
preprocessor Documentation

Release unknown

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Implements modular components for dataset preprocessing: a data-trimmer, a standardizer, a feature selector and a sliding window data generator.

1.1 License

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1.2 Contributors

- Harvey Bastidas <harveybc@ingeni-us.com>

1.3 Changelog

1.3.1 Version 0.1

- Feature A added

- FIX: nasty bug #1729 fixed
- add your changes here!

1.4 preprocessor

1.4.1 preprocessor package

1.4.1.1 Subpackages

preprocessor.data_trimmer package

Submodules

preprocessor.data_trimmer.data_trimmer module

This File contains the DataTrimmer class. To run this script uncomment or add the following lines in the [options.entry_points] section in setup.cfg:

```
console_scripts = data-trimmer = data_trimmer.__main__:main
```

Then run *python setup.py install* which will install the command *data-trimmer* inside your current environment.

```
class preprocessor.data_trimmer.data_trimmer.DataTrimmer(conf)
```

Bases: *preprocessor.preprocessor.Preprocessor*

The Data Trimmer preprocessor class

```
core()
```

Core preprocessor task after starting the instance with the main method. Decide from the arguments, what trimming method to call.

Args: args (obj): command line parameters as objects

```
load_from_config()
```

```
parse_args(args)
```

Parse command line parameters

Parameters args ([*str*]) – command line parameters as list of strings

Returns command line parameters namespace

Return type *argparse.Namespace*

```
store()
```

Save preprocessed data and the configuration of the preprocessor.

```
trim_auto()
```

Trims all the constant columns and trims all rows with consecutive zeroes from start and end of the input dataset

Returns: rows_t, cols_t (int,int): number of rows and columns trimmed

```
trim_columns()
```

Trims all the constant columns from the input dataset

Returns number of rows and columns trimmed

Return type rows_t, cols_t (int,int)

trim_fixed_rows (*from_start, from_end*)

Trims a configurable number of rows from the start or end of the input dataset

Parameters

- **from_start** (*int*) – number of rows to remove from start (ignored if auto_trim)
- **from_end** (*int*) – number of rows to remove from end (ignored if auto_trim)

Returns number of rows and columns trimmed

Return type rows_t, cols_t (int,int)

preprocessor.data_trimmer.data_trimmer.**run** (*args*)

Entry point for console_scripts

Module contents

preprocessor.feature_selector package

Submodules

preprocessor.feature_selector.feature_selector module

This File contains the FeatureSelector class. To run this script uncomment or add the following lines in the [options.entry_points] section in setup.cfg:

```
console_scripts = feature_selector = feature_selector.__main__:main
```

Then run `python setup.py install` which will install the command `feature_selector` inside your current environment.

```
class preprocessor.feature_selector.feature_selector.FeatureSelector (conf)
Bases: preprocessor.preprocessor.Preprocessor
```

The FeatureSelector preprocessor class

core ()

Core preprocessor task after starting the instance with the main method. Decide from the arguments, what method to call.

Args: args (obj): command line parameters as objects

feature_selection ()

Process the dataset.

load_from_config ()

Process the dataset from a config file.

parse_args (*args*)

Parse command line parameters

Parameters *args* (*[str]*) – command line parameters as list of strings

Returns command line parameters namespace

Return type `argparse.Namespace`

store ()

Save preprocessed data and the configuration of the preprocessor.

`preprocessor.feature_selector.feature_selector.run(args)`

Entry point for console_scripts

`preprocessor.feature_selector.feature_selector.score_func_classification(X, Y)`

Used to score the features for feature selection, for regression. To be used in the `fFeatureSelector.feature_selection()` method.

`preprocessor.feature_selector.feature_selector.score_func_regression(X, Y)`

Used to score the features for feature selection, for regression. To be used in the `fFeatureSelector.feature_selection()` method.

Module contents

preprocessor.sliding_window package

Submodules

preprocessor.sliding_window.sliding_window module

This File contains the SlidingWindow class. To run this script uncomment or add the following lines in the [options.entry_points] section in setup.cfg:

```
console_scripts = sliding_window = sliding_window.__main__:main
```

Then run `python setup.py install` which will install the command `sliding_window` inside your current environment.

class `preprocessor.sliding_window.sliding_window.SlidingWindow(conf)`

Bases: `preprocessor.preprocessor.Preprocessor`

The SlidingWindow preprocessor class

core()

Core preprocessor task after starting the instance with the main method. Decide from the arguments, what method to call.

Args: `args (obj)`: command line parameters as objects

parse_args(args)

Parse command line parameters additional to the preprocessor class ones

Parameters `args ([str])` – command line parameters as list of strings

Returns command line parameters namespace

Return type `argparse.Namespace`

sl_window()

Perform sliding window technique on the input the dataset.

store()

Save preprocessed data and the configuration of the preprocessor.

`preprocessor.sliding_window.sliding_window.run(args)`

Entry point for console_scripts

Module contents

preprocessor.standardizer package

Submodules

preprocessor.standardizer.standardizer module

This File contains the Standardizer class. To run this script uncomment or add the following lines in the [options.entry_points] section in setup.cfg:

```
console_scripts = standardizer = standardizer.__main__:main
```

Then run `python setup.py install` which will install the command `standardizer` inside your current environment.

```
class preprocessor.standardizer.standardizer.Standardizer (conf)
```

Bases: `preprocessor.preprocessor.Preprocessor`

The Standardizer preprocessor class

```
core ()
```

Core preprocessor task after starting the instance with the main method. Decide from the arguments, what method to call.

Args: args (obj): command line parameters as objects

```
load_from_config ()
```

Standardize the dataset from a config file.

```
parse_args (args)
```

Parse command line parameters

Parameters `args` (`[str]`) – command line parameters as list of strings

Returns command line parameters namespace

Return type `argparse.Namespace`

```
standardize ()
```

Standardize the dataset.

```
store ()
```

Save preprocessed data and the configuration of the preprocessor.

```
preprocessor.standardizer.standardizer.run (args)
```

Entry point for console_scripts

Module contents

1.4.1.2 Submodules

1.4.1.3 preprocessor.confest module

1.4.1.4 preprocessor.preprocessor module

This File contains the Preprocessor class, it is the base class for DataTrimmer, FeatureSelector, Standardizer and SlidingWindow classes.

class `preprocessor.preprocessor.Preprocessor` (*conf*)
Bases: `preprocessor.preprocessor_base.PreprocessorBase`
Base class for DataTrimmer, FeatureSelector, Standardizer, SlidingWindow.

assign_arguments (*pargs*)

core ()
Core preprocessor task after starting the instance with the main method. To be overridden by child classes depending on their preprocessor task.

main (*args*)
Starts an instance. Main entry point allowing external calls. Starts logging, parse command line arguments and start core.
Args: *args* ([str]): command line parameter list

parse_args (*args*)
Parse command line parameters, to be overridden by child classes depending on their command line parameters if they are console scripts.
Args: *args* ([str]): command line parameters as list of strings
Returns: `argparse.Namespace`: command line parameters namespace

parse_cmd (*parser*)

store ()
Save preprocessed data and the configuration of the preprocessor.

1.4.1.5 preprocessor.preprocessor_base module

This File contains the Preprocessor class, it is the base class for DataTrimmer, FeatureSelector, Standardizer, SlidingWindow.

class `preprocessor.preprocessor_base.PreprocessorBase` (*conf*)
Bases: `object`
Base class for Preprocessor.

input_file = `None`
Path of the input dataset

load_ds ()
Save preprocessed data and the configuration of the preprocessor.

output_file = `None`
Path of the output dataset

setup_logging (*loglevel*)
Setup basic logging.
Args: *loglevel* (int): minimum loglevel for emitting messages

1.4.1.6 Module contents

CHAPTER 2

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