**Simple Logistic**

Correctly Classified Instances 247 83.165 %

Incorrectly Classified Instances 50 16.835 %

Kappa statistic 0.6598

Mean absolute error 0.2674

Root mean squared error 0.3698

Relative absolute error 53.7993 %

Root relative squared error 74.185 %

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

0.869 0.212 0.827 0.869 0.848 0.661 0.872 0.849 0

0.788 0.131 0.837 0.788 0.812 0.661 0.872 0.872 1

Weighted Avg. 0.832 0.175 0.832 0.832 0.831 0.661 0.872 0.859

a b <-- classified as

139 21 | a = 0

29 108 | b = 1

**Logistic**

Correctly Classified Instances 193 64.9832 %

Incorrectly Classified Instances 104 35.0168 %

Kappa statistic 0.2925

Mean absolute error 0.3438

Root mean squared error 0.5727

Relative absolute error 69.165 %

Root relative squared error 114.8823 %

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

0.700 0.409 0.667 0.700 0.683 0.293 0.710 0.685 0

0.591 0.300 0.628 0.591 0.609 0.293 0.709 0.691 1

Weighted Avg. 0.650 0.359 0.649 0.650 0.649 0.293 0.709 0.688

a b <-- classified as

112 48 | a = 0

56 81 | b = 1

**Logistic – Reduced Attributes**

Correctly Classified Instances 251 84.5118 %

Incorrectly Classified Instances 46 15.4882 %

Kappa statistic 0.6864

Mean absolute error 0.2506

Root mean squared error 0.3576

Relative absolute error 50.4241 %

Root relative squared error 71.7333 %

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

0.894 0.212 0.831 0.894 0.861 0.689 0.880 0.853 0

0.788 0.106 0.864 0.788 0.824 0.689 0.880 0.857 1

Weighted Avg. 0.845 0.163 0.846 0.845 0.844 0.689 0.880 0.855

a b <-- classified as

143 17 | a = 0

29 108 | b = 1

**Simple Logistic**

=== Run information ===

Scheme: weka.classifiers.functions.SimpleLogistic -I 0 -M 500 -H 50 -W 0.0

Relation: logit-data-weka.filters.unsupervised.attribute.NumericToNominal-Rfirst-last

Instances: 297

Attributes: 14

age

sex

cp

trestbps

chol

fbs

restecg

thalach

exang

oldpeak

slope

ca

thal

heartdisease::category|0|1

Test mode: 10-fold cross-validation

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

SimpleLogistic:

Class 0 :

-0.62 +

[cp=4] \* -0.82 +

[ca=0] \* 0.88 +

[thal=3] \* 1.05

Class 1 :

0.62 +

[cp=4] \* 0.82 +

[ca=0] \* -0.88 +

[thal=3] \* -1.05

Time taken to build model: 0.55 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 247 83.165 %

Incorrectly Classified Instances 50 16.835 %

Kappa statistic 0.6598

Mean absolute error 0.2674

Root mean squared error 0.3698

Relative absolute error 53.7993 %

Root relative squared error 74.185 %

Total Number of Instances 297

=== Detailed Accuracy By Class ===

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

0.869 0.212 0.827 0.869 0.848 0.661 0.872 0.849 0

0.788 0.131 0.837 0.788 0.812 0.661 0.872 0.872 1

Weighted Avg. 0.832 0.175 0.832 0.832 0.831 0.661 0.872 0.859

=== Confusion Matrix ===

a b <-- classified as

139 21 | a = 0

29 108 | b = 1

**Logistic**

=== Run information ===

Scheme: weka.classifiers.functions.Logistic -R 1.0E-8 -M -1 -num-decimal-places 4

Relation: logit-data-weka.filters.unsupervised.attribute.NumericToNominal-Rfirst-last

Instances: 297

Attributes: 14

age

sex

cp

trestbps

chol

fbs

restecg

thalach

exang

oldpeak

slope

ca

thal

heartdisease::category|0|1

Test mode: 10-fold cross-validation

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

Logistic Regression with ridge parameter of 1.0E-8

Coefficients...

Class

Variable 0

=====================================

...

Time taken to build model: 0.59 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 193 64.9832 %

Incorrectly Classified Instances 104 35.0168 %

Kappa statistic 0.2925

Mean absolute error 0.3438

Root mean squared error 0.5727

Relative absolute error 69.165 %

Root relative squared error 114.8823 %

Total Number of Instances 297

=== Detailed Accuracy By Class ===

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

0.700 0.409 0.667 0.700 0.683 0.293 0.710 0.685 0

0.591 0.300 0.628 0.591 0.609 0.293 0.709 0.691 1

Weighted Avg. 0.650 0.359 0.649 0.650 0.649 0.293 0.709 0.688

=== Confusion Matrix ===

a b <-- classified as

112 48 | a = 0

56 81 | b = 1

**Logistic – Reduced Attributes**

=== Run information ===

Scheme: weka.classifiers.functions.Logistic -R 1.0E-8 -M -1 -num-decimal-places 4

Relation: logit-data hw6\_step10-weka.filters.unsupervised.attribute.NumericToNominal-Rfirst-last

Instances: 297

Attributes: 4

cp

ca

thal

heartdisease::category|0|1

Test mode: 10-fold cross-validation

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

Logistic Regression with ridge parameter of 1.0E-8

Coefficients...

Class

Variable 0

====================

...

Time taken to build model: 0.03 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 251 84.5118 %

Incorrectly Classified Instances 46 15.4882 %

Kappa statistic 0.6864

Mean absolute error 0.2506

Root mean squared error 0.3576

Relative absolute error 50.4241 %

Root relative squared error 71.7333 %

Total Number of Instances 297

=== Detailed Accuracy By Class ===

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

0.894 0.212 0.831 0.894 0.861 0.689 0.880 0.853 0

0.788 0.106 0.864 0.788 0.824 0.689 0.880 0.857 1

Weighted Avg. 0.845 0.163 0.846 0.845 0.844 0.689 0.880 0.855

=== Confusion Matrix ===

a b <-- classified as

143 17 | a = 0

29 108 | b = 1