## **FUNCTION**

## LINEAR REGRESSION (CROSS VALIDATION 10)

=== Run information ===

```
Scheme: weka.classifiers.functions.LinearRegression -S 0 -R 1.0E-8
Relation: cpu
             209
Instances:
Attributes:
             7
              MYCT
              MMIN
              MMAX
              CACH
              CHMIN
              CHMAX
              class
Test mode: 10-fold cross-validation
=== Classifier model (full training set) ===
Linear Regression Model
class =
      0.0491 * MYCT +
      0.0152 * MMIN +
      0.0056 * MMAX +
      0.6298 * CACH +
      1.4599 * CHMAX +
    -56.075
Time taken to build model: 0 seconds
=== Cross-validation ===
=== Summary ===
Correlation coefficient
                                        0.9012
Mean absolute error
                                        41.0886
                                        69.556
Root mean squared error
Relative absolute error
                                       42.6943 %
                                        43.2421 %
Root relative squared error
Total Number of Instances
                                       209
LINEAR REGRESSION (CROSS VALIDATION 20)
=== Run information ===
```

Scheme: weka.classifiers.functions.LinearRegression -S 0 -R 1.0E-8

Relation: cpu Instances: 209 Attributes: MYCT

MMIN MMAX CACH CHMIN

```
CHMAX
              class
Test mode: 20-fold cross-validation
=== Classifier model (full training set) ===
Linear Regression Model
class =
      0.0491 * MYCT +
      0.0152 * MMIN +
      0.0056 * MMAX +
      0.6298 * CACH +
      1.4599 * CHMAX +
    -56.075
Time taken to build model: 0 seconds
=== Cross-validation ===
=== Summary ===
Correlation coefficient
                                        0.8991
Mean absolute error
                                        41.4999
Root mean squared error
                                        70.2517
                                       43.0318 %
Relative absolute error
Root relative squared error
                                        43.5631 %
Total Number of Instances
                                      209
TREES
M5P (CROSS VALIDATION 10)
=== Run information ===
Scheme: weka.classifiers.trees.M5P -M 4.0
Relation: cpu
Instances:
             209
             7
Attributes:
              MYCT
              MMIN
              MMAX
              CACH
              CHMIN
              CHMAX
              class
Test mode: 10-fold cross-validation
=== Classifier model (full training set) ===
M5 pruned model tree:
(using smoothed linear models)
CHMIN <= 7.5 : LM1 (165/12.903\%)
CHMIN > 7.5 :
| MMAX <= 28000 :
```

```
| MMAX <= 13240 :
  | CACH <= 81.5 : LM2 (6/18.551%)
| CACH > 81.5 : LM3 (4/30.824%)
   | MMAX > 13240 : LM4 (11/24.185%)
   MMAX > 28000 : LM5 (23/48.302\%)
LM num: 1
class =
     -0.0055 * MYCT
     + 0.0013 * MMIN
     + 0.0029 * MMAX
     + 0.8007 * CACH
     + 0.4015 * CHMAX
     + 11.0971
LM num: 2
class =
     -1.0307 * MYCT
     + 0.0086 * MMIN
     + 0.0031 * MMAX
     + 0.7866 * CACH
     - 2.4503 * CHMIN
     + 1.1597 * CHMAX
     + 70.8672
LM num: 3
class =
     -1.1057 * MYCT
     + 0.0086 * MMIN
     + 0.0031 * MMAX
     + 0.7995 * CACH
     - 2.4503 * CHMIN
     + 1.1597 * CHMAX
     + 83.0016
LM num: 4
class =
     -0.8813 * MYCT
     + 0.0086 * MMIN
     + 0.0031 * MMAX
     + 0.6547 * CACH
     - 2.3561 * CHMIN
     + 1.1597 * CHMAX
     + 82.5725
LM num: 5
class =
     -0.4882 * MYCT
     + 0.0218 * MMIN
     + 0.003 * MMAX
     + 0.3865 * CACH
     - 1.3252 * CHMIN
     + 3.3671 * CHMAX
     - 51.8474
```

Number of Rules : 5

```
Time taken to build model: 0.02 seconds
=== Cross-validation ===
=== Summary ===
Correlation coefficient
                                        0.9274
Mean absolute error
                                        29.8309
Root mean squared error
                                       60.7112
                                        30.9967 %
Relative absolute error
Root relative squared error
                                       37.7434 %
Total Number of Instances
                                     209
M5P (CROSS VALIDATION 20)
=== Run information ===
Scheme:weka.classifiers.trees.M5P -M 4.0
Relation:
             cpu
             209
Instances:
Attributes:
             7
             MYCT
             MMIN
             MMAX
              CACH
              CHMIN
              CHMAX
              class
Test mode: 20-fold cross-validation
=== Classifier model (full training set) ===
M5 pruned model tree:
(using smoothed linear models)
CHMIN <= 7.5 : LM1 (165/12.903\%)
CHMIN > 7.5:
| MMAX <= 28000 :
  | MMAX <= 13240 :
   | CACH <= 81.5 : LM2 (6/18.551%)
       | CACH > 81.5 : LM3 (4/30.824\%)
| MMAX > 13240 : LM4 (11/24.185%)
   MMAX > 28000 : LM5 (23/48.302\%)
LM num: 1
class =
     -0.0055 * MYCT
     + 0.0013 * MMIN
     + 0.0029 * MMAX
     + 0.8007 * CACH
     + 0.4015 * CHMAX
     + 11.0971
LM num: 2
class =
     -1.0307 * MYCT
     + 0.0086 * MMIN
```

```
+ 0.0031 * MMAX
     + 0.7866 * CACH
     - 2.4503 * CHMIN
     + 1.1597 * CHMAX
     + 70.8672
LM num: 3
class =
     -1.1057 * MYCT
     + 0.0086 * MMIN
     + 0.0031 * MMAX
     + 0.7995 * CACH
     - 2.4503 * CHMIN
     + 1.1597 * CHMAX
     + 83.0016
LM num: 4
class =
     -0.8813 * MYCT
     + 0.0086 * MMIN
     + 0.0031 * MMAX
     + 0.6547 * CACH
     - 2.3561 * CHMIN
     + 1.1597 * CHMAX
     + 82.5725
LM num: 5
class =
     -0.4882 * MYCT
     + 0.0218 * MMIN
     + 0.003 * MMAX
     + 0.3865 * CACH
     - 1.3252 * CHMIN
     + 3.3671 * CHMAX
     - 51.8474
Number of Rules : 5
Time taken to build model: 0.02 seconds
=== Cross-validation ===
=== Summary ===
Correlation coefficient
                                        0.9278
Mean absolute error
                                       30.6174
Root mean squared error
                                       61.1547
                                      31.7475 %
Relative absolute error
                                  209
Root relative squared error
                                       37.922 %
Total Number of Instances
```



