

ITEM SETS FROM WEATHER DATA

One-item sets	Two-item sets	Three-item sets	Four-item sets
Outlook=Sunny(5)	Outlook=Sunny Temperature=Hot(2)	Outlook=Sunny Temperature=Hot Humidity=high(2)	Outlook=Sunny Temperature=Hot Humidity=High Play=no(2)
Temp=Cool(4)	Outlook=Sunny Humidity=High(3)	Outlook=Sunny Humidity=High Windy=False(2)	Outlook=Rainy Temperature=Mild Windy=False Play=Yes
...

- In total: 12 one-item sets, 47 two-item sets, 39 three-item sets, 6 four-item sets and 0 five-item sets (with minimum support of two)

ASSOCIATION RULES FOR WEATHER DATA

- Rules with support > 1 and confidence=100%

	Rule	Sup	Conf
1	Humidity=Normal Windy=False ==> Play=Yes	4	100%
2	Temperature=Cool ==> Humidity=Normal	4	100%
3	Outlook=Overcast ==> Play=Yes	4	100%
4	Temperature=Cold Play=Yes ==> Humidity=Normal	3	100%
...
58	Outlook=Sunny Temperature=Hot ==> Humidity=High	2	100%

- In Total:
 - 3 rules with support four
 - 5 with support three
 - 50 with support two

RULES FROM THE SAME ITEM SET

- Item set
Temperature = Cool, Humidity = Normal, Windy = False, Play = Yes (2)
- Resulting rules (all with 100% confidence):
Temperature = Cool, Windy = False ==> Humidity = Normal, Play = Yes
Temperature = Cool, Windy = False Humidity = Normal, ==> Play = Yes
Temperature = Cool, Windy = False, Play = Yes ==> Humidity = Normal
- Due to the following 'frequent' item sets:
Temperature = Cool, Windy = False (2)
Temperature = Cool, Humidity = Normal, Windy = False (2)
Temperature = Cool, Windy = False, Play = Yes (2)

EXAMPLE OF ATTRIBUTE SELECTION 3								
Classification accuracy of selected features								
Classifier	Full	CFS	GainRatio	InfoGain	OneR	Relief	Sym	Wrapper
OneR	72	71	71	72	72	72	73	71
J48	87	88	75	88	87	86	78	90
Random Forest	91	92	77	88	88	90	81	91
SMO	89	83	55	79	79	84	55	90

Classification accuracy of EVOLVED features	
Classifier	Accuracy
OneR	80.3%
J48	89.7%
Random Forest	91.8%
SMO	89.9%

AN EVOLVED FEATURE

