

# Package ‘RcppMLPACK’

August 29, 2016

**Type** Package

**Title** Rcpp Integration for MLPACK Library

**Version** 1.0.10-4

**Date** 2016-05-08

**Author** Qiang Kou, Ryan Curtin

**Maintainer** Qiang Kou <qkou@umail.iu.edu>

**Description** MLPACK is an intuitive, fast, scalable C++ machine learning library, meant to be a machine learning analog to LAPACK. It aims to implement a wide array of machine learning methods and function as a Swiss army knife for machine learning researchers: MLPACK is from <http://www.mlpack.org/>: sources are included in the package.

**OS\_type** unix

**SystemRequirements** A C++11 compiler. Version 4.6.\* of g++ (as currently in Rtools) is insufficient; versions 4.8.\*, 4.9.\* or later will be fine.

**License** LGPL (>= 2)

**Depends** R (>= 3.2.0)

**Imports** Rcpp (>= 0.12.4)

**LinkingTo** Rcpp, RcppArmadillo, BH

**URL** <https://github.com/thirdwing/RcppMLPACK>, <http://www.mlpack.org/>

**BugReports** <https://github.com/thirdwing/RcppMLPACK/issues>

**NeedsCompilation** yes

**Repository** CRAN

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RcppMLPACK-package	<i>Rcpp Integration for MLPACK Library</i>
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**Description**

The package eases the integration of MLPACK types with R. MLPACK is an intuitive, fast, scalable C++ machine learning library, meant to be a machine learning analog to LAPACK.

**Author(s)**

For RcppMLPACK: Qiang Kou

For MLPACK: Ryan Curtin

Maintainer: Qiang Kou <qkou@uemail.iu.edu>

**References**

MLPACK project: <http://www.mlpack.org/>

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mlKmeans	<i>kmeans from MLPACK</i>
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**Description**

kmeans example for using MLPACK with R.

**Usage**

```
mlKmeans(X, y)
```

**Arguments**

X	data matrix.
y	number of clusters.

**Details**

This is a kmeans example using RcppMLPACK. It uses the Kmeans method in MLPACK and integrates with R.

**Value**

mlKmeans returns a list with cluster assignment:

**Author(s)**

For RcppMLPACK: Qiang Kou

For MLPACK: Ryan Curtin

**References**

MLPACK project: <http://www.mlpack.org/>

**Examples**

```
## Not run:  
data(trees, package="datasets")  
mlkmeans(t(trees),3)  
  
## End(Not run)
```

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RcppMLPACK.package.skeleton

*Create a skeleton for a new package that intends to use RcppMLPACK*

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**Description**

RcppMLPACK.package.skeleton automates the creation of a new source package that intends to use features of RcppMLPACK.

It is based on the [package.skeleton](#) function which it executes first.

**Usage**

```
RcppMLPACK.package.skeleton(name = "anRpackage", list = character(),  
environment = .GlobalEnv, path = ".", force = FALSE,  
code_files = character(), example_code = TRUE)
```

**Arguments**

name	See <a href="#">package.skeleton</a>
list	See <a href="#">package.skeleton</a>
environment	See <a href="#">package.skeleton</a>
path	See <a href="#">package.skeleton</a>
force	See <a href="#">package.skeleton</a>
code_files	See <a href="#">package.skeleton</a>
example_code	If TRUE, example c++ code using RcppMLPACK is added to the package

## Details

In addition to [package.skeleton](#) :

The 'DESCRIPTION' file gains a Depends line requesting that the package depends on Rcpp and RcppArmadillo and a LinkingTo line so that the package finds Rcpp and RcppArmadillo header files.

The 'NAMESPACE', if any, gains a useDynLib directive.

The 'src' directory is created if it does not exist and a 'Makevars' file is added setting the environment variable 'PKG\_LIBS' to accommodate the necessary flags to link with the Rcpp library.

If the example\_code argument is set to TRUE, example files 'RcppMLPACK.h' and 'kmeans.cpp' are also created in the 'src'. An R file 'RcppExports.R' is expanded in the 'R' directory, the mlkmeans function defined in this file makes use of the C++ function 'mlkmeans' defined in the C++ file. These files are given as an example and should eventually be removed from the generated package.

## Value

Nothing, used for its side effects

## References

Read the *Writing R Extensions* manual for more details.

Once you have created a *source* package you need to install it: see the *R Installation and Administration* manual, [INSTALL](#) and [install.packages](#).

## See Also

[package.skeleton](#)

## Examples

```
## Not run:  
RcppMLPACK.package.skeleton("foobar")  
  
## End(Not run)
```

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