Package 'THETASVM'

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Type Package

Title Time Series Forecasting using THETA-SVM Hybrid Model

Version 0.1.0

Depends R (>= 2.3.1), stats,forecast, tseries, TSSVM

Description
Testing, Implementation, and Forecasting of the THETA-SVM hybrid model. The THETA-SVM hybrid model combines the distinct strengths of the THETA model and the Support Vector Machine (SVM) model for time series forecasting.For method details see Bhattacharyya et al. (2022) <doi:10.1007/s11071-021-07099-3>.

Encoding UTF-8

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Contents

THSVM *Theta-SVM hybrid model fitting*

Description

The THSVM function fit THETA-SVM hybrid model for time series data.

Usage

```
THSVM(data,h)
```

Arguments

data	Input univariate time series (ts) data.
h	The forecast horizon.

Details

This package allows you to fit the THETA-SVM hybrid model.

Value

Test_Result	Checking the suitability of data for hybrid modelling
THETA coefficients	Coefficients of the fitted THETA
SVM Summary	Summary of the fitted SVM model on residuals obtained from the fitted THETA model
Optimal Lag	Optimal Lag of the fitted SVM model
MAPE	Mean Absolute Percentage Error (MAPE) of the fitted hybrid model
MSE	Mean Square Error (MSE) of fitted hybrid model
fitted	Fitted values of hybrid model
forecasted.values	h step ahead forecasted values employing hybrid model

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References

Bhattacharyya, A., Chakraborty, T., and Rai, S. N. (2022). Stochastic forecasting of COVID-19 daily new cases across countries with a novel hybrid time series model. Nonlinear Dynamics, 107(3), 3025–3040.

See Also

ARSVM, ARIMAANN

Examples

```
data=lynx
THSVM(data,5)
```

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