

# Package ‘RcppMeCab’

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**Title** 'rcpp' Wrapper for 'mecab' Library

**Version** 0.0.1.5

**Description**

R package based on 'Rcpp' for 'MeCab': Yet Another Part-of-Speech and Morphological Analyzer. The purpose of this package is providing a seamless developing and analyzing environment for CJK texts. This package utilizes parallel programming for providing highly efficient text preprocessing 'posParallel()' function. For installation, please refer to README.md file.

**Depends** R (>= 3.4.0)

**License** GPL

**Encoding** UTF-8

**BugReports** <https://github.com/junhewk/RcppMeCab/issues>

**RoxygenNote** 7.3.3

**Language** en-US

**LinkingTo** Rcpp, RcppParallel, BH

**Imports** Rcpp, RcppParallel

**Suggests** testthat, spelling

**SystemRequirements** MeCab 0.996 or higher for Japanese (libmecab-dev (deb), mecab-devel (rpm)), mecab-ko 0.999 (<https://github.com/Pusnow/mecab-ko-msvc>) for Korean

**NeedsCompilation** yes

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dict_index	<i>Compile a MeCab user dictionary</i>
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### Description

dict\_index compiles a user dictionary CSV file into a binary dictionary that can be used with pos and posParallel.

### Usage

```
dict_index(
  dic_csv,
  out_dic,
  dic_dir,
  dic_charset = "utf-8",
  out_charset = "utf-8"
)
```

### Arguments

dic_csv	Character scalar. Path to the user dictionary CSV file(s). Multiple CSV files can be provided as a character vector.
out_dic	Character scalar. Path for the output compiled dictionary file.
dic_dir	Character scalar. Path to the system dictionary directory. This is required so that MeCab can reference the system dictionary configuration during compilation.
dic_charset	Character scalar. Charset of the input CSV file. Default is "utf-8".
out_charset	Character scalar. Charset of the output dictionary. Default is "utf-8".

### Details

This function wraps MeCab's mecab-dict-index internally, so you do not need the command-line tool installed separately.

### Value

Invisible TRUE on success.

## Examples

```
## Not run:
dict_index(
  dic_csv = "user_words.csv",
  out_dic = "user.dic",
  dic_dir = "/usr/local/lib/mecab/dic/ipadic"
)

# Then use the compiled dictionary:
pos("some text", user_dic = "user.dic")

## End(Not run)
```

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download\_dic

*Download and install a MeCab dictionary*

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## Description

Downloads and installs a MeCab system dictionary for the specified language. Japanese and Chinese dictionaries are compiled from source using the built-in `mecab-dict-index`; Korean dictionaries are downloaded pre-compiled. No system-level MeCab installation is required.

## Usage

```
download_dic(lang)
```

## Arguments

`lang` Character scalar. Language code: "ja" for Japanese (IPAdic), "ko" for Korean (mecab-ko-dic), or "zh" for Chinese (mecab-jieba).

## Details

Dictionaries are stored in the user data directory (`tools::R_user_dir("RcppMeCab", "data")`).

## Value

Invisible path to the installed dictionary directory.

## Examples

```
## Not run:
download_dic("ja")
download_dic("ko")
download_dic("zh")
pos("some text", lang = "ja")

## End(Not run)
```

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list_dic	<i>List installed MeCab dictionaries</i>
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### Description

Shows all available MeCab dictionaries, including the bundled dictionary and any downloaded via [download\\_dic](#).

### Usage

```
list_dic()
```

### Value

A data frame with columns lang, name, path, and active.

### Examples

```
## Not run:  
list_dic()  
  
## End(Not run)
```

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pos	<i>part-of-speech tagger</i>
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### Description

pos returns part-of-speech (POS) tagged morpheme of the sentence.

### Usage

```
pos(  
  sentence,  
  join = TRUE,  
  format = c("list", "data.frame"),  
  lang = NULL,  
  sys_dic = "",  
  user_dic = ""  
)
```

## Arguments

sentence	A character vector of any length. For analyzing multiple sentences, put them in one character vector.
join	A bool to decide the output format. The default value is TRUE. If FALSE, the function will return morphemes only, and tags put in the attribute. if format="data.frame", then this will be ignored.
format	A data type for the result. The default value is "list". You can set this to "data.frame" to get a result as data frame format.
lang	Optional language code ("ja", "ko", or "zh") to select a dictionary installed via <a href="#">download_dic</a> . When specified, this overrides sys_dic.
sys_dic	A location of system MeCab dictionary. The default value is "".
user_dic	A location of user-specific MeCab dictionary. The default value is "".

## Details

This is a basic function for MeCab part-of-speech tagger. The function gets a character vector of any length and runs a loop inside C++ to provide faster processing.

You can add a user dictionary to user\_dic. It should be compiled by mecab-dict-index. You can find an explanation about compiling a user dictionary in the <https://github.com/junhewk/RcppMeCab>.

You can also set a system dictionary especially if you are using multiple dictionaries (for example, using both IPA and Juman dictionary at the same time in Japanese) in sys\_dic. Using options(mecabSysDic=), you can set your preferred system dictionary to the R terminal.

If you want to get a morpheme only, use join = FALSE to put tag names on the attribute. Basically, the function will return a list of character vectors with (morpheme)/(tag) elements.

## Value

A string vector or a list of POS tagged morpheme will be returned in conjoined character vector form.

## Examples

```
## Not run:
sentence <- c(#some UTF-8 texts)
pos(sentence)
pos(sentence, join = FALSE)
pos(sentence, format = "data.frame")
pos(sentence, lang = "ja")
pos(sentence, lang = "ko")
pos(sentence, sys_dic = "/path/to/custom/dic")
pos(sentence, user_dic = "/path/to/user.dic")

## End(Not run)
```

---

posParallel                      *parallel version of part-of-speech tagger*

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### Description

posParallel returns part-of-speech (POS) tagged morpheme of the sentence.

### Usage

```
posParallel(
  sentence,
  join = TRUE,
  format = c("list", "data.frame"),
  lang = NULL,
  sys_dic = "",
  user_dic = ""
)
```

### Arguments

sentence	A character vector of any length. For analyzing multiple sentences, put them in one character vector.
join	A bool to decide the output format. The default value is TRUE. If FALSE, the function will return morphemes only, and tags put in the attribute. if format="data.frame", then this will be ignored.
format	A data type for the result. The default value is "list". You can set this to "data.frame" to get a result as data frame format.
lang	Optional language code ("ja", "ko", or "zh") to select a dictionary installed via <a href="#">download_dic</a> . When specified, this overrides sys_dic.
sys_dic	A location of system MeCab dictionary. The default value is "".
user_dic	A location of user-specific MeCab dictionary. The default value is "".

### Details

This is a parallelized version of MeCab part-of-speech tagger. The function gets a character vector of any length and runs a loop inside C++ with Intel TBB to provide faster processing.

Parallelizing over a character vector is not supported by RcppParallel. Thus, this function makes duplicates of the input and the output. Therefore, if your data volume is large, use pos or divide the vector to several sub-vectors.

You can add a user dictionary to user\_dic. It should be compiled by mecab-dict-index. You can find an explanation about compiling a user dictionary in the <https://github.com/junhewk/RcppMeCab>.

You can also set a system dictionary especially if you are using multiple dictionaries (for example, using both IPA and Juman dictionary at the same time in Japanese) in sys\_dic. Using options(mecabSysDic=), you can set your preferred system dictionary to the R terminal.

If you want to get a morpheme only, use `join = FALSE` to put tag names on the attribute. Basically, the function will return a list of character vectors with (morpheme)/(tag) elements.

### Value

A string vector or a list of POS tagged morpheme will be returned in conjoined character vector form.

### Examples

```
## Not run:
sentence <- c(#some UTF-8 texts)
posParallel(sentence)
posParallel(sentence, join = FALSE)
posParallel(sentence, format = "data.frame")
posParallel(sentence, lang = "ja")
posParallel(sentence, lang = "ko")
posParallel(sentence, sys_dic = "/path/to/custom/dic")
posParallel(sentence, user_dic = "/path/to/user.dic")

## End(Not run)
```

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RcppMeCab

*RcppMeCab: Rcpp Wrapper for MeCab Library*

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### Description

R package based on Rcpp for MeCab: Yet Another Part-of-Speech and Morphological Analyzer (<http://taku910.github.io/mecab/>). The purpose of this package is providing a seamless developing and analyzing environment for CJK texts. This package utilizes parallel programming for providing highly efficient text preprocessing `posParallel()` function. For installation, please refer to README.md file.

### Details

This package utilizes MeCab C API and Rcpp codes.

### Author(s)

Junhewk Kim Taku Kudo

### References

- [MeCab](#)
- [Rcpp: Seamless R and C++ Integration](#)
- [Eunjeon project](#)

**See Also**

Useful links:

- Report bugs at <https://github.com/junhewk/RcppMeCab/issues>

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set\_dic

*Set the active MeCab dictionary by language*

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**Description**

Sets the default system dictionary used by `pos` and `posParallel`. This is equivalent to calling `options(mecabSysDic = path)` but allows selection by language code.

**Usage**

```
set_dic(lang)
```

**Arguments**

`lang` Character scalar. Language code ("ja", "ko", or "zh") or "bundled" to use the dictionary bundled with the package.

**Value**

Invisible path to the activated dictionary directory.

**Examples**

```
## Not run:
set_dic("ja")
pos("some Japanese text")

set_dic("ko")
pos("some Korean text")

## End(Not run)
```

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