

Package ‘UEI’

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Type Package

Title Compute Uniform Error Index

Version 0.1.0

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Description

Uniform Error Index is the weighted average of different error measures. Uniform Error Index utilizes output from different error function and gives more robust and stable error values. This package has been developed to compute Uniform Error Index from ten different loss function like Error Square, Square of Square Error, Quasi Likelihood Error, LogR-Square, Absolute Error, Absolute Square Error etc. The weights are determined using Principal Component Analysis (PCA) algorithm of Yeasin and Paul (2024) <[doi:10.1007/s11227-023-05542-3](https://doi.org/10.1007/s11227-023-05542-3)>.

License GPL-3

Encoding UTF-8

Imports FactoMineR, factoextra, Metrics

RoxygenNote 7.3.2

NeedsCompilation no

Repository CRAN

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UEI

Uniform Error Index

Description

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Usage

```
UEI(actual, predicted)
```

Arguments

actual	Univariate Data Series
predicted	Predicted Data Series from Models

Value

- ErrorSeries: Uniform Error Index Series
- ErrorMetrics: Values of Different Error Measures i.e.,Relative Absolute Error (RAE),Mean Absolute Error(MAE),Median Absolute Error (MDAE),Mean Absolute Percent Error (MAPE),Root Mean Squared Error (RMSE),Mean Squared Error (MSE),Symmetric Mean Absolute Percentage Error(SMAPE), Sum of Squared Errors (SSE),Mean Uniform Error Index (MUEI).

References

- Yeasin, M. and Paul, R.K., 2024. OptiSembleForecasting: optimization-based ensemble forecasting using MCS algorithm and PCA-based error index. The Journal of Supercomputing, 80(2), pp.1568-1597.

Examples

```
library("UEI")
actual<- as.ts(rnorm(50,100,50))
predicted<- as.ts(rnorm(50,110,60))
Result <- UEI(actual, predicted)
```

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