Contents

Chapter 1

Package cdc04

Package Contents *Page*

Classes

1.1 Class StateAnalyser

1.1.1 Declaration

```
public class StateAnalyser
 extends java.lang.Object implements java.io.Serializable
```

1.1.2 Constructor summary

StateAnalyser()

1.1.3 Method summary

addInstances(Instances)
getNumberDifferences()
getNumberIterations()

1.1.4 Constructors

- **StateAnalyser**

```
public StateAnalyser()
```

1.1.5 Methods

- **addInstances**

```
public void addInstances(weka.core.Instances toAdd)
```

- **getNumberDifferences**

```
public int getNumberDifferences()
```

- **getNumberIterations**

```
public int getNumberIterations()
```

Chapter 2

Package weka.classifiers.meta

Package Contents *Page*

Classes

2.1 Class ProjectClassifier

A classifier which is iteratively trained, imputing missing values into copies of the training data until no further change is observed. Builds one learner per attribute, and therefore can take quite a while to run. Valid options are:

```
-W classifier
Full path to the target classifier to use, e.g. weka.classifiers.trees.J48

-S
Defines whether or not the classifier will impute a value for the class
attribute as it trains.

-R
If set, the classifiers will be trained with any missing arguments filled in
by random data. The classifier will then only iterate once.

-M integer
Sets the maximum number of times that a particular classifier will iterate
before determining that it is trained.
```

Options after – are passed to the currently selected classifier.

2.1.1 Declaration

```
public class ProjectClassifier
```

extends weka.classifiers.SingleClassifierEnhancer **implements** weka.classifiers.IterativeClassifier

2.1.2 Constructor summary

ProjectClassifier() Constructor

2.1.3 Method summary

buildClassifier(Instances) Builds a set of classifiers based on the training data.
classifierOptionsTipText() Tip text to be displayed in the GUI for this property
classifyInstance(Instance) Classifies an instance.
defaultClassifierString() String describing default classifier.
distributionForInstance(Instance) Returns class probabilities for an instance.
done() Method called when iteration has terminated.
getCapabilities() Returns default capabilities of the classifier.
getClassifierOptions() Gets classifier options
getMaxIterations() Get the value of m_MaxIterations
getOptions() Gets the current settings of the Classifier.
getRandomData() Get the value of m_RandomData
getSupervised() Get the value of m_Supervised
globalInfo() Global information about the class
initializeClassifier(Instances) Makes copies of the training data which can be mutated, and initialise the array of Classifier objects
listOptions() Returns an enumeration describing the available options.
main(String[]) Main method for testing this class.
maxIterationsTipText() Tip text to be displayed in the GUI for this property
next() Retrains each of the classifiers, then attempts to impute missing data in a copy of the training data.
randomDataTipText() Tip text to be displayed in the GUI for this property
setClassifierOptions(String[]) Sets classifier options
setMaxIterations(int) Set the value of m_MaxIterations.
setOptions(String[]) Parses a given list of options.
setRandomData(boolean) Set the value of m_RandomData
setSupervised(boolean) Set the value of m_Supervised
supervisedTipText() Tip text to be displayed in the GUI for this property

2.1.4 Constructors

- **ProjectClassifier**

  public ProjectClassifier()

  - **Description**
    Constructor

2.1.5 Methods

- **buildClassifier**

  ```
  public void buildClassifier(weka.core.Instances data) throws
      java.lang.Exception
  ```

  - **Description**
    Builds a set of classifiers based on the training data. These are iteratively trained on copies of the data.
  - **Parameters**
    * `data` – the Instances object which comprises the training data
  - **Throws**
    * `java.lang.Exception` – exception thrown is raised to a Weka error handler

- **classifierOptionsTipText**

  ```
  public java.lang.String classifierOptionsTipText()
  ```

  - **Description**
    Tip text to be displayed in the GUI for this property
  - **Returns** – tip text to be displayed in the GUI

- **classifyInstance**

  ```
  public double classifyInstance(weka.core.Instance instance)
      throws java.lang.Exception
  ```

  - **Description**
    Classifies an instance.
  - **Parameters**
    * `instance` – the instance to classify
  - **Returns** – the classification for the instance
  - **Throws**
    * `java.lang.Exception` – if instance can't be classified successfully

- **defaultClassifierString**

  ```
  protected java.lang.String defaultClassifierString()
  ```

  - **Description**
    String describing default classifier.

- **distributionForInstance**

```
public double[] distributionForInstance(weka.core.Instance
    instance) throws java.lang.Exception
```

  - **Description**
    Returns class probabilities for an instance.
  - **Parameters**
    - `instance` – the instance to calculate the class probabilities for
  - **Returns** – the class probabilities
  - **Throws**
    - `java.lang.Exception` – if distribution can't be computed successfully

- **done**

```
public void done() throws java.lang.Exception
```

  - **Description**
    Method called when iteration has terminated. Imputes class values if m_Supervised is set.

- **getCapabilities**

```
public weka.core.Capabilities getCapabilities()
```

  - **Description**
    Returns default capabilities of the classifier.
  - **Returns** – the capabilities of this classifier

- **getClassifierOptions**

```
public java.lang.String[] getClassifierOptions()
```

  - **Description**
    Gets classifier options
  - **Returns** – array of String objects to be passed to each classifier

- **getMaxIterations**

```
public int getMaxIterations()
```

  - **Description**
    Get the value of m_MaxIterations
  - **Returns** – value of m_MaxIterations

- **getOptions**

```
public java.lang.String[] getOptions()
```

  - **Description**
    Gets the current settings of the Classifier.
  - **Returns** – an array of strings suitable for passing to setOptions

- **getRandomData**

```
public boolean getRandomData()
```

  - **Description**
    Get the value of m_RandomData
  - **Returns** – value of m_RandomData

- **getSupervised**

```
public boolean getSupervised()
```

  - **Description**
    Get the value of m_Supervised
  - **Returns** – value of m_Supervised

- **globalInfo**

```
public java.lang.String globalInfo()
```

  - **Description**
    Global information about the class
  - **Returns** – information about the classifier which is displayed in the CLI/GUI

- **initializeClassifier**

```
public void initializeClassifier(weka.core.Instances instances)
  throws java.lang.Exception
```

  - **Description**
    Makes copies of the training data which can be mutated, and initialise the array of Classifier objects
  - **Parameters**
    * `instances` – the training data

- **listOptions**

```
public java.util.Enumeration listOptions()
```

  - **Description**
    Returns an enumeration describing the available options.
  - **Returns** – an enumeration of all the available options.

- **main**

```
public static void main(java.lang.String[] args)
```

  - **Description**
    Main method for testing this class.
  - **Parameters**
    * `args` – the options

- **maxIterationsTipText**

```
public java.lang.String maxIterationsTipText()
```

  - **Description**
    Tip text to be displayed in the GUI for this property
  - **Returns** – tip text to be displayed in the GUI

- **next**

```
public boolean next() throws java.lang.Exception
```

  - **Description**
    Retrains each of the classifiers, then attempts to impute missing data in a copy of the training data. Does not iterate again if the results of current iteration match the results of the previous iteration, or the max number of iterations has been reached.
  - **Returns** – true if another iteration should be performed, otherwise false.

- **randomDataTipText**

  ```
  public java.lang.String randomDataTipText()
  ```

  - **Description**
    Tip text to be displayed in the GUI for this property
  - **Returns** – tip text to be displayed in the GUI

- **setClassifierOptions**

  ```
  public void setClassifierOptions(java.lang.String[]
      classifierOptions)
  ```

  - **Description**
    Sets classifier options
  - **Parameters**
    * `classifierOptions` – array of String objects to be passed to each classifier

- **setMaxIterations**

  ```
  public void setMaxIterations(int maxIterations)
  ```

  - **Description**
    Set the value of m_MaxIterations. Defaults to Integer.MAX_VALUE if value less than 0 is supplied.
  - **Parameters**
    * `maxIterations` – new value of m_MaxIterations

- **setOptions**

  ```
  public void setOptions(java.lang.String[] options) throws java.
      lang.Exception
  ```

  - **Description**
    Parses a given list of options. Valid options are:
    -W classifier
    Full path to the target classifier to use, e.g. weka.classifiers.trees.J48
    -S
    Defines whether or not the classifier will impute a value for the class attribute as it trains.

-R
If set, the classifiers will be trained with any missing arguments filled in by random data. The classifier will then only iterate once.
-M integer
Sets the maximum number of times that a particular classifier will iterate before determining that it is trained.
Options after – are passed to the currently selected classifier.

- **Parameters**
  - `options` – The list of options as an array of Strings
- **Throws**
  - `java.lang.Exception` – if an option is not supported

- **setRandomData**

```
public void setRandomData(boolean randomData)
```

  - **Description**
    Set the value of m_RandomData
  - **Parameters**
    - `randomData` – new value of m_RandomData

- **setSupervised**

```
public void setSupervised(boolean supervised)
```

  - **Description**
    Set the value of m_Supervised
  - **Parameters**
    - `supervised` – the new value of m_Supervised

- **supervisedTipText**

```
public java.lang.String supervisedTipText()
```

  - **Description**
    Tip text to be displayed in the GUI for this property
  - **Returns** – tip text to be displayed in the GUI

2.1.6 Members inherited from class SingleClassifierEnhancer

weka.classifiers.SingleClassifierEnhancer

- public String **classifierTipText**()
- protected String **defaultClassifierOptions**()
- protected String **defaultClassifierString**()
- public Capabilities **getCapabilities**()
- public Classifier **getClassifier**()
- protected String **getClassifierSpec**()
- public String **getOptions**()
- public Enumeration **listOptions**()
- protected **m_Classifier**
- public void **postExecution**() throws java.lang.Exception
- public void **preExecution**() throws java.lang.Exception
- public void **setClassifier**(Classifier **arg0**)
- public void **setOptions**(java.lang.String[] **arg0**) throws java.lang.Exception

2.1.7 Members inherited from class AbstractClassifier

weka.classifiers.AbstractClassifier

- public static **BATCH_SIZE_DEFAULT**
- public String **batchSizeTipText**()
- public double **classifyInstance**(weka.core.Instance **arg0**) throws java.lang.Exception
- public String **debugTipText**()
- public double **distributionForInstance**(weka.core.Instance **arg0**) throws java.lang.Exception
- public double **distributionsForInstances**(weka.core.Instances **arg0**) throws java.lang.Exception
- public String **doNotCheckCapabilitiesTipText**()
- public static Classifier **forName**(java.lang.String **arg0**, java.lang.String[] **arg1**) throws java.lang.Exception
- public String **getBatchSize**()
- public Capabilities **getCapabilities**()
- public boolean **getDebug**()
- public boolean **getDoNotCheckCapabilities**()
- public int **getNumDecimalPlaces**()
- public String **getOptions**()
- public String **getRevision**()
- public boolean **implementsMoreEfficientBatchPrediction**()
- public Enumeration **listOptions**()
- protected **m_BatchSize**
- protected **m_Debug**
- protected **m_DoNotCheckCapabilities**
- protected **m_numDecimalPlaces**
- public static Classifier **makeCopies**(Classifier **arg0**, int **arg1**) throws java.lang.Exception
- public static Classifier **makeCopy**(Classifier **arg0**) throws java.lang.Exception
- public static **NUM_DECIMAL_PLACES_DEFAULT**
- public String **numDecimalPlacesTipText**()
- public void **postExecution**() throws java.lang.Exception
- public void **preExecution**() throws java.lang.Exception
- public void **run**(java.lang.Object **arg0**, java.lang.String[] **arg1**) throws java.lang.Exception
- public static void **runClassifier**(Classifier **arg0**, java.lang.String[] **arg1**)
- public void **setBatchSize**(java.lang.String **arg0**)
- public void **setDebug**(boolean **arg0**)
- public void **setDoNotCheckCapabilities**(boolean **arg0**)
- public void **setNumDecimalPlaces**(int **arg0**)
- public void **setOptions**(java.lang.String[] **arg0**) throws java.lang.Exception