



NATIONAL UNIVERSITY
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Course: Applied Machine Learning

Assignment # 1

Submitted to Sir Shoaib Muhammad Khan

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: supermarket

Instances: 4627

Attributes: 217

Sum of weights: 4627

Attributes

All

None

Invert

Pattern

No.	Name
1	<input checked="" type="checkbox"/> department1
2	<input type="checkbox"/> department2
3	<input type="checkbox"/> department3
4	<input type="checkbox"/> department4
5	<input type="checkbox"/> department5
6	<input type="checkbox"/> department6
7	<input type="checkbox"/> department7
8	<input type="checkbox"/> department8
9	<input type="checkbox"/> department9
10	<input type="checkbox"/> grocery misc
11	<input type="checkbox"/> department11
12	<input type="checkbox"/> baby needs
13	<input type="checkbox"/> bread and cake
14	<input type="checkbox"/> baking needs

Remove

Selected attribute

Name: department1

Missing: 3580 (77%)

Distinct: 1

Type: Nominal

Unique: 0 (0%)

No.	Label	Count	Weight
1	t	1047	1047

Class: total (Nom)


Visualize All

1047

Status

OK

Log

 x 0



weka.gui.GenericObjectEditor



weka.associations.Apriori

About

Class implementing an Apriori-type algorithm.

More

Capabilities

car False

classIndex -1

delta 0.1

doNotCheckCapabilities False

lowerBoundMinSupport 0.2

metricType Confidence

minMetric 0.8

numRules 10

outputItemSets False

removeAllMissingCols False

significanceLevel -1.0

treatZeroAsMissing False

upperBoundMinSupport 1.0

verbose False

Log



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Select attributes

Visualize

Associator

Choose

Apriori -N 10 -T 0 -C 0.8 -D 0.1 -U 1.0 -M 0.2 -S -1.0 -c -1

Start

Stop

Result list (right-click...)

22:55:59 - Apriori

Associator output

[list of attributes omitted]

=== Associator model (full training set) ===

Apriori

=====

Minimum support: 0.3 (1388 instances)

Minimum metric <confidence>: 0.8

Number of cycles performed: 7

Generated sets of large itemsets:

Size of set of large itemsets L(1): 25

Size of set of large itemsets L(2): 69

Size of set of large itemsets L(3): 20

Best rules found:

1. biscuits=t vegetables=t 1764 ==> bread and cake=t 1487 <conf:(0.84)> lift:(1.17) lev:(0.05) [217] conv:(1.78)

2. total=high 1679 ==> bread and cake=t 1413 <conf:(0.84)> lift:(1.17) lev:(0.04) [204] conv:(1.76)

3. biscuits=t milk-cream=t 1767 ==> bread and cake=t 1485 <conf:(0.84)> lift:(1.17) lev:(0.05) [213] conv:(1.75)

4. biscuits=t fruit=t 1837 ==> bread and cake=t 1541 <conf:(0.84)> lift:(1.17) lev:(0.05) [218] conv:(1.73)

5. biscuits=t frozen foods=t 1810 ==> bread and cake=t 1510 <conf:(0.83)> lift:(1.16) lev:(0.04) [207] conv:(1.69)

6. frozen foods=t fruit=t 1861 ==> bread and cake=t 1548 <conf:(0.83)> lift:(1.16) lev:(0.05) [208] conv:(1.66)

7. frozen foods=t milk-cream=t 1826 ==> bread and cake=t 1516 <conf:(0.83)> lift:(1.15) lev:(0.04) [201] conv:(1.65)

8. baking needs=t milk-cream=t 1907 ==> bread and cake=t 1580 <conf:(0.83)> lift:(1.15) lev:(0.04) [207] conv:(1.63)

9. milk-cream=t fruit=t 2038 ==> bread and cake=t 1684 <conf:(0.83)> lift:(1.15) lev:(0.05) [217] conv:(1.61)

10. baking needs=t biscuits=t 1764 ==> bread and cake=t 1456 <conf:(0.83)> lift:(1.15) lev:(0.04) [186] conv:(1.6)

Preprocess

Classify

Cluster

Associate

Select attributes

Visualize

Classifier

ChooseZeroR

Test options

☐ Use training set

☐ Supplied test set

Set...

☒ Cross-validation

Folds10

☐ Percentage split

%66

More options...

(Nom) total

StartStop

Result list (right-click for options)

22:56:40 - rules.ZeroR

Classifier output

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

ZeroR predicts class value: low

Time taken to build model: 0 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances	2948	63.713 %
Incorrectly Classified Instances	1679	36.287 %
Kappa statistic	0	
Mean absolute error	0.4624	
Root mean squared error	0.4808	
Relative absolute error	100 %	
Root relative squared error	100 %	
Total Number of Instances	4627	

=== Detailed Accuracy By Class ===

	TP Rate	FP Rate	Precision	Recall	F-Measure	MCC	ROC Area	PRC Area	Class
	1.000	1.000	0.637	1.000	0.778	?	0.499	0.637	low
	0.000	0.000	?	0.000	?	?	0.499	0.363	high
Weighted Avg.	0.637	0.637	?	0.637	?	?	0.499	0.537	

=== Confusion Matrix ===

a b <-- classified as

2948 0 | a = low

1679 0 | b = high

Status