Package 'transformmos'

May 8, 2026

Type Package

Title Transform MOS Values to be Robust for using Rank Based Statistics

Version 0.1.0

Author Babak Naderi [cre, aut, cph]

Maintainer Babak Naderi <bnaderi9@gmail.com>

License MIT + file LICENSE

Description Implementation of the transformation of the Mean Opinion Scores (MOS) to be used before applying the rank based statistical techniques. The method and its necessity is described in: Babak Naderi, Sebastian Möller (2020) <doi:10.48550/arXiv.2004.11490>.

Encoding UTF-8

LazyData true

RoxygenNote 7.1.0

Imports utils

NeedsCompilation no

Repository CRAN

Date/Publication 2020-06-09 14:00:02 UTC

Contents

transform_mos 2

Index **4**

`transform_mos` *Implementation of MOS-transformation to be used with Rank based statistical techniques.*

Description

The rank correlation coefficients and the ranked-based statistical tests (as a subset of non-parametric techniques) might be misleading when they are applied to subjectively collected opinion scores. Those techniques assume that the data is measured at least at an ordinal level and define a sequence of scores to represent a tied rank when they have precisely an equal numeric value. Before applying any rank based static technique use this package to transfer MOS values to a new rank so the result of statistic techniques will be robus to noises.

Usage

```
transform_mos(mos, ci)
```

Arguments

`mos`	array of MOS values
`ci`	array of 95% Confifence Intervals.

Details

See the paper for details:

Naderi B, Möller S. Transformation of Mean Opinion Scores to AvoidMisleading of Ranked based Statistical Techniques 2020 Twelfth International Workshop on Quality of Multimedia Experience (QoMEX). IEEE, 2020.

There, we show that the definition of tied rank, as mentioned above, is not suitable for Mean Opinion Scores (MOS) and might be misleading conclusions of rank-based statistical techniques. Furthermore, we introduce a method to overcome this issue by transforming the MOS values considering their 95% Confidence Intervals. The rank correlation coefficients and ranked-based statistical tests can then be safely applied to the transformed values. This is the R implementation of the transformation method.

Value

New rank values. Use the outcome with rank based statitical techniques e.g. Spearman's Rank correlation.

Author(s)

Dr. Babak Naderi <bnaderi9@gmail.com>

References

Naderi B, Möller S. *Transformation of Mean Opinion Scores to AvoidMisleading of Ranked based Statistical Techniques*. Twelfth International Workshop on Quality of Multimedia Experience (QoMEX). IEEE, 2020.

website: https://github.com/babaknaderi/MOS-transformation

Examples

```
mos <- c(1.1, 4, 5, 2, 3, 1.2, 4)
ci <- c(0.1, 0.1, 0.1, 0.1, 0.1, 0.1, 0.1)
transform_mos(mos,ci)
```

Index

∗ **MOS**
transform_mos, 2
∗ **Rank Statistic**
transform_mos, 2
∗ **Spearman Correlation**
transform_mos, 2
∗ **subjective test**
transform_mos, 2

transform_mos, 2