBayes (NB) with feature selection ReliefF-W-set to true (RFW-t) 200 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 83 87.3684 %

Incorrectly Classified Instances 12 12.6316 %

Kappa statistic 0.6839

Mean absolute error 0.1254

Root mean squared error 0.3519

Relative absolute error 33.8548 %

Root relative squared error 82.0553 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.870 0.125 0.690 0.870 0.769 0.693 0.932 0.752 ACL

0.875 0.130 0.955 0.875 0.913 0.693 0.943 0.973 nonACL

Weighted Avg. 0.874 0.129 0.890 0.874 0.878 0.693 0.940 0.920

=== Confusion Matrix ===

a b <-- classified as

20 3 | a = ACL

9 63 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection ReliefF-W-set to true (RFW-t) 5 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 90 94.7368 %

Incorrectly Classified Instances 5 5.2632 %

Kappa statistic 0.8451

Mean absolute error 0.0924

Root mean squared error 0.2083

Relative absolute error 24.9602 %

Root relative squared error 48.5732 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.783 0.000 1.000 0.783 0.878 0.855 0.961 0.952 ACL

1.000 0.217 0.935 1.000 0.966 0.855 0.961 0.976 nonACL

Weighted Avg. 0.947 0.165 0.951 0.947 0.945 0.855 0.961 0.970

=== Confusion Matrix ===

a b <-- classified as

18 5 | a = ACL

0 72 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection ReliefF-W-set to true (RFW-t) 6 features selected

Test mode: 10-fold cross-validation

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

IB1 instance-based classifier

using 5 nearest neighbour(s) for classification

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 91 95.7895 %

Incorrectly Classified Instances 4 4.2105 %

Kappa statistic 0.878

Mean absolute error 0.0945

Root mean squared error 0.2073

Relative absolute error 25.526 %

Root relative squared error 48.3446 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.826 0.000 1.000 0.826 0.905 0.885 0.962 0.953 ACL

1.000 0.174 0.947 1.000 0.973 0.885 0.962 0.976 nonACL

Weighted Avg. 0.958 0.132 0.960 0.958 0.956 0.885 0.962 0.971

=== Confusion Matrix ===

a b <-- classified as

19 4 | a = ACL

1. K-nearest neighbors (KNN) with feature selection ReliefF-W-set to true (RFW-t) 7 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 92 96.8421 %

Incorrectly Classified Instances 3 3.1579 %

Kappa statistic 0.91

Mean absolute error 0.0924

Root mean squared error 0.1959

Relative absolute error 24.9602 %

Root relative squared error 45.6855 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.870 0.000 1.000 0.870 0.930 0.914 0.965 0.963 ACL

1.000 0.130 0.960 1.000 0.980 0.914 0.965 0.977 nonACL

Weighted Avg. 0.968 0.099 0.970 0.968 0.968 0.914 0.965 0.974

=== Confusion Matrix ===

a b <-- classified as

20 3 | a = ACL

0 72 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection ReliefF-W-set to true (RFW-t) 8 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 90 94.7368 %

Incorrectly Classified Instances 5 5.2632 %

Kappa statistic 0.8499

Mean absolute error 0.0841

Root mean squared error 0.2042

Relative absolute error 22.6969 %

Root relative squared error 47.6078 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.826 0.014 0.950 0.826 0.884 0.853 0.960 0.940 ACL

0.986 0.174 0.947 0.986 0.966 0.853 0.960 0.976 nonACL

Weighted Avg. 0.947 0.135 0.947 0.947 0.946 0.853 0.960 0.967

=== Confusion Matrix ===

a b <-- classified as

19 4 | a = ACL

1 71 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection ReliefF-W-set to true (RFW-t) 9 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 91 95.7895 %

Incorrectly Classified Instances 4 4.2105 %

Kappa statistic 0.8818

Mean absolute error 0.0903

Root mean squared error 0.2113

Relative absolute error 24.3944 %

Root relative squared error 49.2633 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.870 0.014 0.952 0.870 0.909 0.883 0.958 0.934 ACL

0.986 0.130 0.959 0.986 0.973 0.883 0.958 0.976 nonACL

Weighted Avg. 0.958 0.102 0.958 0.958 0.957 0.883 0.958 0.966

=== Confusion Matrix ===

a b <-- classified as

20 3 | a = ACL

1 71 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection ReliefF-W-set to true (RFW-t) 10 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 90 94.7368 %

Incorrectly Classified Instances 5 5.2632 %

Kappa statistic 0.8499

Mean absolute error 0.0903

Root mean squared error 0.2132

Relative absolute error 24.3944 %

Root relative squared error 49.7216 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.826 0.014 0.950 0.826 0.884 0.853 0.959 0.935 ACL

0.986 0.174 0.947 0.986 0.966 0.853 0.959 0.976 nonACL

Weighted Avg. 0.947 0.135 0.947 0.947 0.946 0.853 0.959 0.966

=== Confusion Matrix ===

a b <-- classified as

19 4 | a = ACL

1 71 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection ReliefF-W-set to true (RFW-t) 20 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 87 91.5789 %

Incorrectly Classified Instances 8 8.4211 %

Kappa statistic 0.7482

Mean absolute error 0.126

Root mean squared error 0.2635

Relative absolute error 34.0135 %

Root relative squared error 61.4338 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.696 0.014 0.941 0.696 0.800 0.762 0.944 0.860 ACL

0.986 0.304 0.910 0.986 0.947 0.762 0.944 0.971 nonACL

Weighted Avg. 0.916 0.234 0.918 0.916 0.911 0.762 0.944 0.944

=== Confusion Matrix ===

a b <-- classified as

16 7 | a = ACL

1 71 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection ReliefF-W-set to true (RFW-t) 50 features selected

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

IB1 instance-based classifier

using 5 nearest neighbour(s) for classification

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 87 91.5789 %

Incorrectly Classified Instances 8 8.4211 %

Kappa statistic 0.7397

Mean absolute error 0.1176

Root mean squared error 0.2295

Relative absolute error 31.7501 %

Root relative squared error 53.5228 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.652 0.000 1.000 0.652 0.789 0.766 0.989 0.956 ACL

1.000 0.348 0.900 1.000 0.947 0.766 0.989 0.995 nonACL

Weighted Avg. 0.916 0.264 0.924 0.916 0.909 0.766 0.989 0.986

=== Confusion Matrix ===

a b <-- classified as

15 8 | a = ACL

0 72 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection ReliefF-W-set to true (RFW-t) 100 features selected

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 86 90.5263 %

Incorrectly Classified Instances 9 9.4737 %

Kappa statistic 0.738

Mean absolute error 0.126

Root mean squared error 0.2538

Relative absolute error 34.0136 %

Root relative squared error 59.1771 %

Total Number of Instances 95

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.783 0.056 0.818 0.783 0.800 0.738 0.940 0.865 ACL

0.944 0.217 0.932 0.944 0.938 0.738 0.940 0.968 nonACL

Weighted Avg. 0.905 0.178 0.904 0.905 0.905 0.738 0.940 0.943

=== Confusion Matrix ===

a b <-- classified as

18 5 | a = ACL

4 68 | b = nonACL

1. K-nearest neighbors (KNN) with feature selection ReliefF-W-set to true (RFW-t) 200 features selected

**Time taken to build model: 0 seconds**

**=== Stratified cross-validation ===**

**=== Summary ===**

**Correctly Classified Instances 85 89.4737 %**

**Incorrectly Classified Instances 10 10.5263 %**

**Kappa statistic 0.7044**

**Mean absolute error 0.1469**

**Root mean squared error 0.276**

**Relative absolute error 39.6719 %**

**Root relative squared error 64.3609 %**

**Total Number of Instances 95**

**=== Detailed Accuracy By Class ===**

**TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class**

**0.739 0.056 0.810 0.739 0.773 0.706 0.927 0.821 ACL**

**0.944 0.261 0.919 0.944 0.932 0.706 0.927 0.963 nonACL**

**Weighted Avg. 0.895 0.211 0.892 0.895 0.893 0.706 0.927 0.929**

**=== Confusion Matrix ===**

**a b <-- classified as**

**17 6 | a = ACL**

**4 68 | b = nonACL**