

# Package ‘featureCorMatrix’

May 27, 2020

**Type** Package

**Title** Measurement Level Independent Feature Correlation Matrix

**Version** 0.4.0

**Maintainer** Guido Moeser <guido.moeser@masem.de>

**Description** Uses three different correlation coefficients to calculate measurement-level adequate correlations in a feature matrix: Pearson product-moment correlation coefficient, Intraclass correlation and Cramer's V.

**License** GPL (>= 2)

**Encoding** UTF-8

**LazyData** true

**Imports** stats

**RoxygenNote** 7.1.0

**NeedsCompilation** no

**Author** Guido Moeser [aut, cre],  
Ilja Muhl [aut]

**Repository** CRAN

**Date/Publication** 2020-05-27 10:30:02 UTC

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`cv.test` *Calculates Cramer's V Correlation Coefficient*

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### Description

`cv.test` returns the Cramer's V correlation coefficient

### Usage

```
cv.test(x, y)
```

### Arguments

`x` a vector (categorical or numerical values)  
`y` a vector (categorical or numerical values)

### Details

The function calculates Cramer's V based on the results of an Chi-Square-Test of Independence between two categorical variables

### Value

Cramer's V

### Examples

```
cv.test(x = iris$Species, iris$Sepal.Length)
```

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`featureCorMatrix` *Calculates the Feature Correlation Matrix*

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### Description

`featureCorMatrix` returns a correlation matrix between all features

### Usage

```
featureCorMatrix(dataframe, absoluteValues = FALSE)
```

### Arguments

`dataframe` A data.frame  
`absoluteValues` A flag stating if only positive correlations should be returned

**Details**

The function selects automatically the appropriate correlation coefficient regarding the storage type of both variables - If both variable are numerical ones, the Pearson product-moment correlation coefficient will be chosen - If both variables are categorical, Cramer's V will be used - If one variable is a numerical and the other a categorical one, the Intraclass correlation will be calculated

**Value**

A correlation matrix

**Examples**

```
featureCorMatrix(dataframe = iris, absoluteValues = TRUE)
```

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GermanCredit

*Statlog (German Credit Data) Data Set*

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**Description**

This dataset classifies people described by a set of attributes as good or bad credit risks.

The variables are as follows:

- Credit. Target variable
- balance\_credit\_acc. Status of existing checking account
- duration. Duration in month
- moral. Credit history
- verw. Purpose
- hoehe. Credit amount
- sparkont. Savings account/bonds
- beszeit. Present employment since
- rate. Installment rate in percentage of disposable income
- famges. Personal status and sex
- buerge. Other debtors / guarantors
- wohnzeit. Present residence since
- verm. Property
- alter. Age in years
- weitekred. Other installment plans
- wohn. Housing
- bishkred. Number of existing credits at this bank
- beruf. Job
- pers. Number of people being liable to provide maintenance for
- telef. Telephone
- gastarb. Foreign worker

**Usage**

```
data(GermanCredit)
```

**Format**

A data frame with 1000 rows and 21 variables

**Source**

UCI Repository, [https://archive.ics.uci.edu/ml/datasets/statlog+\(german+credit+data\)](https://archive.ics.uci.edu/ml/datasets/statlog+(german+credit+data))

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| icc | <i>Calculates the Intraclass correlation</i> |
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**Description**

The function calculates the Intraclass correlation based on the results of the ‘aov’ function

**Usage**

```
icc(depvar, indvar)
```

**Arguments**

|        |   |
|--------|---|
| depvar | dependent variable, must be numeric       |
| indvar | independent variable, must be categorical |

**Value**

returns the Intraclass correlation

**Examples**

```
icc(depvar = iris$Sepal.Length, indvar = iris$Species)
```

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