

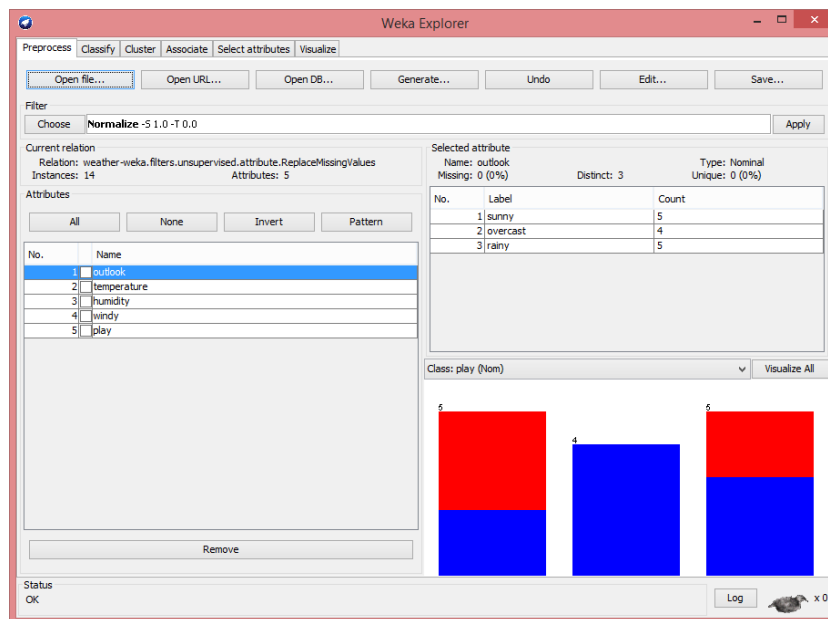
Lab Exercise One

Data Preprocessing with WEKA Explorer

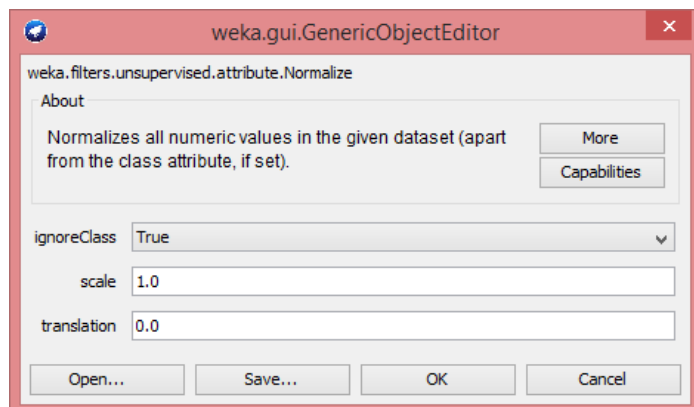
Using filters to perform Normalization

Unsupervised Attribute Filter – Normalize: This filter normalize all numeric values in the given dataset to the default range of [0.0, 1.0].

1. Open the processed_weather.numeric.arff data file (the missing values were replaced already).



2. Choose filter **Normalize** from the drop-down list of **unsupervised attribute** filters and then left-click to open its properties window. We want to perform normalization on all numeric attributes. Click OK and Apply.



Viewer

Relation: weather-weka.filters.unsupervised.attribute.Replace...

No.	outlook Nominal	temperature Numeric	humidity Numeric	windy Nominal	play Nominal
1	sunny	1.0	0.6451...	FALSE	no
2	sunny	0.7619047...	0.8064...	TRUE	no
3	overcast	0.9047619...	0.6774...	FALSE	yes
4	rainy	0.4688644...	1.0	FALSE	yes
5	rainy	0.1904761...	0.4838...	FALSE	yes
6	rainy	0.0476190...	0.1612...	TRUE	no
7	overcast	0.0	0.0	TRUE	yes
8	sunny	0.3809523...	0.9677...	FALSE	no
9	sunny	0.2380952...	0.5657...	FALSE	yes
10	rainy	0.5238095...	0.4838...	FALSE	yes
11	sunny	0.5238095...	0.1612...	TRUE	yes
12	overcast	0.3809523...	0.8064...	TRUE	yes
13	overcast	0.8095238...	0.3225...	FALSE	yes
14	rainy	0.3333333...	0.8387...	TRUE	no

Undo OK Cancel

- You could choose a different range by setting **scale** and **translation** factors. The scale is the difference between min. and max. values. When **scale** is 2 and **translation** is still 0, the range is [0.0, 2.0].

weka.gui.GenericObjectEditor

weka.filters.unsupervised.attribute.Normalize

About

Normalizes all numeric values in the given dataset (apart from the class attribute, if set).

More

Capabilities

ignoreClass False

scale 2.0

translation 0.0

Open... Save... OK Cancel

Viewer

Relation: weather-weka.filters.unsupervised.attribute.ReplaceMis...

No.	outlook Nominal	temperature Numeric	humidity Numeric	windy Nominal	play Nominal
1	sunny	2.0	1.2903...	FALSE	no
2	sunny	1.5238095...	1.6129...	TRUE	no
3	overcast	1.8095238...	1.3548...	FALSE	yes
4	rainy	0.9377289...	2.0	FALSE	yes
5	rainy	0.3809523...	0.9677...	FALSE	yes
6	rainy	0.0952380...	0.3225...	TRUE	no
7	overcast	0.0	0.0	TRUE	yes
8	sunny	0.7619047...	1.9354...	FALSE	no
9	sunny	0.4761904...	1.1315...	FALSE	yes
10	rainy	1.0476190...	0.9677...	FALSE	yes
11	sunny	1.0476190...	0.3225...	TRUE	yes
12	overcast	0.7619047...	1.6129...	TRUE	yes
13	overcast	1.6190476...	0.6451...	FALSE	yes
14	rainy	0.6666666...	1.6774...	TRUE	no

Undo OK Cancel

4. The translation is the distance between the min. and 0.0. When the scale is 2 and translation is -1, the range is [-1.0, 1.0].

weka.gui.GenericObjectEditor

weka.filters.unsupervised.attribute.Normalize

About

Normalizes all numeric values in the given dataset (apart from the class attribute, if set).

More

Capabilities

ignoreClass False

scale 2.0

translation -1

Open... Save... OK Cancel

Viewer

Relation: weather-weka.filters.unsupervised.attribute.ReplaceMissingVal...

No.	outlook Nominal	temperature Numeric	humidity Numeric	windy Nominal	play Nominal
1	sunny	1.0	0.2903...	FALSE	no
2	sunny	0.5238095...	0.6129...	TRUE	no
3	overcast	0.8095238...	0.3548...	FALSE	yes
4	rainy	-0.0622710...	1.0	FALSE	yes
5	rainy	-0.6190476...	-0.032...	FALSE	yes
6	rainy	-0.9047619...	-0.677...	TRUE	no
7	overcast	-1.0	-1.0	TRUE	yes
8	sunny	-0.2380952...	0.9354...	FALSE	no
9	sunny	-0.5238095...	0.1315...	FALSE	yes
10	rainy	0.0476190...	-0.032...	FALSE	yes
11	sunny	0.0476190...	-0.677...	TRUE	yes
12	overcast	-0.2380952...	0.6129...	TRUE	yes
13	overcast	0.6190476...	-0.354...	FALSE	yes
14	rainy	-0.3333333...	0.6774...	TRUE	no

Undo OK Cancel

- You should save the dataset if you are satisfied with the results.