

Bayseian Classification

Aim:

To implement and design bayseian classification algorithm using weka.

Algorithm:

- Determine root node
- Calculate entropy for classes
- Calculate entropy after split for each attributes.
- Calculate information gain
- Perform split
- Perform further split
- Compute bayseian classification algorithm

Output:

The screenshot displays the Weka GUI Explorer interface. The 'Classify' tab is active, and the 'NaiveBayes' classifier is selected. The 'Test options' section shows 'Cross-validation' with 'Folds' set to 10. The 'Result list' on the left shows '20:45:20 - bayes.NaiveBayes' selected. The 'Classifier output' pane displays the following results:

Classifier output

no	165.0	55.0
[total]	203.0	87.0

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances	208	71.6783 %
Incorrectly Classified Instances	81	28.3217 %
Kappa statistic	0.2857	
Mean absolute error	0.3272	
Root mean squared error	0.4534	
Relative absolute error	78.2086 %	
Root relative squared error	99.1872 %	
Total Number of Instances	286	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PWC Area	Class
	0.836	0.565	0.778	0.836	0.806	0.288	0.701	0.837	no-recurrence-events
	0.435	0.164	0.529	0.435	0.477	0.288	0.701	0.514	recurrence-events
Weighted Avg.	0.717	0.446	0.704	0.717	0.708	0.288	0.701	0.741	

=== Confusion Matrix ===

a	b	<-- classified as
168	33	a = no-recurrence-events
48	37	b = recurrence-events

The bottom of the window shows the status 'OK' and a log button. The footer of the application indicates 'Weka, a native bird of New Zealand'.