Package 'ForecastTB'

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Type Package

Title Test Bench for the Comparison of Forecast Methods

Version 1.0.1

Maintainer Neeraj Dhanraj Bokde <neerajdhanraj@gmail.com>

Description Provides a test bench for the comparison of forecasting methods in uni-variate time series. Forecasting methods are compared using different error metrics. Proposed forecasting methods and alternative error metrics can be used. Detailed discussion is provided in the vignette.

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Imports PSF, decomposedPSF, ggplot2, gridExtra, imputeTestbench, methods, reshape2, forecast, circlize, RColorBrewer, stats, graphics, utils

Encoding UTF-8

LazyData true

RoxygenNote 7.0.2

Suggests knitr, testthat (>= 2.1.0)

VignetteBuilder knitr

NeedsCompilation no

Author Neeraj Dhanraj Bokde [aut, cre] (<https://orcid.org/0000-0002-3493-9302>), Gorm Bruun Andersen [aut]

Repository CRAN

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R topics documented:

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append_ *Function to append new methods in the study*

Description

Function to append new methods in the study

Usage

```
append_(object, Method, MethodName, ePara, ePara_name)
```

Arguments

object	as output of 'prediction_errors()' function
Method	as the list of locations of function for the proposed prediction method
MethodName	as list of names for function for the proposed prediction method in order
ePara	as type of error calculation (RMSE and MAE are default), add an error parameter of your choice in the following manner: ePara = c("errorparametername") where errorparametername is should be a source/function which returns desired error set
ePara_name	as list of names of error parameters passed in order

Value

Returns error comparison for additional forecasting methods

Examples

```
## Not run:
library(forecast)
test3 <- function(data, nval){return(as.numeric(forecast(ets(data), h = nval)$mean))}
a <- prediction_errors(data = nottem)
b <- append_(object = a, Method = c("test3(data,nval)"), MethodName = c('ETS'))
choose_(object = a)

## End(Not run)
```

choose_ *Function to select the desired methods in the study*

Description

Function to select the desired methods in the study

Usage

```
choose_(object)
```

Arguments

object	as output of 'prediction_errors()' function

Value

Returns error comparison for selected forecasting methods

Examples

```
## Not run:
a <- prediction_errors(data = nottem)
choose_(object = a)

## End(Not run)
```

monte_carlo *Function to use Monte Carlo strategy*

Description

Function to use Monte Carlo strategy

Usage

```
monte_carlo(object, size, iteration, fval = 0, figs = 0)
```

Arguments

object	as output of 'prediction_errors()' function
size	as volume of time series used in Monte Carlo strategy
iteration	as number of iterations models to be applied
fval	as a flag to view forecasted values in each iteration (default: 0, don't view values)
figs	as a flag to view plots for each iteration (default: 0, don't view plots)

Value

Error values with provided models in each iteration along with the mean values

Examples

```
## Not run:
library(forecast)
test3 <- function(data, nval){return(as.numeric(forecast(ets(data), h = nval)$mean))}
a <- prediction_errors(data = nottem,
    Method = c("test3(data, nval)"),
    MethodName = c("ETS"), append_ = 1)
monte_carlo(object = a1, size = 144, iteration = 10)

## End(Not run)
```

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plot.prediction_errors

Function to plot comparison of Prediction methods

Description

Function to plot comparison of Prediction methods

Usage

```
## S3 method for class 'prediction_errors'
plot(x, ...)
```

Arguments

x	as output object of 'prediction_errors()' function
...	arguments passed to or from other methods

Value

Returns error comparison plots for forecasting methods

Examples

```
a <- prediction_errors(data = nottem)
b <- plot(a)
```

plot_circle *Function to plot comparison of Predicted values in a circular ring*

Description

Function to plot comparison of Predicted values in a circular ring

Usage

```
plot_circle(x, ...)
```

Arguments

x	as output object of 'prediction_errors()' function
...	arguments passed to or from other methods

Value

Returns error comparison plots for forecasting methods

Examples

```
a <- prediction_errors(data = nottem)
plot_circle(a)
```

prediction_errors *Function working as testbench for comparison of Prediction methods*

Description

Function working as testbench for comparison of Prediction methods

Usage

```
prediction_errors(
  data,
  nval,
  ePara,
  ePara_name,
  Method,
  MethodName,
  strats,
  dval,
  append_
)
```

Arguments

data	as input time series for testing
nval	as an integer to decide number of values to predict
ePara	as type of error calculation (RMSE and MAE are default), add an error parameter of your choice in the following manner: ePara = c("errorparametername") where errorparametername is should be a source/function which returns desired error set
ePara_name	as list of names of error parameters passed in order
Method	as the list of locations of function for the proposed prediction method (should be recursive) (default:arima)
MethodName	as list of names for function for the proposed prediction method in order
strats	as list of forecasting strategies. Available : recursive and dirrec
dval	as last d values of the data to be used for forecasting
append_	suggests if the function is used to append to another instance

Value

Returns error comparison for forecasting methods

Examples

```
prediction_errors(data = nottem)
```

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