

INF354 Inteligencia Artificial

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Q

Del anterior problema en PYTHON y WEKA realice un árbol de decisión basado en entropía, compare los resultados, esto debe repetirse al menos 10 splits y comparar las matrices de confusión y obtener la confiabilidad. Se recomienda comparar media y mediana de los resultados.

Weka Explorer

Preprocess | **Classify** | Cluster | Associate | Select attributes | Visualize

Open file... | Open URL... | Open DB... | Generate... | Undo | Edit... | Save...

Filter: Choose **None** [Apply] [Stop]

Current relation
Relation: vino
Instances: 1599
Attributes: 12
Sum of weights: 1599

Attributes
All | None | Invert | Pattern

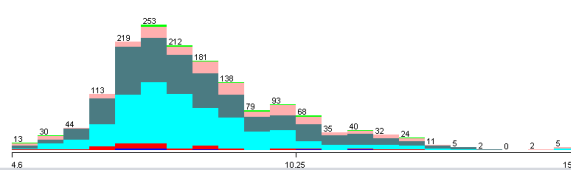
No.	Name
1	<input checked="" type="checkbox"/> fixed acidity
2	<input type="checkbox"/> volatile acidity
3	<input type="checkbox"/> citric acid
4	<input type="checkbox"/> residual sugar
5	<input type="checkbox"/> chlorides
6	<input type="checkbox"/> free sulfur dioxide
7	<input type="checkbox"/> total sulfur dioxide
8	<input type="checkbox"/> density
9	<input type="checkbox"/> pH
10	<input type="checkbox"/> sulphates
11	<input type="checkbox"/> alcohol
12	<input type="checkbox"/> quality

Remove

Selected attribute
Name: fixed acidity
Missing: 0 (0%)
Distinct: 96
Type: Numeric
Unique: 11 (1%)

Statistic	Value
Minimum	4.6
Maximum	15.9
Mean	8.32
StdDev	1.741

Class: quality (Nom) [Visualize All]



Status: OK [Log] x 0

Weka Explorer

Preprocess | **Classify** | Cluster | Associate | Select attributes | Visualize

Choose **J48 -C 0.25 -M 2**

Test options
☐ Use training set
☐ Supplied test set [Set...]
☒ Cross-validation Folds **10**
☐ Percentage split % **66**
More options...

(Nom) quality [Start] [Stop]

Result list (right-click for options)
10:16:27 - trees_J48

Classifier output

```
==== Detailed Accuracy By Class ====
      TP Rate  FP Rate  Precision  Recall   F-Measure  MCC   ROC Area  PRC Area  Class
      0.100    0.006   0.091    0.100   0.095    0.089  0.541    0.026    3
      0.113    0.032   0.107    0.113   0.110    0.079  0.526    0.047    4
      0.711    0.237   0.689    0.711   0.700    0.472  0.760    0.652    5
      0.614    0.259   0.612    0.614   0.613    0.355  0.706    0.579    6
      0.497    0.056   0.559    0.497   0.527    0.465  0.789    0.418    7
      0.000    0.008   0.000    0.000   0.000   -0.009  0.611    0.022    8
Weighted Avg.   0.614   0.213   0.611   0.614   0.612   0.403  0.732    0.563

==== Confusion Matrix ====
  a  b  c  d  e  f  <-- classified as
1  3  2  3  1  0  | a = 3
4  6 24 16  3  0  | b = 4
2 24 484 154 17  0  | c = 5
3 19 169 392 50  5  | d = 6
1  4 23  65 99  7  | e = 7
0  0  0  11  7  0  | f = 8
```

Status: OK [Log] x 0

a	b	c	d	e	f	<-- classified as
1	3	2	3	1	0	a = 3
4	6	24	16	3	0	b = 4
2	24	484	154	17	0	c = 5
3	19	169	392	50	5	d = 6
1	4	23	65	99	7	e = 7
0	0	0	11	7	0	f = 8

