# Package 'DidacticBoost'

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**Type** Package

**Title** A Simple Implementation and Demonstration of Gradient Boosting

**Version** 0.1.1

**Date** 2016-04-19

**Description** A basic, clear implementation of tree-based gradient boosting
designed to illustrate the core operation of boosting models. Tuning
parameters (such as stochastic subsampling, modified learning rate, or
regularization) are not implemented. The only adjustable parameter is the
number of training rounds. If you are looking for a high performance boosting
implementation with tuning parameters, consider the 'xgboost' package.

**License** GPL-3

**Depends** R (>= 3.1.1), rpart (>= 4.1-10)

**Suggests** testthat

**URL** https://github.com/dashaub/DidacticBoost

**BugReports** https://github.com/dashaub/DidacticBoost/issues

**ByteCompile** true

**NeedsCompilation** no

**LazyData** TRUE

**RoxygenNote** 5.0.1

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**Repository** CRAN

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| fitBoosted | *Simple Gradient Boosting* |
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### Description

Fit a simple, educational implementation of tree-based gradient boosting model.

### Usage

```
fitBoosted(formula, data, iterations = 100, verbose = TRUE)
```

### Arguments

| | |
|---|---|
| formula | an object of class "formula" with a response but no interaction terms. The response variable should be a binomial factor that has values of 1 for a positive response or -1 for a negative or lack of response. |
| data | the dataframe containing the independent variables and the response |
| iterations | The number of training rounds for boosting. |
| verbose | should the current training round be printed to the console? |

### Value

An S3 object of class boosted. This includes

### Examples

```
k <- kyphosis
k$Kyphosis <- factor(ifelse(k$Kyphosis == "present", 1L, -1L))
fit <- fitBoosted(Kyphosis ~ Age + Number + Start, data = k, iterations = 10)
```

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| is.boosted | *Is the Object a Boosted Model* |
|---|---|

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### Description

Test the inheritance of an object

### Usage

```
is.boosted(x)
```

### Arguments

| | |
|---|---|
| x | any R object |

## Value

TRUE if the object is a boosted model

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| predict.boosted | *Model Predictions* |
|---|---|

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## Description

Apply a fitted `boosted` model to newdata to form predictions. If no `newdata` is included, returned the fitted values of the model.

## Usage

```
## S3 method for class 'boosted'
predict(object, newdata = NULL, ...)
```

## Arguments

| object | a boosted model returned from [fitBoosted](#) |
|---|---|
| newdata | the new independent variables to use for prediction. This should be a data frame. |
| ... | additional arguments affecting the predictions produced (ignored). |

## Value

`predict.boosted` produces a numeric vector with the predicted classes from the `boosted` model.

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