

Package ‘ForecastingEnsembles’

April 1, 2025

Type Package

Title Time Series Forecasting Using 23 Individual Models

Version 0.5.0

Description

Runs multiple individual time series models, and combines them into an ensembles of time series models. This is mainly used to predict the results of the monthly labor market report from the United States Bureau of Labor Statistics for virtually any part of the economy reported by the Bureau of Labor Statistics, but it can be easily modified to work with other types of time series data. For example, the package was used to predict the winning men's and women's time for the 2024 London Marathon.

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Depends doParallel, dplyr, fable, fabletools, fable.prophet, feasts, fracdiff, ggplot2, gt, magrittr, parallel, readr, stats, tibble, tidyr, tsibble, urca, utils, R (>= 2.10)

Encoding UTF-8

LazyData true

RoxygenNote 7.3.2

Suggests knitr, rmarkdown

VignetteBuilder knitr

URL <https://github.com/InfiniteCuriosity/ForecastingEnsembles>

BugReports <https://github.com/InfiniteCuriosity/ForecastingEnsembles/issues>

NeedsCompilation no

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Repository CRAN

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| Forecasting | <i>forecasting—function to perform time series analysis and return the results to the user.</i> |
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Description

forecasting—function to perform time series analysis and return the results to the user.

Usage

```
Forecasting(
  time_series_name,
  time_series_data,
  train_amount,
  number_of_intervals_to_forecast,
  use_parallel = c("Y", "N"),
  time_interval = c("Q", "M", "W")
)
```

Arguments

`time_series_name` the name of the time series in quotation marks

`time_series_data` a time series

`train_amount` The amount to use for the training set, such as 0.60

`number_of_intervals_to_forecast` the number of intervals, such as months or weeks, that are going to be forecast

`use_parallel` "Y" or "N" for parallel processing

`time_interval` user states whether the time interval is quarterly, monthly or weekly.

Value

A series of summary reports and visualizations to fully describe the time series: Forecast accuracy, forecast numbers, forecast plot, innovation residuals, best autocorrelation function (ACF), plot of best histogram of residuals, plot of best actual vs predicted, plot of best actual vs trend

plot of best actual vs seasonally adjusted

Oct_2024_all_nonfarm *Oct_2024_all_nonfarm*

Description

This is a report of all nonfarm employees in the United States, as reported by the Bureau of Labor Statistics. The report runs from January, 2015 through October, 2024

Usage

Oct_2024_all_nonfarm

Format

An object of class `tbl_ts` (inherits from `tbl_df`, `tbl`, `data.frame`) with 118 rows and 2 columns.

Details

Period The month for the subject of the labor survey

Value The number of people working

@source <https://data.bls.gov/dataViewer/view/timeseries/CES0000000001>

Oct_2024_avg_hourly_pay
Oct_2024_avg_hourly_pay

Description

This is a report of the average hourly pay for all workers in the United States, as reported by the Bureau of Labor Statistics

Usage

Oct_2024_avg_hourly_pay

Format

An object of class `tbl_ts` (inherits from `tbl_df`, `tbl`, `data.frame`) with 117 rows and 2 columns.

Details

Period The month for the subject of the labor survey

Value The average hourly pay in the United States

@source <https://data.bls.gov/dataViewer/view/timeseries/CES0500000003>

Oct_2024_unemployment *Oct_2024_unemployment*

Description

This is a report of the unemployment rate in the United States, as reported by the Bureau of Labor Statistics

Usage

Oct_2024_unemployment

Format

An object of class `tbl_ts` (inherits from `tbl_df`, `tbl`, `data.frame`) with 117 rows and 2 columns.

Details

Period The month for the subject of the labor survey

Value The unemployment rate

@source <https://data.bls.gov/dataViewer/view/timeseries/LNS14000000>

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