Package 'WaveletKNN'

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Type Package

Title Wavelet Based K-Nearest Neighbor Model

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Description The employment of the Wavelet decomposition technique proves to be highly advantageous in the modelling of noisy time series data. Wavelet decomposition technique using the ``haar'' algorithm has been incorporated to formulate a hybrid Wavelet KNN (K-Nearest Neighbour) model for time series forecasting, as proposed by Anjoy and Paul (2017) <DOI:10.1007/s00521-017-3289-9>.

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Encoding UTF-8

Imports caret, dplyr, caretForecast, Metrics, tseries, stats, wavelets

RoxygenNote 7.2.1

NeedsCompilation no

Repository CRAN

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R topics documented:

WaveletKNN *Wavelet Based K-Nearest Neighbor Model*

Description

Wavelet Based K-Nearest Neighbor Model

Usage

```
WaveletKNN(ts, MLag = 12, split_ratio = 0.8, wlevels = 3)
```

Arguments

ts	Time Series Data
MLag	Maximum Lags
split_ratio	Training and Testing Split
wlevels	Number of Wavelet Levels

Value

- Lag: Lags used in model
- Parameters: Parameters of the model
- Train_actual: Actual train series
- Test_actual: Actual test series
- Train_fitted: Fitted train series
- Test_predicted: Predicted test series
- Accuracy: RMSE and MAPE of the model

References

- Aminghafari, M. and Poggi, J.M. 2012. Nonstationary time series forecasting using wavelets and kernel smoothing. Communications in Statistics-Theory and Methods, 41(3),485-499.
- Paul, R.K. A and Anjoy, P. 2018. Modeling fractionally integrated maximum temperature series in India in presence of structural break. Theory and Applied Climatology 134, 241–249.

Examples

```
library("WaveletKNN")
data<- rnorm(100,100, 10)
WG<-WaveletKNN(ts=data)
```

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