

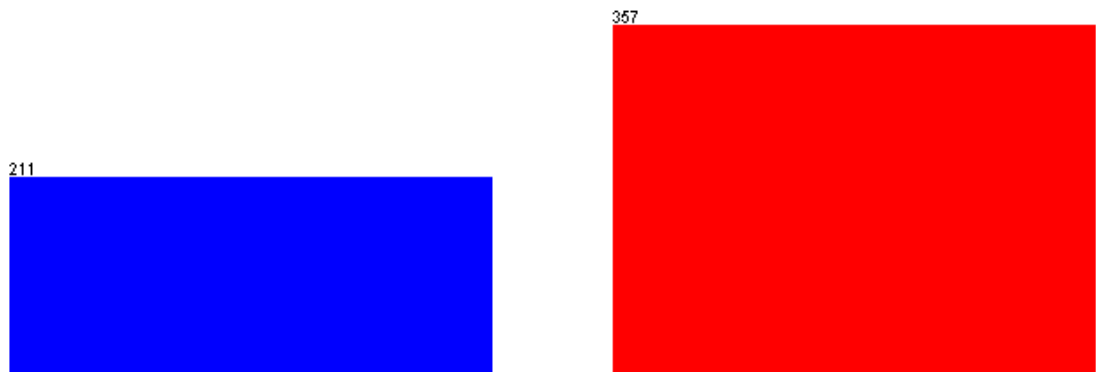
Exp 3 : Breast Cancer Wisconsin Dataset

Dataset Distribution and Classes:

- 2 Classes 'B' for benign and 'M' for malignin

Class: M (Nom) ▼

Visualize All



211 - Malignin

367 - Benign

Classifiers

Logistic -

Datasplit - 80 % => train , 20% => test

Learning rate => 1.0E-8

```
=== Evaluation on test split ===

Time taken to test model on test split: 0 seconds

=== Summary ===

Correctly Classified Instances      102           89.4737 %
Incorrectly Classified Instances     12           10.5263 %
Total Number of Instances          114

=== Detailed Accuracy By Class ===


                TP Rate  FP Rate  Precision  Recall   F-Measure  ROC Area  PRC Area  Class
                0.902    0.110    0.822     0.902    0.860     0.944    0.855     M
                0.890    0.098    0.942     0.890    0.915     0.933    0.935     B
Weighted Avg.   0.895    0.102    0.899     0.895    0.896     0.937    0.906

=== Confusion Matrix ===

  a  b  <-- classified as
37  4  |  a = M
 8 65  |  b = B
```

MultiLayer Perceptron

Hyperparameters

 weka.gui.GenericObjectEditor ✕

weka.classifiers.functions.MultilayerPerceptron

About

A classifier that uses backpropagation to learn a multi-layer perceptron to classify instances.

More

Capabilities

GUI

False

▼

autoBuild

True

▼

batchSize

100

debug

False

▼

decay

False

▼

doNotCheckCapabilities

False

▼

hiddenLayers

a

learningRate

0.3

momentum

0.2

nominalToBinaryFilter

True

▼

normalizeAttributes

True

▼

normalizeNumericClass

True

▼

numDecimalPlaces

2

This will normalize the class if it is numeric

reset

True

▼

resume

False

▼

seed

0

trainingTime

500

validationSetSize

0

Metrics

```
=== Evaluation on test split ===

Time taken to test model on test split: 0.01 seconds

=== Summary ===

Correctly Classified Instances      112          98.2456 %
Incorrectly Classified Instances     2           1.7544 %
Total Number of Instances          114

=== Detailed Accuracy By Class ===
```

	TP Rate	FP Rate	Precision	Recall	F-Measure	ROC Area	PRC Area	Class
	0.951	0.000	1.000	0.951	0.975	1.000	1.000	M
	1.000	0.049	0.973	1.000	0.986	1.000	1.000	B
Weighted Avg.	0.982	0.031	0.983	0.982	0.982	1.000	1.000	

```
=== Confusion Matrix ===

  a  b  <-- classified as
39  2 |  a = M
 0 73 |  b = B
```

Random Forest

Hyperparameters

KValue	<input type="text" value="0"/>
allowUnclassifiedInstances	<input type="text" value="False"/>
batchSize	<input type="text" value="100"/>
breakTiesRandomly	<input type="text" value="False"/>
debug	<input type="text" value="False"/>
doNotCheckCapabilities	<input type="text" value="False"/>
maxDepth	<input type="text" value="0"/>
minNum	<input type="text" value="1.0"/>
minVarianceProp	<input type="text" value="0.001"/>
numDecimalPlaces	<input type="text" value="2"/>
numFolds	<input type="text" value="0"/>
seed	<input type="text" value="1"/>

Metrics

```
=== Evaluation on test split ===

Time taken to test model on test split: 0 seconds

=== Summary ===

Correctly Classified Instances      104           91.2281 %
Incorrectly Classified Instances    10            8.7719 %
Total Number of Instances          114

=== Detailed Accuracy By Class ===
```

	TP Rate	FP Rate	Precision	Recall	F-Measure	ROC Area	PRC Area	Class
	0.829	0.041	0.919	0.829	0.872	0.894	0.823	M
	0.959	0.171	0.909	0.959	0.933	0.894	0.898	B
Weighted Avg.	0.912	0.124	0.913	0.912	0.911	0.894	0.871	

```
=== Confusion Matrix ===

 a  b  <-- classified as
34  7  |  a = M
 3 70  |  b = B
```

Clustering

Simple K-means clustering

Metrics

```
Time taken to build model (full training data) : 0.01 seconds

=== Model and evaluation on training set ===

Clustered Instances

0      188 ( 33%)
1      380 ( 67%)
```

Cluster visualization

