

Using Filters to Remove Attributes:s

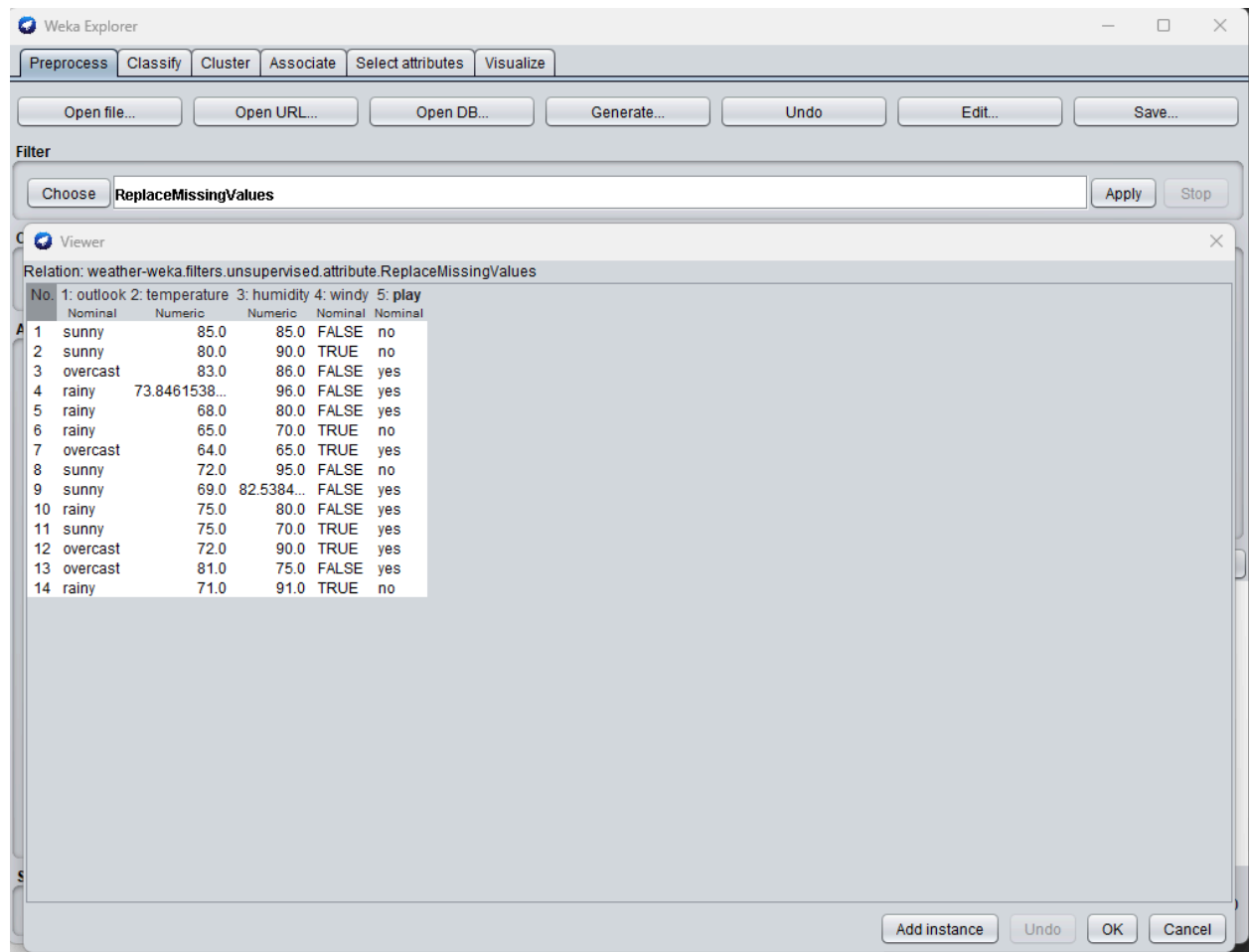
The screenshot shows the Weka Explorer application window. The 'Filter' tab is active, and the filter 'Remove -R 1,2' is selected. The 'Current relation' panel shows the relation 'weather-weka.filters.unsupervised.attribute.Re...' with 3 attributes and 14 instances. The 'Attributes' list shows three attributes: 'humidity', 'windy', and 'play'. The 'Selected attribute' panel shows statistics for 'humidity': Name: humidity, Missing: 1 (7%), Distinct: 10, Type: Numeric, Unique: 7 (50%). A table of statistics for 'humidity' is shown below:

Statistic	Value
Minimum	65
Maximum	96
Mean	82.538
StdDev	10.121

The 'Class: play (Nom)' is selected, and a histogram is displayed. The histogram shows the distribution of the 'play' class, with a red bar for 'no' and a blue bar for 'yes'. The x-axis is labeled 'play' and ranges from 65 to 96. The y-axis is labeled 'Count' and ranges from 0 to 14.

Handling missing data:

Unsupervised Attribute Filter – ReplaceMissingValues:



Using Filters to handle outliers and extreme values:

Unsupervised Attribute Filter – InterquartileRange:

Weka Explorer

Preprocess Classify Cluster Associate Select attributes Visualize

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

Filter

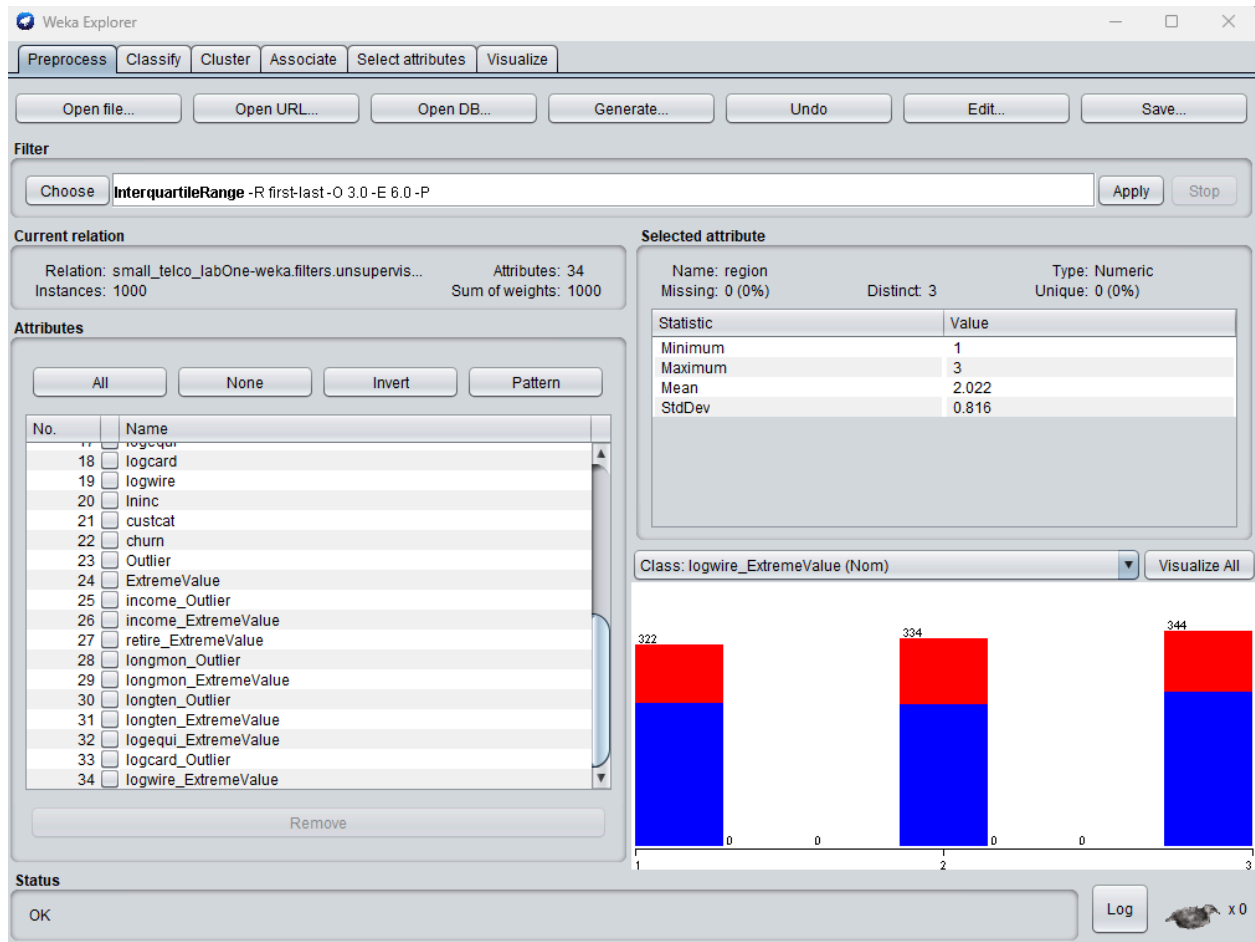
Choose InterquartileRange -R first-last -O 3.0 -E 6.0 Apply Stop

Viewer

Relation: small_telco_labOne-weka.filters.unsupervised.attribute.ReplaceMissingValues-weka.filters.unsupervised.attribute.InterquartileRange-Rfirst-last-O3.0-E6.0

gender	11: reside	12: longmon	13: longten	14: internet	15: ebill	16: loglong	17: logequi	18: logcard	19: logwire	20: lninc	21: custcat	22: churn	23: Outlier	24: ExtremeValue
Numeric	Numeric	Numeric	Numeric	Numeric	Numeric	Numeric	Numeric	Numeric	Numeric	Numeric	Numeric	Numeric	Nominal	Nominal
0.0	2.0	3.7	37.45	0.0	0.0	1.30833...	3.56809...	2.01490...	3.59829...	4.158...	1.0	1.0	no	no
0.0	6.0	4.4	42.0	0.0	0.0	1.48160...	3.56809...	2.72457...	3.57515...	4.912...	4.0	1.0	no	yes
1.0	2.0	18.15	1300.6	0.0	0.0	2.89867...	3.56809...	3.40949...	3.59829...	4.753...	3.0	0.0	no	no
1.0	1.0	9.45	288.8	0.0	0.0	2.24601...	3.56809...	2.85420...	3.59829...	3.496...	1.0	1.0	no	no
0.0	4.0	6.3	157.05	0.0	0.0	1.84054...	3.56809...	2.85420...	3.59829...	3.401...	3.0	0.0	no	no
1.0	1.0	11.8	487.4	0.0	0.0	2.46809...	3.56809...	2.60268...	3.59829...	4.356...	3.0	0.0	no	no
1.0	5.0	10.9	504.5	1.0	1.0	2.38876...	3.56809...	2.16905...	3.59829...	2.944...	2.0	1.0	no	no
0.0	3.0	6.05	239.55	1.0	1.0	1.80005...	3.91402...	3.14630...	4.17284...	4.330...	4.0	0.0	no	yes
0.0	5.0	9.75	449.05	0.0	0.0	2.27726...	3.56809...	2.48490...	3.59829...	5.111...	3.0	0.0	no	no
0.0	3.0	24.15	1659.7	0.0	0.0	3.18428...	3.56809...	2.80336...	3.59829...	4.276...	2.0	0.0	no	no
1.0	1.0	4.85	17.25	1.0	1.0	1.57897...	3.26384...	2.85420...	3.59829...	4.828...	1.0	1.0	no	yes
1.0	1.0	7.1	47.45	0.0	0.0	1.96009...	3.56809...	3.16758...	3.59829...	4.382...	3.0	0.0	no	no
1.0	3.0	8.55	308.7	0.0	0.0	2.14593...	3.56809...	3.73169...	3.59829...	3.610...	1.0	0.0	no	no
1.0	3.0	15.6	825.35	1.0	1.0	2.74727...	3.84374...	2.85420...	4.11169...	4.744...	4.0	1.0	no	yes
1.0	2.0	4.4	36.8	0.0	0.0	1.48160...	3.56809...	2.85420...	3.59829...	3.218...	1.0	0.0	no	no
0.0	4.0	5.1	146.25	1.0	0.0	1.62924...	3.40949...	2.42036...	3.59829...	4.317...	2.0	0.0	no	yes
0.0	1.0	16.15	946.9	0.0	0.0	2.78192...	3.44361...	3.40119...	3.59829...	5.087...	3.0	0.0	no	yes
1.0	3.0	6.65	230.8	0.0	0.0	1.89461...	3.56809...	2.85420...	3.59829...	3.891...	3.0	0.0	no	no
0.0	1.0	1.05	1.05	0.0	0.0	0.04879...	3.56809...	2.85420...	3.59829...	2.995...	1.0	0.0	no	no
0.0	4.0	6.7	140.95	1.0	1.0	1.90210...	3.87328...	3.18841...	3.64544...	4.343...	4.0	1.0	no	yes
1.0	1.0	3.75	25.65	1.0	0.0	1.32175...	3.52046...	2.85420...	2.92852...	2.772...	2.0	1.0	no	yes
0.0	2.0	20.7	1391.05	0.0	0.0	3.03013...	3.56809...	3.09104...	3.59829...	4.787...	1.0	0.0	no	no
1.0	2.0	5.3	253.35	1.0	1.0	1.66770...	3.90399...	3.28653...	3.93963...	4.615...	4.0	0.0	no	yes
0.0	3.0	15.05	810.45	0.0	0.0	2.71137...	3.56809...	3.30505...	3.59829...	4.204...	1.0	0.0	no	no
0.0	5.0	12.5	153.75	0.0	0.0	2.52572...	3.56809...	2.89037...	3.59829...	3.583...	3.0	0.0	no	no
1.0	3.0	2.2	2.2	0.0	0.0	0.78845...	3.56809...	3.70130...	3.59829...	3.496...	3.0	0.0	no	no
1.0	1.0	8.25	399.15	1.0	1.0	2.11021...	3.60821...	3.33220...	3.62167...	3.610...	4.0	0.0	no	yes
0.0	4.0	9.1	234.95	0.0	0.0	2.20827...	3.56809...	2.85420...	3.59829...	3.433...	3.0	0.0	no	no
1.0	3.0	2.0	25.25	0.0	0.0	1.05474...	3.56809...	2.85420...	3.59829...	2.822...	1.0	0.0	no	no

Add instance Undo OK Cancel



Unsupervised Instance Filter – RemoveWithValues:

Weka Explorer

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

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

Filter: Choose **RemoveWithValues** -S 0.0 -C 23 -L last Apply Stop

Current relation
Relation: small_telco_labOne-weka.filters.unsupervise... Attributes: 34
Instances: 930 Sum of weights: 930

Attributes

All | None | Invert | Pattern

No.	Name
17	logcard
18	logcard
19	logwire
20	lninc
21	custcat
22	churn
23	Outlier
24	ExtremeValue
25	income_Outlier
26	income_ExtremeValue
27	retire_ExtremeValue
28	longmon_Outlier
29	longmon_ExtremeValue
30	longten_Outlier
31	longten_ExtremeValue
32	logequi_ExtremeValue
33	logcard_Outlier
34	logwire_ExtremeValue

Remove

Selected attribute

Name: Outlier
Missing: 0 (0%)
Distinct: 1
Type: Nominal
Unique: 0 (0%)

No.	Label	Count	Weight
1	no	930	930.0
2	yes	0	0.0

Class: logwire_ExtremeValue (Nom) Visualize All

Status: OK Log x 0

Using filters to perform normalization:

Unsupervised Attribute Filter – Normalize:

Weka Explorer

Preprocess

Classify

Cluster

Associate

Select attributes

Visualize

Open file

Open URL

Open DB

Generate

Undo

Edit

Save

Viewer

Relation: weather-weka.filters.unsupervised.attribute.ReplaceMissingValues-weka.filters.unsupervised.attribute.Normalize-S1.0-T0.0-unset-class-temporarily

No. 1: outlook 2: temperature 3: humidity 4: windy 5: play

	Nominal	Numeric	Numeric	Nominal	Nominal
1	sunny	1.0	0.64516...	FALSE	no
2	sunny	0.76190476...	0.80645...	TRUE	no
3	overcast	0.90476190...	0.67741...	FALSE	yes
4	rainy	0.46886447...	1.0	FALSE	yes
5	rainy	0.19047619...	0.48387...	FALSE	yes
6	rainy	0.04761904...	0.16129...	TRUE	no
7	overcast	0.0	0.0	TRUE	yes
8	sunny	0.38095238...	0.96774...	FALSE	no
9	sunny	0.23809523...	0.56575...	FALSE	yes
10	rainy	0.52380952...	0.48387...	FALSE	yes
11	sunny	0.52380952...	0.16129...	TRUE	yes
12	overcast	0.38095238...	0.80645...	TRUE	yes
13	overcast	0.80952380...	0.32258...	FALSE	yes
14	rainy	0.33333333...	0.83870...	TRUE	no

Add instance

Undo

OK

Cancel

Status

OK

Log

x 0