

# Bayesian classification

**Aim:** To implement and design bayesian 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 bayesian classification algorithm

## Output:

The screenshot displays the Weka Explorer window with the NaiveBayes classifier selected. The 'Classify' tab is active, showing the classifier output and a detailed accuracy summary.

**Classifier output**

	no	recurrence-events
no	165.0	85.0
[total]	203.0	87.0

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

	no	recurrence-events
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
no	0.836	0.565	0.778	0.836	0.806	0.288	0.701	0.837	no-recurrence-events
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

Status: OK

Log

Weka, a native bird of New Zealand