Package: TSANN (via r-universe)

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Type Package

Title Time Series Artificial Neural Network

Version 0.1.0

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Description The best ANN structure for time series data analysis is a demanding need in the present era. This package will find the best-fitted ANN model based on forecasting accuracy. The optimum size of the hidden layers was also determined after determining the number of lags to be included. This package has been developed using the algorithm of Paul and Garai (2021) <doi:10.1007/s00500-021-06087-4>.

License GPL-3

Encoding UTF-8

RoxygenNote 7.1.2

Imports forecast, gtools, stats, utils

NeedsCompilation no

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Repository https://yeasinstat.r-universe.dev

RemoteUrl https://github.com/cran/TSANN

RemoteRef HEAD

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Contents

`Auto.TSANN` *Time Series Artificial Neural Network*

Description

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Usage

```
Auto.TSANN(data, min.size, max.size, split.ratio)
```

Arguments

`data`	Time Series Data
`min.size`	Minimum Size of Hidden Layer
`max.size`	Maximum Size of Hidden Layer
`split.ratio`	Training and Testing Split Ratio

Value

A list containing:

- FinalModel: Best ANN model
- Trace: Matrix of All Iteration
- FittedValue: Model Fitted Value
- PredictedValue: Model Forecast Value of Test Data
- Train.RMSE: Root Mean Square Error of Train Data
- Test.RMSE: Root Mean Square Error of Test Data

References

Paul, R.K. and Garai, S. (2021). Performance comparison of wavelets-based machine learning technique for forecasting agricultural commodity prices, Soft Computing, 25(20), 12857-12873

Examples

```
set.seed(16)
x<-rnorm(n = 50, mean = 150, sd = 10)
Auto.TSANN(x,1,2,0.80)
```

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