

Assignment 11

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The screenshot shows the Weka Explorer interface with the 'Classify' tab selected. The classifier chosen is 'MultilayerPerceptron' with parameters: -L 0.3 -M 0.2 -N 500 -V 0 -S 0 -E 20 -H a. The test options are set to 'Cross-validation' with 10 folds. The classifier output for 'Node 2' is displayed, showing a time taken of 0.13 seconds and stratified cross-validation results. The summary table shows 137 correctly classified instances (78.7356%) and 37 incorrectly classified instances (21.2644%). The detailed accuracy by class table shows TP Rate, FP Rate, Precision, Recall, F-Measure, MCC, ROC Area, and PRC Area for classes AB, M, and PR. The confusion matrix is also shown.

Test options

- ☐ Use training set
- ☐ Supplied test set
- ☒ Cross-validation Folds: 10
- ☐ Percentage split %: 66

More options...

(Nom) class

Start Stop

Result list (right-click for options)

12:59:03 - functions.MultilayerPerceptron

Classifier output

Node 2

Time taken to build model: 0.13 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances	137	78.7356 %
Incorrectly Classified Instances	37	21.2644 %
Kappa statistic	0.658	
Mean absolute error	0.1747	
Root mean squared error	0.3381	
Relative absolute error	41.9113 %	
Root relative squared error	74.115 %	
Total Number of Instances	174	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	0.783	0.171	0.750	0.783	0.766	0.607	0.864	0.766	AB
	0.763	0.173	0.773	0.763	0.768	0.591	0.832	0.740	M
	0.862	0.014	0.926	0.862	0.893	0.873	0.949	0.879	PR
Weighted Avg.	0.787	0.146	0.790	0.787	0.788	0.644	0.864	0.773	

=== Confusion Matrix ===

a	b	c	<-- classified as
54	15	0	a = AB
16	58	2	b = M
2	2	25	c = PR

From HW6 Matrix is

43	19	0		43	26	0
26	57	2	→	19	57	0
0	0	27		0	2	27

Accuracy with WEKA is 78.7356% and Accuracy with HW6 is 72.99%.

So Accuracy with WEKA is better.