

Data Mining - Practice #3 (Weka)

Group #2

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Number of leaves	3	4	10	12	20	20	24	34
Size of Tree	5	7	19	23	39	39	47	67
Accuracy on Test set	84%	72%	95.2%	94.9%	97.8%	97.5%	98.6%	98.9%
Size of Train set	25	50	125	275	550	825	1275	3000
Size of Test set	25	50	125	275	550	825	1275	3000
Total Instants	50	100	250	550	1100	1650	2550	6000

=== Run information ===

Instances: 100

Test mode: split 50.0% train, remainder test

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

J48 pruned tree

```
-----  
xtwo <= -0.473637: -1 (50.0/1.0)  
xtwo > -0.473637  
| xone <= -3.126611  
| | xtwo <= 2.627349: -1 (5.0)  
| | xtwo > 2.627349: 1 (2.0)  
| xone > -3.126611: 1 (43.0/1.0)
```

Number of Leaves : 4

Size of the tree : 7

=== Summary ===

Correctly Classified Instances	36	72	%
Incorrectly Classified Instances	14	28	%
Kappa statistic	0.4697		
Mean absolute error	0.24		
Root mean squared error	0.4417		
Relative absolute error	48	%	
Root relative squared error	88.3316	%	
Total Number of Instances	50		

=== Run information ===

Instances: 6000

Test mode: split 50.0% train, remainder test

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

J48 pruned tree

xtwo <= 0.41697

```
| xtwo <= -1.30632: -1 (2215.0/1.0)
| xtwo > -1.30632
| | xone <= 1.877811
| | | xone <= 1.493508: -1 (659.0)
| | | xone > 1.493508
| | | | xtwo <= 0.080275: -1 (39.0)
| | | | xtwo > 0.080275: 1 (4.0)
| | | xone > 1.877811
| | | | xone <= 3.610417
| | | | xtwo <= -0.393396
| | | | | xtwo <= -0.685047: -1 (64.0)
| | | | | xtwo > -0.685047
| | | | | | xone <= 3.004746: -1 (20.0)
| | | | | | xone > 3.004746: 1 (6.0/1.0)
| | | | | xtwo > -0.393396
| | | | | | xone <= 2.586485
| | | | | | xtwo <= 0.031663: -1 (16.0/1.0)
| | | | | | xtwo > 0.031663: 1 (21.0)
| | | | | | xone > 2.586485: 1 (47.0)
| | | | | xone > 3.610417
| | | | | xtwo <= -0.96396
| | | | | | xone <= 4.223455: -1 (12.0/1.0)
| | | | | | xone > 4.223455: 1 (17.0)
| | | | | xtwo > -0.96396: 1 (107.0)
```

xtwo > 0.41697

```
| xone <= 0.035235
| | xtwo <= 3.004791
| | | xone <= -2.744663
| | | | xtwo <= 2.551302: -1 (304.0)
| | | | xtwo > 2.551302
| | | | | xone <= -3.710761: -1 (42.0)
| | | | | xone > -3.710761
| | | | | | xtwo <= 2.689707
| | | | | | | xone <= -3.312497: -1 (2.0)
| | | | | | | xone > -3.312497: 1 (2.0)
| | | | | | xtwo > 2.689707: 1 (13.0)
| | | | | xone > -2.744663
| | | | | xtwo <= 1.619624
```

```

| | | | | xone <= -0.7341: -1 (130.0)
| | | | | xone > -0.7341
| | | | | | xtwo <= 1.206197: -1 (33.0)
| | | | | | xtwo > 1.206197: 1 (19.0)
| | | | | xtwo > 1.619624
| | | | | xone <= -1.743879
| | | | | | xtwo <= 2.234523
| | | | | | | xtwo <= 1.953437: -1 (28.0)
| | | | | | | xtwo > 1.953437
| | | | | | | | xone <= -2.105589: -1 (7.0)
| | | | | | | | xone > -2.105589: 1 (6.0)
| | | | | | | xtwo > 2.234523: 1 (54.0)
| | | | | | xone > -1.743879: 1 (160.0)
| | | xtwo > 3.004791
| | | | xone <= -4.273954
| | | | | xtwo <= 3.300025: -1 (10.0)
| | | | | xtwo > 3.300025: 1 (78.0/1.0)
| | | | xone > -4.273954: 1 (519.0)
| | xone > 0.035235
| | | xtwo <= 0.772774
| | | | xone <= 1.015256
| | | | | xone <= 0.825365: -1 (18.0)
| | | | | xone > 0.825365
| | | | | | xone <= 0.916663: 1 (2.0)
| | | | | | xone > 0.916663: -1 (3.0)
| | | | xone > 1.015256: 1 (86.0)
| | | xtwo > 0.772774: 1 (1257.0)

```

Number of Leaves : 34

Size of the tree : 67

=== Summary ===

Correctly Classified Instances	2968	98.9333 %
Incorrectly Classified Instances	32	1.0667 %
Kappa statistic	0.9779	
Mean absolute error	0.012	
Root mean squared error	0.1	
Relative absolute error	2.4967 %	
Root relative squared error	20.3376 %	
Total Number of Instances	3000	