

Classification Algorithms System

V0.1

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Chapter 1

Hierarchical Index

1.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

Classifier	5
DualClassifier	10
PrimalClassifier	11
CrossValidation	5
Data	6
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Chapter 2

Class Index

2.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

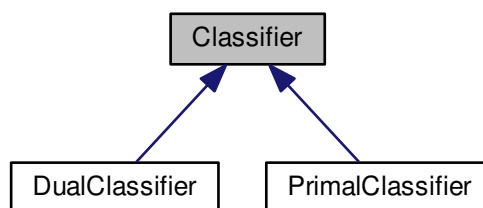
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Chapter 3

Class Documentation

3.1 Classifier Class Reference

Inheritance diagram for Classifier:



The documentation for this class was generated from the following file:

- `/home/mateus558/Dropbox/Aprendizado de Máquinas/Classification Algorithms System/Classifier.hpp`

3.2 CrossValidation Class Reference

Public Member Functions

- **CrossValidation** ([Data](#) sample, [Classifier](#) classifier)
- double **kFold** (int fold, int seed)
- void **validation** (int fold, int qtde)
- [Data](#) **getTestSample** ()
- [Data](#) **getTrainSample** ()

The documentation for this class was generated from the following file:

- `/home/mateus558/Dropbox/Aprendizado de Máquinas/Classification Algorithms System/CrossValidation.hpp`

3.3 Data Class Reference

Wrapper for the dataset data.

```
#include <Data.hpp>
```

Public Member Functions

- int [getSize](#) ()
Returns the size of the dataset.
- int [getDim](#) ()
Returns the dimension of the dataset.
- vector< int > [getFeaturesNames](#) ()
Returns the features names.
- int [getNumberPositivePoints](#) ()
Return the number of positive points.
- int [getNumberNegativePoints](#) ()
Return the number of negative points.
- bool [isEmpty](#) ()
Returns if there's a dataset loaded.
- bool [loadDataset](#) (string file)
Load a dataset from a file.
- [Data](#) [copy](#) ()
Returns a copy of the data.
- bool [removePoint](#) (int pid)
Remove a point from the data.
- bool [insertPoint](#) ([Data](#) sample, int id)
Insert a point to the data from another sample.
- bool [removePoint](#) (vector< int > ids)
Remove several points from the sample.

3.3.1 Detailed Description

Wrapper for the dataset data.

3.3.2 Member Function Documentation

3.3.2.1 [copy\(\)](#)

```
Data Data::copy ( )
```

Returns a copy of the data.

Returns

[Data](#)

3.3.2.2 getDim()

```
int Data::getDim ( )
```

Returns the dimension of the dataset.

Returns

int

3.3.2.3 getFeaturesNames()

```
vector<int> Data::getFeaturesNames ( )
```

Returns the features names.

Returns

vector<int>

3.3.2.4 getNumberNegativePoints()

```
int Data::getNumberNegativePoints ( )
```

Return the number of negative points.

Returns

int

3.3.2.5 getNumberPositivePoints()

```
int Data::getNumberPositivePoints ( )
```

Return the number of positive points.

Returns

int

3.3.2.6 getSize()

```
int Data::getSize ( )
```

Returns the size of the dataset.

Returns

int

3.3.2.7 insertPoint()

```
bool Data::insertPoint (
    Data sample,
    int id )
```

Insert a point to the data from another sample.

Parameters

<i>sample</i>	(???) Sample with the point to be added.
<i>id</i>	(???) Index of the point to be added.

Returns

bool

3.3.2.8 isEmpty()

```
bool Data::isEmpty ( )
```

Returns if there's a dataset loaded.

Returns

bool

3.3.2.9 loadDataset()

```
bool Data::loadDataset (
    string file )
```

Load a dataset from a file.

Parameters

<i>file</i>	(???) Path to dataset file.
-------------	-----------------------------

Returns

bool

3.3.2.10 removePoint() [1/2]

```
bool Data::removePoint (
    int pid )
```

Remove a point from the data.

Parameters

<i>pid</i>	(???) Index of the point to be removed.
------------	---

Returns

bool

3.3.2.11 removePoint() [2/2]

```
bool Data::removePoint (
    vector< int > ids )
```

Remove several points from the sample.

Parameters

<i>ids</i>	(???) Ids of the points to be removed.
------------	--

Returns

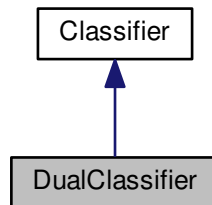
bool

The documentation for this class was generated from the following file:

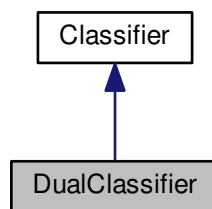
- /home/mateus558/Dropbox/Aprendizado de Máquinas/Classification Algorithms System/Data.hpp

3.4 DualClassifier Class Reference

Inheritance diagram for DualClassifier:



Collaboration diagram for DualClassifier:



The documentation for this class was generated from the following file:

- /home/mateus558/Dropbox/Aprendizado de Máquinas/Classification Algorithms System/DualClassifier.hpp

3.5 FeatureSelection Class Reference

The documentation for this class was generated from the following file:

- /home/mateus558/Dropbox/Aprendizado de Máquinas/Classification Algorithms System/FeatureSelection.↔
hpp

3.6 Point Class Reference

Public Attributes

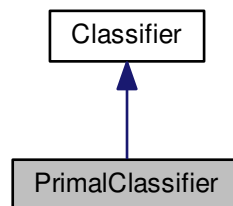
- `vector< double > x`
Features values.
- `double y`
Point classification.

The documentation for this class was generated from the following file:

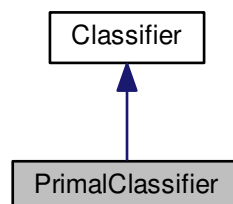
- `/home/mateus558/Dropbox/Aprendizado de Máquinas/Classification Algorithms System/Point.hpp`

3.7 PrimalClassifier Class Reference

Inheritance diagram for PrimalClassifier:



Collaboration diagram for PrimalClassifier:



The documentation for this class was generated from the following file:

- `/home/mateus558/Dropbox/Aprendizado de Máquinas/Classification Algorithms System/PrimalClassifier.hpp`

3.8 Solution Class Reference

The documentation for this class was generated from the following file:

- `/home/mateus558/Dropbox/Aprendizado de Máquinas/Classification Algorithms System/Solution.hpp`

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