Package ‘WaveletLSTM’

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Type Package

Title Wavelet Based LSTM Model

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Description
A wavelet-based LSTM model is a type of neural network architecture that uses wavelet technique to pre-process the input data before passing it through a Long Short-Term Memory (LSTM) network. The wavelet-based LSTM model is a powerful approach that combines the benefits of wavelet analysis and LSTM networks to improve the accuracy of predictions in various applications. This package has been developed using the algorithm of Anjoy and Paul (2017) and Paul and Garai (2021) <DOI:10.1007/s00521-017-3289-9> <doi:10.1007/s00500-021-06087-4>.

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Encoding UTF-8

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

RoxygenNote 7.2.1

NeedsCompilation no

Repository CRAN

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R topics documented:

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**WaveletLSTM**

Wavelet Based LSTM Model

## Description

Wavelet Based LSTM Model

## Usage

```r
WaveletLSTM(
  ts,
  MLag = 12,
  split_ratio = 0.8,
  wlevels = 3,
  epochs = 25,
  LSTM_unit = 20
)
```

## Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
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<tbody>
<tr>
<td>ts</td>
<td>Time Series Data</td>
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<tr>
<td>MLag</td>
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<td>split_ratio</td>
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<td>LSTM_unit</td>
<td>Number of unit in LSTM layer</td>
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</table>

## Value

- Train_actual: Actual train series
- Test_actual: Actual test series
- Train_fitted: Fitted train series
- Test_predicted: Predicted test series

## References


## Examples

```r
y<-rnorm(100,mean=100,sd=50)
WTSLSSTM<-WaveletLSTM(ts=y)
```
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