

Package ‘amba’

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Title Additive Models for Business Applications

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Description A package with two interrelated parts: Firstly, a framework for additive models, emphasizing (1) functional estimates, (2) robustness to missing values and (3) preferential estimation and; Secondly, a framework for trend modelling, mainly with smoothing.

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Depends s3x

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amba *additive models for business applications*

Description

todo

Usage

```
amba (y, fs, fit=TRUE, ...)  
is.amba (f)  
amba.evaluate (m, us, ...)  
## S3 method for class 'amba'  
summary(m, which=NA, ...)  
## S3 method for class 'amba'  
fitted(m, ...)  
## S3 method for class 'amba'  
fit(m, ..., nfits=12, preferential=TRUE)  
## S3 method for class 'amba'  
residuals(m, which=NA, ...)
```

Arguments

m	.
fs	.
which	.
nfits	.
preferential	.
fit	.
us	.
f	.
y	.
...	.

categorical	<i>categorical contributions</i>
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Description

todo

Usage

```
categorical(x, y, name)
is.categorical(f)
## S3 method for class 'categorical'
fitraw(f, y, ...)
## S3 method for class 'categorical'
fitted(f, ...)
```

Arguments

f	.
name	.
x	.
y	.
...	.

cmba	<i>contribution models for business applications</i>
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Description

todo

Usage

```
cmba(y, fs)
is.cmba(f)
## S3 method for class 'cmba'
print(m, ...)
## S3 method for class 'summary.cmba'
print(s, ...)
```

Arguments

f	.
fs	.
m	.
s	.
y	.
...	.

contribution	<i>contributions</i>
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Description

todo

Usage

```

contribution(x, name="x")
is.contribution(f)
## S3 method for class 'contribution'
print(f, ...)
## S3 method for class 'contribution'
format(f, ...)
## S3 method for class 'contribution'
summary(f, y, ...)
## S3 method for class 'summary.contribution'
print(s, ...)
## S3 method for class 'contribution'
fit(f, y, raw=FALSE, ...)
## S3 method for class 'contribution'
fitted(f, ...)
## S3 method for class 'contribution'
residuals(f, y, ...)

```

Arguments

f	.
name	.
raw	.
x	.
y	.
s	.
...	.

contributionset	<i>contribution sets</i>
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Description

todo

Usage

```
contributionset (f)
is.contributionset (f)
## S3 method for class 'contributionset'
print(m, ...)
## S3 method for class 'contribution'
a + b
```

Arguments

f	.
m	.
a	.
b	.
...	.

generics	<i>generic functions</i>
----------	--------------------------

Description

todo

Usage

```
fit (...)
fitraw (f, y, ...)
summaryraw (f, ...)
```

Arguments

f	.
y	.
...	.

linear	<i>linear contributions</i>
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Description

todo

Usage

```
linear (x, y, delegates=c ("1", "x"), name)
is.linear (f)
## S3 method for class 'linear'
fitraw(f, y, ...)
## S3 method for class 'linear'
summaryraw(f, ...)
## S3 method for class 'linear'
fitted(f, ...)
```

Arguments

f	.
delegates	.
name	.
x	.
y	.
...	.

masks	<i>mask functions</i>
-------	-----------------------

Description

todo

Usage

```
pairs (...)
fitted (...)
residuals (...)
```

Arguments

...	.
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mmba	<i>marginal models for business applications</i>
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Description

todo

Usage

```
mmba (y, fs, fit=TRUE, ...)
is.mmba (f)
## S3 method for class 'mmba'
fit(m, ...)
## S3 method for class 'mmba'
summary(m, which=NA, ...)
```

Arguments

f	.
fs	.
which	.
fit	.
m	.
y	.
...	.

plots	<i>plots</i>
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Description

todo

Usage

```
## S3 method for class 'mmba'
plot(m, which=NA, index=FALSE, ...)
## S3 method for class 'amba'
plot(m, which=NA, index=FALSE, ...)
## S3 method for class 'cmba'
pairs(m, ...)
## S3 method for class 'contributionset'
pairs(fs, ...)
```

```
## S3 method for class 'contribution'
plot(f, y, index=FALSE, main, xlab, ylab, ...)
## S3 method for class 'categorical'
plot(f, y, index=FALSE, main, xlab, ylab, ...)
## S3 method for class 'contribution'
lines(f, ...)
```

Arguments

m	.
f	.
fs	.
which	.
index	.
main	.
xlab	.
ylab	.
y	.
...	.

polynomial

polynomial contributions

Description

todo

Usage

```
polynomial(x, y, degree=1, name)
is.polynomial(f)
```

Arguments

f	.
name	.
degree	.
x	.
y	.

sample	<i>simulated dataset</i>
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Description

Simulated dataset for testing amba models.

Format

A table containing 102 rows (realisations) and 7 columns (variables). This data contains a lot of missing values.

```
[,1] g1 factor
[,2] g2 factor
[,3] x1 numeric
[,4] x2 numeric
[,5] x3 numeric
[,6] x4 numeric
[,7] y  numeric
```

seq	<i>contribution sequence methods</i>
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Description

todo

Usage

```
## S3 method for class 'contribution'
seq(f, n=80, ...)
## S3 method for class 'categorical'
seq(f, ...)
```

Arguments

```
f          .
n          .
...       .
```

smooth

smooth contributions

Description

todo

Usage

```
smooth(x, y, ns=10, degree=2, smoothness=0.67, bw, name)
is.smooth(f)
## S3 method for class 'smooth'
fitraw(f, y, ...)
## S3 method for class 'smooth'
summaryraw(f, ...)
```

Arguments

f	.
degree	.
smoothness	.
bw	.
name	.
ns	.
x	.
y	.
...	.

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