

Package: tmcn (via r-universe)

August 24, 2024

License LGPL

Title A Text Mining Toolkit for Chinese

Type Package

LazyLoad yes

Author Jian Li

Maintainer Jian Li <rweibo@sina.com>

Description A Text mining toolkit for Chinese, which includes facilities for Chinese string processing, Chinese NLP supporting, encoding detecting and converting. Moreover, it provides some functions to support 'tm' package in Chinese.

Version 0.2-13

Date 2019-08-04

Depends R (>= 3.0.0), utils

Suggests tm

RoxygenNote 6.1.1

NeedsCompilation yes

Repository CRAN

Date/Publication 2019-08-08 04:40:02 UTC

Contents

catUTF8	2
createDTM	3
createWordFreq	4
GBK	4
getCharset	5
isBIG5	6
isGB18030	6
isGB2312	7
isGBK	8
isUTF8	8

left	9
NTUSD	10
revUTF8	10
setchs	11
SIMTRA	11
SPORT	12
STOPWORDS	12
stopwordsCN	13
strcap	13
strextract	14
strpad	15
rstrip	16
toPinyin	16
toTrad	17
toUTF8	18

Index 19

catUTF8	<i>Print the UTF-8 codes of a string.</i>
---------	---

Description

Print the UTF-8 codes of a string.

Usage

```
catUTF8(string, file = "")
```

Arguments

string	A character vector.
file	A connection , or a character string naming the file to print to. If "" (the default), cat prints to the standard output connection, the console unless redirected by sink .

Value

No results.

Author(s)

Jian Li <<rweibo@sina.com>>

Examples

```
catUTF8("hello")
```

createDTM	<i>Create a Chinese term-document matrix or a document-term matrix.</i>
-----------	---

Description

Create a Chinese term-document matrix or a document-term matrix.

Usage

```
createDTM(string, language = c("zh", "en"), tokenize = NULL, removePunctuation = TRUE,  
  removeNumbers = TRUE, removeStopwords = TRUE)  
createTDM(string, language = c("zh", "en"), tokenize = NULL, removePunctuation = TRUE,  
  removeNumbers = TRUE, removeStopwords = TRUE)
```

Arguments

string	A character vector.
language	The language type, 'zh' means Chinese.
tokenize	A tokenizers function.
removePunctuation	Whether to remove the punctuations.
removeNumbers	Whether to remove the numbers.
removeStopwords	Whether to remove the stop words.

Details

Package "tm" is required.

Value

An object of class `TermDocumentMatrix` or class `DocumentTermMatrix`.

Author(s)

Jian Li <<rweibo@sina.com>>

`createWordFreq` *Create a word frequency data.frame.*

Description

Create a word frequency data.frame.

Usage

```
createWordFreq(obj, onlyCN = TRUE, nosymbol = TRUE, stopwords = NULL,  
               useStopDic = FALSE)
```

Arguments

<code>obj</code>	A character vector or <code>DocumentTermMatrix</code> to calculate words frequency.
<code>onlyCN</code>	Whether to keep only Chinese words.
<code>nosymbol</code>	Whether to keep symbols.
<code>stopwords</code>	A character vector of stop words.
<code>useStopDic</code>	Whether to use the default stop words.

Value

A data.frame.

Author(s)

Jian Li <<rweibo@sina.com>>

Examples

```
createWordFreq(c("a", "a", "b", "c"), onlyCN = FALSE, nosymbol = TRUE, useStopDic = FALSE)
```

`GBK` *GBK character set*

Description

GBK character set including some useful information.

Usage

```
data(GBK)
```

Format

A data frame with 8 columns.

GBK Chinese characters in UTF-8.

py0 Unique Pinyin of each character.

py Pinyin string of each character.

Radical In Chinese, it means 'Bu Shou'.

Stroke_Num_Radical In Chinese, it means the number of 'Bi Hua'.

Stroke_Order In Chinese, it means 'Bi Shun'.

Structure In Chinese, it means 'Zi Ti Jie Gou'.

Freq Frequency of the character in Sogou news corpus from all sites between June and July 2012.

Author(s)

Jian Li <<rweibo@sina.com>>

getCharset

Get the current encoding of the locale.

Description

Get the current encoding of the locale.

Usage

getCharset()

Value

Character of encoding.

Author(s)

Jian Li <<rweibo@sina.com>>

Examples

getCharset()

isBIG5

Indicate whether the encoding of input string is BIG5.

Description

Indicate whether the encoding of input string is BIG5.

Usage

```
isBIG5(string, combine = FALSE)
```

Arguments

string	A character vector.
combine	Whether to combine all the strings.

Value

Logical value.

Author(s)

Jian Li <<rweibo@sina.com>>

Examples

```
isBIG5("hello")
```

isGB18030

Indicate whether the encoding of input string is GB18030.

Description

Indicate whether the encoding of input string is GB18030.

Usage

```
isGB18030(string, combine = FALSE)
```

Arguments

string	A character vector.
combine	Whether to combine all the strings.

Value

Logical value.

Author(s)

Jian Li <<rweibo@sina.com>>

Examples

```
isGB18030("hello")
```

isGB2312

Indicate whether the encoding of input string is GB2312.

Description

Indicate whether the encoding of input string is GB2312.

Usage

```
isGB2312(string, combine = FALSE)
```

Arguments

string	A character vector.
combine	Whether to combine all the strings.

Value

Logical value.

Author(s)

Jian Li <<rweibo@sina.com>>

Examples

```
isGB2312("hello")
```

isGBK *Indicate whether the encoding of input string is GBK.*

Description

Indicate whether the encoding of input string is GBK.

Usage

```
isGBK(string, combine = FALSE)
```

Arguments

string	A character vector.
combine	Whether to combine all the strings.

Value

Logical value.

Author(s)

Jian Li <<rweibo@sina.com>>

Examples

```
isGBK("hello")
```

isUTF8 *Indicate whether the encoding of input string is UTF-8.*

Description

Indicate whether the encoding of input string is UTF-8.

Usage

```
isUTF8(string, combine = FALSE)
```

Arguments

string	A character vector.
combine	Whether to combine all the strings.

Value

Logical value.

Author(s)

Jian Li <<rweibo@sina.com>>

Examples

```
isUTF8("hello")
```

left

Extract the left or right substrings in a character vector.

Description

Extract the left or right substrings in a character vector.

Usage

```
left(string, n)  
right(string, n)
```

Arguments

string A character vector.
n How many characters.

Value

A character vector.

Author(s)

Jian Li <<rweibo@sina.com>>

Examples

```
left("hello", 3)
```

NTUSD

National Taiwan University Semantic Dictionary

Description

National Taiwan University Semantic Dictionary.

Usage

data(NTUSD)

Format

A list with 4 components.

positive_chs Positive words in simplified Chinese
negative_chs Negative words in simplified Chinese
positive_cht Positive words in traditional Chinese
negative_cht Negative words in traditional Chinese

References

<http://nlg.csie.ntu.edu.tw>

revUTF8

Revert UTF-8 string to Chinese character.

Description

Revert UTF-8 string to Chinese character.

Usage

```
revUTF8(string, utype = "R")
```

Arguments

string A character vector.
utype UTF-8 string type, the default is R type, such as "<U+XXXX>".

Value

A character vector.

Author(s)

Jian Li <<rweibo@sina.com>>

setchs	<i>Set locale to Simplified Chinese/Traditional Chinese/UK.</i>
--------	---

Description

Set locale to Simplified Chinese/Traditional Chinese/UK.

Usage

```
setchs(rev = FALSE)
setcht(rev = FALSE)
setuk(rev = FALSE)
```

Arguments

rev Whethet to set the locale back.

Value

No results.

Author(s)

Jian Li <<rweibo@sina.com>>

Examples

```
setchs()
setchs(rev = TRUE)
```

SIMTRA	<i>Dictionary of simplified and traditional Chinese</i>
--------	---

Description

Dictionary of simplified and traditional Chinese.

Usage

```
data(SIMTRA)
```

Format

A data frame with 2 columns.

Sim a simplified Chinese string.

Tra a traditional Chinese string.

SPORT

Sport news.

Description

Sport news.

Usage

data(SPORT)

Format

A data frame with 6 columns.

id ID of the news.

time Time of the news.

title Title of the news.

class Class of the news, 'B' means Basketball, 'F' means Football.

abstract Abstract of the news.

content Content of the news.

STOPWORDS

Dictionary of Chinese stop words

Description

Dictionary of Chinese stop words.

Usage

data(STOPWORDS)

Format

A data frame with 1 column.

word a string vector of the stop words.

stopwordsCN	<i>Return Chinese stop words.</i>
-------------	-----------------------------------

Description

Return Chinese stop words.

Usage

```
stopwordsCN(stopwords = NULL, useStopDic = TRUE)
```

Arguments

stopwords	A character vector of stop words.
useStopDic	Whether to use the default stop words.

Value

A vector of stop words.

Author(s)

Jian Li <<rweibo@sina.com>>

Examples

```
stopwordsCN("yes", useStopDic = FALSE)
```

strcap	<i>Mixed case capitalizing.</i>
--------	---------------------------------

Description

To capitalize every first letter of a word.

Usage

```
strcap(string, strict = FALSE)
```

Arguments

string	A character vector.
strict	Whether strict.

Value

A character vector with the first letter of each word capitalized.

Author(s)

Jian Li <<rweibo@sina.com>>

Examples

```
strcap("the quick red fox jumps over the lazy brown dog")
```

strextract

Extract matched substrings by regular expression.

Description

Extract matched substrings by regular expression.

Usage

```
strextract(string, pattern, invert = FALSE, ignore.case = FALSE,
           perl = FALSE, useBytes = FALSE)
```

Arguments

string	A character vector.
pattern	A character string containing a regular expression to be matched in the given character vector.
invert	A logical value: if TRUE, extract the non-matched substrings.
ignore.case	If FALSE, the pattern matching is case sensitive and if TRUE, case is ignored during matching.
perl	A logical value. Should perl-compatible regexps be used?
useBytes	A logical value. If TRUE the matching is done byte-by-byte rather than character-by-character.

Value

A character vector with the matched or non-matched substrings.

Author(s)

Jian Li <<rweibo@sina.com>>

Examples

```
txt1 <- c("\t(x1)a(aa2)a ", " bb(bb)")
strextact(txt1, "\\([^\n])*\n")
txt2 <- c(" Ben Franklin and Jefferson Davis", "\tMillard Fillmore")
strextact(txt2, "(?<first>[[:upper:]]+[[:lower:]]+)", perl = TRUE)
```

strpad

Pad a string to a specified length with a padding character.

Description

Pad a string to a specified length with a padding character.

Usage

```
strpad(string, width = 0, side = c("left", "right", "both"),
       pad = " ")
```

Arguments

string	A character vector.
width	The number of characters of the string after padding.
side	Which side to pad.
pad	The padding character.

Value

A character vector after padding.

Author(s)

Jian Li <<rweibo@sina.com>>

Examples

```
strpad(1:5, width = 4, pad = "0")
```

rstrip *Trim space of a string.*

Description

Trim space of a string.

Usage

```
rstrip(string, side = c("both", "left", "right"))
```

Arguments

string A character vector.
side Which side of the string to be trimmed, 'both', 'left' or 'right'.

Value

Trimmed vector.

Author(s)

Jian Li <<rweibo@sina.com>>

Examples

```
rstrip(c("\taaaa ", " bbbb  "))
```

toPinyin *Convert a chinese text to pinyin format.*

Description

Convert a chinese text to pinyin format.

Usage

```
toPinyin(string, capitalize = FALSE)
```

Arguments

string A character vector.
capitalize Whether to capitalize the first letter of each word.

Value

A character vector in pinyin format.

Author(s)

Jian Li <<rweibo@sina.com>>

Examples

toPinyin("the quick red fox jumps over the lazy brown dog")

toTrad	<i>Convert a Chinese text from simplified to traditional characters and vice versa.</i>
--------	---

Description

Convert a chinese text from simplified to traditional characters and vice versa.

Usage

toTrad(string, rev = FALSE)

Arguments

string A Chinese string vector.
rev Reverse. TRUE means traditional to simplified. Default is FALSE.

Value

Converted vectors.

Author(s)

Jian Li <<rweibo@sina.com>>

Examples

toTrad("hello")

`toUTF8`*Convert encoding of Chinese string to UTF-8.*

Description

Convert encoding of Chinese string to UTF-8.

Usage

```
toUTF8(cnstring)
```

Arguments

`cnstring` A Chinese string vector.

Value

Converted vectors.

Author(s)

Jian Li <<rweibo@sina.com>>

Examples

```
toUTF8("hello")
```

Index

* NLP

createdDTM, 3

* datasets

GBK, 4

NTUSD, 10

SIMTRA, 11

SPORT, 12

STOPWORDS, 12

* string

strcap, 13

strextact, 14

strpad, 15

strstrip, 16

toPinyin, 16

catUTF8, 2

connection, 2

createdDTM, 3

createTDM (createdDTM), 3

createWordFreq, 4

GBK, 4

getCharset, 5

isBIG5, 6

isGB18030, 6

isGB2312, 7

isGBK, 8

isUTF8, 8

left, 9

NTUSD, 10

revUTF8, 10

right (left), 9

setchs, 11

setcht (setchs), 11

setuk (setchs), 11

SIMTRA, 11

sink, 2

SPORT, 12

STOPWORDS, 12

stopwordsCN, 13

strcap, 13

strextact, 14

strpad, 15

strstrip, 16

toPinyin, 16

toTrad, 17

toUTF8, 18