Having the matrix (5 1)

(1 5):

=== Run information ===

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

Relation: germandata decritize

Instances: 1000

Attributes: 21

checking

duration

credit history

purpose

credit amount

saving status

employment

installment-commitment

other parties

debtors

residence since

property magnitued

age

other installment

housing

existing credits

job

num-dependents

telephone

foreign worker

Class label

Test mode: 10-fold cross-validation

Evaluation cost matrix:

5 1

1 5

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

J48 pruned tree

------------------

checking = A11

| foreign worker = A201

| | credit history = A34: good (58.0/17.0)

| | credit history = A32

| | | debtors = A101

| | | | saving status = A65

| | | | | credit amount = A51

| | | | | | residence since = A114

| | | | | | | duration = a21: good (4.0)

| | | | | | | duration = a23: good (0.0)

| | | | | | | duration = a22: bad (6.0/2.0)

| | | | | | | duration = a24: good (0.0)

| | | | | | residence since = A112: bad (4.0)

| | | | | | residence since = A113: good (1.0)

| | | | | | residence since = A111: bad (0.0)

| | | | | credit amount = A52: bad (4.0)

| | | | | credit amount = A53: bad (0.0)

| | | | | credit amount = A54: bad (0.0)

| | | | saving status = A61: bad (103.0/44.0)

| | | | saving status = A63: good (3.0)

| | | | saving status = A64: good (4.0)

| | | | saving status = A62

| | | | | telephone = A192: good (4.0/1.0)

| | | | | telephone = A191: bad (4.0)

| | | debtors = A103: good (11.0/1.0)

| | | debtors = A102: bad (7.0/3.0)

| | credit history = A33: bad (12.0/3.0)

| | credit history = A30: bad (13.0/3.0)

| | credit history = A31: bad (21.0/5.0)

| foreign worker = A202: good (15.0/2.0)

checking = A12

| credit amount = A51

| | saving status = A65: good (31.0/4.0)

| | saving status = A61

| | | duration = a21

| | | | property magnitued = A121: good (40.0/6.0)

| | | | property magnitued = A122: good (16.0/5.0)

| | | | property magnitued = A124: bad (1.0)

| | | | property magnitued = A123

| | | | | telephone = A192: good (14.0/3.0)

| | | | | telephone = A191: bad (12.0/4.0)

| | | duration = a23: bad (2.0)

| | | duration = a22

| | | | job = A173

| | | | | telephone = A192: bad (8.0/2.0)

| | | | | telephone = A191: good (8.0/2.0)

| | | | job = A172: bad (8.0/1.0)

| | | | job = A174: bad (4.0)

| | | | job = A171: bad (0.0)

| | | duration = a24: good (0.0)

| | saving status = A63

| | | duration = a21: good (7.0/1.0)

| | | duration = a23: good (0.0)

| | | duration = a22: bad (3.0/1.0)

| | | duration = a24: good (0.0)

| | saving status = A64: good (12.0/3.0)

| | saving status = A62

| | | other parties = A93

| | | | num-dependents = A181: good (15.0/3.0)

| | | | num-dependents = A184: bad (2.0)

| | | other parties = A92

| | | | employment = A75: bad (0.0)

| | | | employment = A73: bad (5.0/1.0)

| | | | employment = A74: good (2.0)

| | | | employment = A71: bad (0.0)

| | | | employment = A72: bad (4.0)

| | | other parties = A91: good (3.0/1.0)

| | | other parties = A94: bad (2.0)

| credit amount = A52

| | saving status = A65: good (10.0/1.0)

| | saving status = A61

| | | duration = a21: good (7.0/1.0)

| | | duration = a23

| | | | other installment = A143: bad (5.0)

| | | | other installment = A141: good (2.0)

| | | | other installment = A142: bad (0.0)

| | | duration = a22: good (11.0/3.0)

| | | duration = a24: bad (1.0)

| | saving status = A63: good (1.0)

| | saving status = A64: good (1.0)

| | saving status = A62

| | | telephone = A192

| | | | job = A173: good (2.0)

| | | | job = A172: good (0.0)

| | | | job = A174: bad (5.0/2.0)

| | | | job = A171: good (0.0)

| | | telephone = A191: bad (3.0)

| credit amount = A53

| | credit history = A34: bad (1.0)

| | credit history = A32: bad (9.0)

| | credit history = A33: good (2.0)

| | credit history = A30: good (1.0)

| | credit history = A31: good (1.0)

| credit amount = A54: bad (8.0)

checking = A14: good (394.0/46.0)

checking = A13: good (63.0/14.0)

Number of Leaves : 71

Size of the tree : 97

Time taken to build model: 0.14 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 712 71.2 %

Incorrectly Classified Instances 288 28.8 %

Kappa statistic 0.2713

Total Cost 3848

Average Cost 3.848

Mean absolute error 0.3518

Root mean squared error 0.4636

Relative absolute error 83.7216 %

Root relative squared error 101.1757 %

Total Number of Instances 1000

=== Detailed Accuracy By Class ===

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

0.839 0.583 0.770 0.839 0.803 0.275 0.659 0.763 good

0.417 0.161 0.525 0.417 0.465 0.275 0.659 0.456 bad

Weighted Avg. 0.712 0.457 0.697 0.712 0.702 0.275 0.659 0.671

=== Confusion Matrix ===

a b <-- classified as

587 113 | a = good

175 125 | b = bad

Having the matrix (2 1)

(1 2):

=== Run information ===

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

Relation: germandata decritize

Instances: 1000

Attributes: 21

checking

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credit amount

saving status

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installment-commitment

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debtors

residence since

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telephone

foreign worker

Class label

Test mode: 10-fold cross-validation

Evaluation cost matrix:

2 1

1 5

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

J48 pruned tree

------------------

checking = A11

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| | credit history = A32

| | | debtors = A101

| | | | saving status = A65

| | | | | credit amount = A51

| | | | | | residence since = A114

| | | | | | | duration = a21: good (4.0)

| | | | | | | duration = a23: good (0.0)

| | | | | | | duration = a22: bad (6.0/2.0)

| | | | | | | duration = a24: good (0.0)

| | | | | | residence since = A112: bad (4.0)

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| | | | | telephone = A192: good (4.0/1.0)

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| | | debtors = A102: bad (7.0/3.0)

| | credit history = A33: bad (12.0/3.0)

| | credit history = A30: bad (13.0/3.0)

| | credit history = A31: bad (21.0/5.0)

| foreign worker = A202: good (15.0/2.0)

checking = A12

| credit amount = A51

| | saving status = A65: good (31.0/4.0)

| | saving status = A61

| | | duration = a21

| | | | property magnitued = A121: good (40.0/6.0)

| | | | property magnitued = A122: good (16.0/5.0)

| | | | property magnitued = A124: bad (1.0)

| | | | property magnitued = A123

| | | | | telephone = A192: good (14.0/3.0)

| | | | | telephone = A191: bad (12.0/4.0)

| | | duration = a23: bad (2.0)

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| | saving status = A62

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| | | | num-dependents = A181: good (15.0/3.0)

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| | | other parties = A92

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| credit amount = A54: bad (8.0)

checking = A14: good (394.0/46.0)

checking = A13: good (63.0/14.0)

Number of Leaves : 71

Size of the tree : 97

Time taken to build model: 0.05 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 712 71.2 %

Incorrectly Classified Instances 288 28.8 %

Kappa statistic 0.2713

Total Cost 2087

Average Cost 2.087

Mean absolute error 0.3518

Root mean squared error 0.4636

Relative absolute error 83.7216 %

Root relative squared error 101.1757 %

Total Number of Instances 1000

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Weighted Avg:

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