

Package ‘AutoViz’

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Type Package

Title Automated Data Visualization and Exploratory Dashboarding

Version 1.0.0

Description Provides automated exploratory data analysis, visualization recommendation, summary statistics, missing-value assessment, outlier screening, and HTML dashboard generation for rectangular data. The package automatically identifies variable types and common analytical relationships and recommends appropriate visualization methods based on data structure, cardinality, and analytical objectives. It provides a transparent, reproducible workflow for data profiling and visualization that can be used independently or as a component within interactive applications.

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Language en-US

Encoding UTF-8

Imports ggplot2, htmltools, rlang

Suggests testthat (>= 3.0.0), knitr, rmarkdown, shiny

Config/testthat/edition 3

VignetteBuilder knitr

URL <https://github.com/vinodhpm/AutoViz>

BugReports <https://github.com/vinodhpm/AutoViz/issues>

Config/roxygen2/version 8.1.0

NeedsCompilation no

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Contents

autoviz	2
vb_dashboard	3
vb_missing	3
vb_outliers	4
vb_plot	4
vb_profile	5
vb_recommend	5
vb_summary	6
Index	7

autoviz	<i>Run an automated EDA workflow</i>
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Description

Run an automated EDA workflow

Usage

```
autoviz(data, outcome = NULL, time = NULL, max_plots = 12)
```

Arguments

- data A data frame.
- outcome Optional outcome variable.
- time Optional date/time variable.
- max_plots Maximum number of recommendations shown.

Value

An object of class autoviz.

vb_dashboard	<i>Generate an HTML dashboard</i>
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Description

Creates a self-contained HTML representation of the automated EDA results. The dashboard is deliberately independent of Shiny and can be saved or embedded in reports.

Usage

```
vb_dashboard(data, outcome = NULL, time = NULL, title = "AutoViz Dashboard")
```

Arguments

data	A data frame.
outcome	Optional outcome variable.
time	Optional date/time variable.
title	Dashboard title.

Value

An `htmltools` tag object.

vb_missing	<i>Assess missing values</i>
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Description

Assess missing values

Usage

```
vb_missing(data)
```

Arguments

data	A data frame.
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Value

A data frame ranked by missing-value percentage.

vb_outliers	<i>Detect simple numeric outliers using the IQR rule</i>
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Description

Detect simple numeric outliers using the IQR rule

Usage

```
vb_outliers(data, multiplier = 1.5)
```

Arguments

data	A data frame.
multiplier	IQR multiplier. Defaults to 1.5.

Value

A data frame with outlier counts and thresholds.

vb_plot	<i>Create a recommended visualization</i>
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Description

Create a recommended visualization

Usage

```
vb_plot(  
  data,  
  x,  
  y = NULL,  
  type = c("bar", "histogram", "density", "scatter", "line", "boxplot")  
)
```

Arguments

data	A data frame.
x	Variable used on the x axis.
y	Optional y variable.
type	Plot type: bar, histogram, density, scatter, line, or boxplot.

Value

A ggplot object.

vb_profile	<i>Profile a rectangular dataset</i>
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Description

Returns a compact machine-readable profile describing dimensions, variable classes, missingness, and cardinality.

Usage

```
vb_profile(data)
```

Arguments

data	A data frame.
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Value

A data frame with one row per variable.

vb_recommend	<i>Recommend visualizations from a dataset</i>
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Description

Uses variable types, cardinality, and optional outcome/time variables to generate a ranked set of practical visualization recommendations.

Usage

```
vb_recommend(data, outcome = NULL, time = NULL, max_pairs = 10)
```

Arguments

data	A data frame.
outcome	Optional outcome variable name.
time	Optional date/time variable name.
max_pairs	Maximum number of numeric relationships to recommend.

Value

A data frame containing recommended plot specifications.

vb_summary	<i>Summarize a dataset</i>
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Description

Produces variable-level descriptive statistics suitable for automated EDA.

Usage

```
vb_summary(data)
```

Arguments

data	A data frame.
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Value

A data frame with summary information.

Index

autoviz, [2](#)

vb_dashboard, [3](#)

vb_missing, [3](#)

vb_outliers, [4](#)

vb_plot, [4](#)

vb_profile, [5](#)

vb_recommend, [5](#)

vb_summary, [6](#)