Package 'grnn'

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Title General regression neural network

Description The program GRNN implements the algorithm proposed by Specht (1991).

URL http://flow.chasset.net/r-grnn/

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Author Pierre-Olivier Chasset

Maintainer Pierre-Olivier Chasset <pierre-olivier@chasset.net>

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Collate 'create.R' 'grnn-package.r' 'guess.r' 'kernel.R' 'learn.R' 'smooth.R'

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grnn-package *GRNN*

Description

General regression neural network.

Details

The program GRNN implements the algorithm proposed by Specht (1991).

Author(s)

Pierre-Olivier Chasset

References

Specht D.F. (1991). A general regression neural network. IEEE Transactions on Neural Networks, 2(6):568-576.

`guess` *Guess*

Description

Infers the value of a new observation.

Usage

```
guess(nn, X)
```

Arguments

`nn`	A trained and smoothed General regression neural network.
`X`	A vector describing a new observation.

See Also

`grnn-package`

Examples

```
n <- 100
set.seed(1)
x <- runif(n, -2, 2)
y0 <- x^3
epsilon <- rnorm(n, 0, .1)
y <- y0 + epsilon
grnn <- learn(data.frame(y,x))
grnn <- smooth(grnn, sigma=0.1)
guess(grnn, -2)
guess(grnn, -1)
guess(grnn, -0.2)
guess(grnn, -0.1)
guess(grnn, 0)
guess(grnn, 0.1)
```

```
guess(grnn, 0.2)
guess(grnn, 1)
guess(grnn, 2)
```

`learn` *Learn*

Description

Create or update a General regression neural network.

Usage

```
learn(set, nn, variable.column = 1)
```

Arguments

`set`	Data frame representing the training set. The first column is used to define the category of each observation (set `category.column` if it is not the case).
`nn`	A General regression neural network with or without training.
`variable.column`	The field number of the variable (1 by default).

See Also

`grnn-package`

`smooth` *Smooth*

Description

Smooth a General regression neural network.

Usage

```
smooth(nn, sigma)
```

Arguments

`nn`	A trained General regression neural network.
`sigma`	A scalar.

See Also

`grnn-package`

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