**J48 Decision Tree**

=== Run information ===

Scheme: weka.classifiers.trees.J48 -C 0.25 -M 2

Relation: dataclean-weka.filters.unsupervised.attribute.Reorder-R1,2,3,4,5,6,7,8,9,10,11,12,13,14,16,17,18,19,20,21,22,23,15-weka.filters.unsupervised.attribute.NumericToNominal-Rfirst-last-weka.filters.supervised.instance.ClassBalancer-num-intervals10

Instances: 32625

Attributes: 23

ecage26

ecsex99

marst26

pvreg25

dwtenr25

mortg25

multj28

alhrp28

yrxfte11

clwkr1

prmjb1

fllprt1

nocg2e6

imphwe1

uncoll1

n07c3g10

pubpv10

cqpc42

rppc42

udpd42

wgsal42

hleveg18

penpln1

Test mode: 10-fold cross-validation

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

J48 pruned tree

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uncoll1 = 1: 1 (10135.12/1314.93)

uncoll1 = 2: 1 (684.16/196.42)

uncoll1 = 3

| rppc42 = 0: 0 (17390.64/3295.44)

| rppc42 = 25: 0 (90.73/33.2)

| rppc42 = 50: 1 (20.99/8.22)

| rppc42 = 75

| | prmjb1 = 1: 1 (13.96/2.47)

| | prmjb1 = 2: 0 (0.82)

| | prmjb1 = 8: 1 (0.0)

| | prmjb1 = 9: 0 (4.11)

| rppc42 = 100

| | udpd42 = 0: 1 (11.77/4.11)

| | udpd42 = 25: 0 (2.47)

| | udpd42 = 50: 0 (0.82)

| | udpd42 = 75: 0 (0.0)

| | udpd42 = 100: 0 (0.0)

| | udpd42 = 125: 0 (0.0)

| | udpd42 = 150: 0 (0.82)

| | udpd42 = 175: 0 (0.0)

| | udpd42 = 200: 0 (0.0)

| | udpd42 = 225: 0 (0.0)

| | udpd42 = 250: 0 (0.0)

| | udpd42 = 275: 0 (0.0)

| | udpd42 = 300: 0 (0.0)

| | udpd42 = 325: 0 (0.0)

| | udpd42 = 350: 0 (0.0)

| | udpd42 = 375: 0 (0.0)

| | udpd42 = 400: 0 (0.0)

| | udpd42 = 425: 0 (0.0)

| | udpd42 = 450: 0 (0.0)

| | udpd42 = 475: 0 (0.0)

| | udpd42 = 500: 0 (0.0)

| | udpd42 = 525: 0 (0.0)

| | udpd42 = 550: 0 (0.0)

| | udpd42 = 575: 0 (0.0)

| | udpd42 = 600: 0 (0.0)

| | udpd42 = 625: 0 (0.0)

| | udpd42 = 650: 0 (0.0)

| | udpd42 = 675: 0 (0.0)

| | udpd42 = 700: 0 (0.0)

| | udpd42 = 725: 0 (0.0)

| | udpd42 = 750: 0 (0.0)

| | udpd42 = 775: 0 (0.0)

| | udpd42 = 800: 0 (0.0)

| | udpd42 = 825: 0 (0.0)

| | udpd42 = 850: 0 (0.0)

| | udpd42 = 875: 0 (0.0)

| | udpd42 = 900: 0 (0.0)

| | udpd42 = 925: 0 (0.0)

| | udpd42 = 950: 0 (0.0)

| | udpd42 = 975: 0 (0.0)

| | udpd42 = 1000: 0 (0.0)

| | udpd42 = 1025: 0 (0.0)

| | udpd42 = 1050: 0 (0.0)

| | udpd42 = 1075: 0 (0.0)

| | udpd42 = 1100: 0 (0.0)

| | udpd42 = 1150: 0 (0.0)

| | udpd42 = 1200: 0 (0.0)

| | udpd42 = 1250: 0 (0.0)

| | udpd42 = 1300: 0 (0.0)

| | udpd42 = 1350: 0 (0.0)

| | udpd42 = 1400: 0 (0.0)

| | udpd42 = 1450: 0 (0.0)

| | udpd42 = 1500: 0 (0.0)

| | udpd42 = 1550: 0 (0.0)

| | udpd42 = 1600: 0 (0.0)

| | udpd42 = 1650: 0 (0.0)

| | udpd42 = 1700: 0 (0.0)

| | udpd42 = 1750: 0 (0.0)

| | udpd42 = 1800: 0 (0.0)

| | udpd42 = 1850: 0 (0.0)

| | udpd42 = 1900: 0 (0.0)

| | udpd42 = 1950: 0 (0.0)

| | udpd42 = 2000: 0 (0.0)

| | udpd42 = 2050: 0 (0.0)

| | udpd42 = 2100: 0 (0.0)

| | udpd42 = 2200: 0 (0.0)

| | udpd42 = 2300: 0 (0.0)

| | udpd42 = 2400: 0 (0.0)

| | udpd42 = 2500: 0 (0.0)

| | udpd42 = 2600: 0 (0.0)

| | udpd42 = 2700: 0 (0.0)

| | udpd42 = 2800: 0 (0.0)

| | udpd42 = 2900: 0 (0.0)

| | udpd42 = 3000: 0 (0.0)

| | udpd42 = 3100: 0 (0.0)

| | udpd42 = 3200: 0 (0.0)

| | udpd42 = 3300: 0 (0.0)

| | udpd42 = 3400: 0 (0.0)

| | udpd42 = 3500: 0 (0.0)

| | udpd42 = 3600: 0 (0.0)

| | udpd42 = 3700: 0 (0.0)

| | udpd42 = 3800: 0 (0.0)

| | udpd42 = 4100: 0 (0.0)

| | udpd42 = 4200: 0 (0.0)

| | udpd42 = 5250: 0 (0.0)

| | udpd42 = 5500: 0 (0.0)

| | udpd42 = 5750: 0 (0.0)

| | udpd42 = 6000: 0 (0.0)

| | udpd42 = 6250: 0 (0.0)

| rppc42 = 125

| | prmjb1 = 1: 1 (17.33/3.29)

| | prmjb1 = 2: 0 (4.56/1.28)

| | prmjb1 = 8: 1 (0.0)

| | prmjb1 = 9: 0 (5.75)

| rppc42 = 150

| | pvreg25 = 10: 0 (1.64)

| | pvreg25 = 11: 1 (0.0)

| | pvreg25 = 12: 1 (0.0)

| | pvreg25 = 13: 1 (0.0)

| | pvreg25 = 24: 0 (6.21/1.28)

| | pvreg25 = 35: 1 (5.11)

| | pvreg25 = 46: 1 (2.55)

| | pvreg25 = 47: 0 (1.64)

| | pvreg25 = 48: 1 (0.0)

| | pvreg25 = 59: 1 (0.0)

| rppc42 = 175

| | prmjb1 = 1: 1 (10.21)

| | prmjb1 = 2: 0 (3.74/1.28)

| | prmjb1 = 8: 1 (0.0)

| | prmjb1 = 9: 0 (7.03/1.28)

| rppc42 = 200

| | prmjb1 = 1

| | | multj28 = 1: 0 (2.47)

| | | multj28 = 2: 1 (11.49)

| | prmjb1 = 2: 0 (1.64)

| | prmjb1 = 8: 1 (0.0)

| | prmjb1 = 9: 0 (4.11)

| rppc42 = 225

| | marst26 = 1: 1 (7.66)

| | marst26 = 2: 0 (0.82)

| | marst26 = 3: 1 (0.0)

| | marst26 = 4: 0 (0.82)

| | marst26 = 5: 1 (2.55)

| | marst26 = 6

| | | ecsex99 = 1: 1 (3.38/0.82)

| | | ecsex99 = 2: 0 (3.29)

| rppc42 = 250: 1 (20.25/4.93)

| rppc42 = 275: 1 (21.9/6.57)

| rppc42 = 300: 1 (19.34/6.57)

| rppc42 = 325: 1 (30.29/9.86)

| rppc42 = 350: 1 (24.82/8.22)

| rppc42 = 375

| | prmjb1 = 1: 1 (13.13/1.64)

| | prmjb1 = 2: 1 (2.1/0.82)

| | prmjb1 = 8: 1 (0.0)

| | prmjb1 = 9: 0 (3.29)

| rppc42 = 400

| | prmjb1 = 1: 1 (11.49)

| | prmjb1 = 2: 1 (0.0)

| | prmjb1 = 8: 1 (0.0)

| | prmjb1 = 9

| | | ecsex99 = 1: 0 (2.47)

| | | ecsex99 = 2: 1 (3.38/0.82)

| rppc42 = 425

| | prmjb1 = 1: 1 (15.23/2.47)

| | prmjb1 = 2: 0 (2.92/1.28)

| | prmjb1 = 8: 1 (0.0)

| | prmjb1 = 9: 0 (7.4)

| rppc42 = 450: 1 (17.24/5.75)

| rppc42 = 475: 1 (28.74/5.75)

| rppc42 = 500: 1 (24.36/9.04)

| rppc42 = 525

| | marst26 = 1

| | | prmjb1 = 1: 1 (3.83)

| | | prmjb1 = 2: 1 (2.1/0.82)

| | | prmjb1 = 8: 1 (0.0)

| | | prmjb1 = 9: 0 (1.64)

| | marst26 = 2: 1 (5.11)

| | marst26 = 3: 1 (0.0)

| | marst26 = 4: 0 (2.92/1.28)

| | marst26 = 5: 1 (1.28)

| | marst26 = 6: 0 (3.29)

| rppc42 = 550: 1 (20.99/8.22)

| rppc42 = 575: 1 (21.53/4.93)

| rppc42 = 600: 1 (19.43/4.11)

| rppc42 = 625: 1 (21.44/7.4)

| rppc42 = 650: 1 (18.15/4.11)

| rppc42 = 675: 1 (21.53/4.93)

| rppc42 = 700

| | multj28 = 1: 0 (4.11)

| | multj28 = 2: 1 (11.86/1.64)

| rppc42 = 725: 1 (14.32/4.11)

| rppc42 = 750: 1 (19.34/6.57)

| rppc42 = 775: 1 (14.78/3.29)

| rppc42 = 800

| | prmjb1 = 1: 1 (11.49)

| | prmjb1 = 2: 1 (1.28)

| | prmjb1 = 8: 1 (0.0)

| | prmjb1 = 9: 0 (4.56/1.28)

| rppc42 = 825: 1 (19.34/6.57)

| rppc42 = 850: 1 (27.91/4.93)

| rppc42 = 875: 1 (28.37/4.11)

| rppc42 = 900: 1 (27.91/4.93)

| rppc42 = 925: 1 (36.76/7.4)

| rppc42 = 950: 1 (22.89/2.47)

| rppc42 = 975: 1 (19.43/4.11)

| rppc42 = 1000: 1 (44.51/4.93)

| rppc42 = 1025: 1 (9.76/0.82)

| rppc42 = 1050: 1 (33.39/6.57)

| rppc42 = 1075: 1 (1.28)

| rppc42 = 1100: 1 (61.67/13.15)

| rppc42 = 1150: 1 (51.09/11.51)

| rppc42 = 1200

| | prmjb1 = 1: 1 (40.4/0.82)

| | prmjb1 = 2: 1 (2.55)

| | prmjb1 = 8: 1 (0.0)

| | prmjb1 = 9: 0 (4.11)

| rppc42 = 1250: 1 (58.38/9.86)

| rppc42 = 1300

| | prmjb1 = 1: 1 (45.88/2.47)

| | prmjb1 = 2: 1 (0.0)

| | prmjb1 = 8: 1 (0.0)

| | prmjb1 = 9: 0 (5.75)

| rppc42 = 1350: 1 (54.1/10.68)

| rppc42 = 1400

| | prmjb1 = 1: 1 (28.0/2.47)

| | prmjb1 = 2: 1 (2.55)

| | prmjb1 = 8: 1 (0.0)

| | prmjb1 = 9: 0 (5.75)

| rppc42 = 1450

| | prmjb1 = 1: 1 (59.1/1.64)

| | prmjb1 = 2: 0 (2.92/1.28)

| | prmjb1 = 8: 1 (0.0)

| | prmjb1 = 9

| | | pvreg25 = 10: 0 (0.0)

| | | pvreg25 = 11: 0 (0.0)

| | | pvreg25 = 12: 0 (0.0)

| | | pvreg25 = 13: 0 (0.0)

| | | pvreg25 = 24: 0 (3.29)

| | | pvreg25 = 35: 1 (3.38/0.82)

| | | pvreg25 = 46: 1 (1.28)

| | | pvreg25 = 47: 0 (0.0)

| | | pvreg25 = 48: 0 (0.0)

| | | pvreg25 = 59: 0 (0.0)

| rppc42 = 1500: 1 (54.64/7.4)

| rppc42 = 1550

| | prmjb1 = 1: 1 (36.12/1.64)

| | prmjb1 = 2: 0 (0.82)

| | prmjb1 = 8: 1 (0.0)

| | prmjb1 = 9: 0 (7.85/1.28)

| rppc42 = 1600

| | prmjb1 = 1: 1 (47.61/1.64)

| | prmjb1 = 2: 1 (3.38/0.82)

| | prmjb1 = 8: 1 (0.0)

| | prmjb1 = 9: 0 (8.31/2.55)

| rppc42 = 1650: 1 (51.35/4.11)

| rppc42 = 1700: 1 (30.47/4.93)

| rppc42 = 1750: 1 (49.62/4.93)

| rppc42 = 1800: 1 (43.6/6.57)

| rppc42 = 1850: 1 (33.84/5.75)

| rppc42 = 1900: 1 (49.62/4.93)

| rppc42 = 1950: 1 (40.23/5.75)

| rppc42 = 2000: 1 (59.66/9.86)

| rppc42 = 2050: 1 (6.38)

| rppc42 = 2100: 1 (70.05/4.93)

| rppc42 = 2200

| | prmjb1 = 1: 1 (53.9/4.11)

| | prmjb1 = 2: 1 (6.75/1.64)

| | prmjb1 = 8: 1 (0.0)

| | prmjb1 = 9: 0 (9.13/2.55)

| rppc42 = 2300: 1 (70.61/13.15)

| rppc42 = 2400

| | prmjb1 = 1: 1 (53.54/2.47)

| | prmjb1 = 2: 1 (0.0)

| | prmjb1 = 8: 1 (0.0)

| | prmjb1 = 9

| | | marst26 = 1: 1 (8.85/2.47)

| | | marst26 = 2: 0 (1.64)

| | | marst26 = 3: 0 (0.0)

| | | marst26 = 4: 0 (0.82)

| | | marst26 = 5: 0 (0.0)

| | | marst26 = 6: 0 (2.47)

| rppc42 = 2500

| | prmjb1 = 1: 1 (57.37/2.47)

| | prmjb1 = 2: 0 (0.82)

| | prmjb1 = 8: 1 (0.0)

| | prmjb1 = 9: 0 (5.39/1.28)

| rppc42 = 2600

| | prmjb1 = 1: 1 (63.75/2.47)

| | prmjb1 = 2: 1 (5.11)

| | prmjb1 = 8: 1 (0.0)

| | prmjb1 = 9: 0 (13.24/2.55)

| rppc42 = 2700: 1 (50.9/4.93)

| rppc42 = 2800: 1 (75.07/7.4)

| rppc42 = 2900: 1 (58.92/6.57)

| rppc42 = 3000: 1 (69.87/9.86)

| rppc42 = 3100: 1 (55.92/7.4)

| rppc42 = 3200: 1 (56.83/5.75)

| rppc42 = 3300: 1 (60.11/9.04)

| rppc42 = 3400: 1 (47.07/4.93)

| rppc42 = 3500: 1 (73.79/7.4)

| rppc42 = 3600

| | prmjb1 = 1: 1 (38.67/1.64)

| | prmjb1 = 2: 1 (0.0)

| | prmjb1 = 8: 0 (0.82)

| | prmjb1 = 9: 0 (3.74/1.28)

| rppc42 = 3700

| | prmjb1 = 1: 1 (30.56/2.47)

| | prmjb1 = 2: 0 (0.82)

| | prmjb1 = 8: 1 (0.0)

| | prmjb1 = 9: 0 (8.31/2.55)

| rppc42 = 3800: 1 (44.06/5.75)

| rppc42 = 3900: 1 (48.34/4.93)

| rppc42 = 4000: 1 (62.75/6.57)

| rppc42 = 4100: 1 (50.9/4.93)

| rppc42 = 4200

| | prmjb1 = 1: 1 (31.01/1.64)

| | prmjb1 = 2: 1 (1.28)

| | prmjb1 = 8: 1 (0.0)

| | prmjb1 = 9: 0 (3.29)

| rppc42 = 4300: 1 (38.13/4.93)

| rppc42 = 4400

| | prmjb1 = 1: 1 (36.94/2.47)

| | prmjb1 = 2: 1 (0.0)

| | prmjb1 = 8: 1 (0.0)

| | prmjb1 = 9: 0 (4.93)

| rppc42 = 4500: 1 (24.99/3.29)

| rppc42 = 4600: 1 (42.87/3.29)

| rppc42 = 4700: 1 (27.55/3.29)

| rppc42 = 4750: 1 (20.8/1.64)

| rppc42 = 4800: 1 (25.9/1.64)

| rppc42 = 4900: 1 (25.54)

| rppc42 = 5000

| | prmjb1 = 1: 1 (54.81/2.47)

| | prmjb1 = 2: 1 (2.55)

| | prmjb1 = 8: 1 (0.0)

| | prmjb1 = 9: 0 (5.39/1.28)

| rppc42 = 5100: 1 (5.11)

| rppc42 = 5250: 1 (72.69/2.47)

| rppc42 = 5500: 1 (74.42/1.64)

| rppc42 = 5750: 1 (56.37/6.57)

| rppc42 = 6000: 1 (57.19/7.4)

| rppc42 = 6250: 1 (43.32/2.47)

| rppc42 = 6500: 1 (43.69/4.11)

| rppc42 = 6750

| | pubpv10 = 1: 1 (29.37)

| | pubpv10 = 2

| | | prmjb1 = 1: 1 (11.86/1.64)

| | | prmjb1 = 2: 1 (0.0)

| | | prmjb1 = 8: 1 (0.0)

| | | prmjb1 = 9: 0 (5.39/1.28)

| | pubpv10 = 9: 1 (0.0)

| rppc42 = 7000: 1 (26.36/0.82)

| rppc42 = 7250: 1 (35.3/0.82)

| rppc42 = 7500: 1 (25.9/1.64)

| rppc42 = 7750: 1 (25.9/1.64)

| rppc42 = 8000: 1 (25.45/2.47)

| rppc42 = 8250: 1 (21.62/2.47)

| rppc42 = 8500: 1 (26.72/2.47)

| rppc42 = 8750: 1 (24.63/1.64)

| rppc42 = 9000: 1 (18.7/0.82)

| rppc42 = 9250: 1 (14.04)

| rppc42 = 9500: 1 (12.77)

| rppc42 = 9750: 1 (12.31/0.82)

| rppc42 = 10000: 1 (28.46/1.64)

| rppc42 = 10250: 0 (0.0)

| rppc42 = 10500: 1 (26.81)

| rppc42 = 11000: 1 (29.73/1.64)

| rppc42 = 11500: 1 (13.59/0.82)

| rppc42 = 12000: 1 (17.88)

| rppc42 = 12500: 1 (14.87/0.82)

| rppc42 = 13000: 1 (19.15)

| rppc42 = 13500: 1 (6.38)

| rppc42 = 14000: 1 (3.83)

| rppc42 = 14500: 1 (2.55)

| rppc42 = 15000: 1 (5.11)

| rppc42 = 15500: 1 (6.38)

| rppc42 = 16000: 1 (2.55)

| rppc42 = 16500: 1 (6.38)

| rppc42 = 17000: 1 (3.83)

| rppc42 = 17500: 1 (1.28)

| rppc42 = 18000: 1 (1.28)

Number of Leaves : 337

Size of the tree : 375

Time taken to build model: 0.46 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 27160.8191 83.2516 %

Incorrectly Classified Instances 5464.1809 16.7484 %

Kappa statistic 0.665

Mean absolute error 0.2727

Root mean squared error 0.3719

Relative absolute error 54.5495 %

Root relative squared error 74.38 %

Total Number of Instances 32625

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.875 0.210 0.806 0.875 0.839 0.667 0.837 0.780 0

0.790 0.125 0.863 0.790 0.825 0.667 0.837 0.829 1

Weighted Avg. 0.833 0.167 0.835 0.833 0.832 0.667 0.837 0.805

=== Confusion Matrix ===

a b <-- classified as

14272.72 2039.78 | a = 0

3424.4 12888.1 | b = 1