# Experiment 1&2

## 1) CPU

```
=== Run information ===

Scheme:       weka.classifiers.functions.LinearRegression -S 0 -R 1.0E-8 -num-decimal-places 4
Relation:     cpu
Instances:    209
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: 0.05 seconds

=== Cross-validation ===
=== Summary ===

Correlation coefficient                  0.9012
Mean absolute error                     41.0886
Root mean squared error                 69.556
Relative absolute error                 42.6943 %
Root relative squared error             43.2421 %
Total Number of Instances              209
```

```
=== 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

=== Evaluation on test split ===

Time taken to test model on test split: 0 seconds

=== Summary ===

Correlation coefficient                  0.6815
Mean absolute error                     65.6302
Root mean squared error                116.0882
Relative absolute error                 69.3266 %
Root relative squared error             75.5923 %
Total Number of Instances              167
```

```
Test mode:    split 80.0% train, remainder test

=== 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

=== Evaluation on test split ===

Time taken to test model on test split: 0 seconds

=== Summary ===

Correlation coefficient                  0.9186
Mean absolute error                     36.6448
Root mean squared error                 48.1821
Relative absolute error                 42.9238 %
Root relative squared error             45.2838 %
Total Number of Instances               42
```

2) Breast Cancer

```
deg-malig=2                              1.7157
deg-malig=3                              0.4378
breast=right                             1.4782
breast-quad=left_up                      1.1186
breast-quad=left_low                      0.913
breast-quad=right_up                     0.5502
breast-quad=right_low                    1.5379
breast-quad=central                      1.4314
irradiat=no                              1.4177


Time taken to build model: 0.07 seconds

=== Stratified cross-validation ===
=== Summary ===

Correctly Classified Instances         197               68.8811 %
Incorrectly Classified Instances        89               31.1189 %
Kappa statistic                          0.1979
Mean absolute error                      0.37
Root mean squared error                  0.4631
Relative absolute error                 88.4196 %
Root relative squared error            101.3094 %
Total Number of Instances              286

=== Detailed Accuracy By Class ===

                 TP Rate  FP Rate  Precision  Recall   F-Measure  MCC      ROC Area  PRC Area  Class
                 0.831    0.647    0.752      0.831    0.790      0.202    0.646     0.794     no-recurrence-events
                 0.353    0.169    0.469      0.353    0.403      0.202    0.646     0.412     recurrence-events
Weighted Avg.    0.689    0.505    0.668      0.689    0.675      0.202    0.646     0.680

=== Confusion Matrix ===

   a   b   <-- classified as
 167  34 |   a = no-recurrence-events
  55  30 |   b = recurrence-events
```

```
Time taken to build model: 0.02 seconds

=== Evaluation on test split ===

Time taken to test model on test split: 0 seconds

=== Summary ===

Correctly Classified Instances          39               68.4211 %
Incorrectly Classified Instances        18               31.5789 %
Kappa statistic                          0.2785
Mean absolute error                      0.4016
Root mean squared error                  0.5367
Relative absolute error                 90.7627 %
Root relative squared error            109.5018 %
Total Number of Instances               57

=== Detailed Accuracy By Class ===

                 TP Rate  FP Rate  Precision  Recall   F-Measure  MCC      ROC Area  PRC Area  Class
                 0.833    0.571    0.714      0.833    0.769      0.287    0.550     0.653     no-recurrence-events
                 0.429    0.167    0.600      0.429    0.500      0.287    0.550     0.441     recurrence-events
Weighted Avg.    0.684    0.422    0.672      0.684    0.670      0.287    0.550     0.575

=== Confusion Matrix ===

  a  b   <-- classified as
 30  6 |  a = no-recurrence-events
 12  9 |  b = recurrence-events
```

```
=== Summary ===

Correctly Classified Instances         144               62.8821 %
Incorrectly Classified Instances        85               37.1179 %
Kappa statistic                          0.0994
Mean absolute error                      0.3707
Root mean squared error                  0.6085
Relative absolute error                 86.9813 %
Root relative squared error            133.4646 %
Total Number of Instances              229

=== Detailed Accuracy By Class ===

                 TP Rate  FP Rate  Precision  Recall   F-Measure  MCC      ROC Area  PRC Area  Class
                 0.741    0.642    0.736      0.741    0.738      0.099    0.560     0.736     no-recurrence-events
                 0.358    0.259    0.364      0.358    0.361      0.099    0.548     0.344     recurrence-events
Weighted Avg.    0.629    0.530    0.627      0.629    0.628      0.099    0.557     0.621

=== Confusion Matrix ===

   a   b   <-- classified as
 120  42 |   a = no-recurrence-events
  43  24 |   b = recurrence-events
```

```
== Summary ===

orrectly Classified Instances         117               68.0233 %
ncorrectly Classified Instances        55               31.9767 %
appa statistic                          0.1822
ean absolute error                      0.3606
oot mean squared error                  0.5072
elative absolute error                 86.6716 %
oot relative squared error            108.0658 %
otal Number of Instances              172

== Detailed Accuracy By Class ===

                 TP Rate  FP Rate  Precision  Recall   F-Measure  MCC      ROC Area  PRC Area  Class
                 0.855    0.691    0.725      0.855    0.784      0.192    0.619     0.759     no-recurrence-events
                 0.309    0.145    0.500      0.309    0.382      0.192    0.615     0.416     recurrence-events
eighted Avg.     0.680    0.516    0.653      0.680    0.656      0.192    0.618     0.649

== Confusion Matrix ===

  a   b   <-- classified as
100  17 |   a = no-recurrence-events
 38  17 |   b = recurrence-events
```