

# Package ‘MARSANNhybrid’

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**Type** Package

**Title** MARS Based ANN Hybrid Model

**Version** 0.1.0

**Author** Pankaj Das [aut, cre],  
Achal Lama [aut],  
Girish Kumar Jha [aut]

**Maintainer** Pankaj Das <pankaj.das2@icar.gov.in>

**Depends** R (>= 3.3.0),neuralnet,earth,stats

**Description** Multivariate Adaptive Regression Spline (MARS) based Artificial Neural Network (ANN) hybrid model is combined Machine learning hybrid approach which selects important variables using MARS and then fits ANN on the extracted important variables.

**Encoding** UTF-8

**LazyData** true

**License** GPL-3

**NeedsCompilation** no

**Repository** CRAN

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## Description

MARSANNhybrid model is combined machine learning hybrid approach of MARS and ANN.

**Usage**

```
MARSANNhybrid(Data,k,deg,h,r)
```

**Arguments**

Data	A Multivariate data in regression framework, with first column as Y (dependent variable) and remaining columns as X (independent variables).
k	Partition value for splitting the data set into training and testing.
deg	Degree of Multivariate Adaptive Regression Spline model to be used for model building.
h	Total number of hidden nodes.
r	Replications used for neural network training.

**Details**

MARSANNhybrid uses the combined hybrid approach proposed by Das (2019). MARS model identify the important variables from a multivariate dataset based on GCV and RSS values. The prediction model is built using ANN model based on these selected important variables. Further this predictive model is used for prediction the dependent variables.

**Value**

It returns the accuracy measures of the fitted Machine learning hybrid model and the plot of the best fitted neural network.

**Author(s)**

Pankaj Das, Achal Lama, Girish Kumar Jha

**References**

Das (2019)<<http://krishikosh.egranth.ac.in/handle/1/5810147805>>

**See Also**

earth,neuralnet

**Examples**

```
data(iris)
MARSANNhybrid(iris[,1:4],0.9,2,1,2)
```

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