

# Package ‘DrData’

May 19, 2026

**Title** Interactive Statistical Analysis and Machine Learning Platform

**Version** 0.2.0

**Description** A 'Shiny'-based interactive platform for end-to-end data science workflows. Provides modules for data import (CSV, 'Excel', RDS, TXT), data preprocessing (missing value imputation, encoding, scaling, outlier removal), exploratory data analysis with interactive plots and normality tests, supervised learning (regression and classification each with eight algorithms), and unsupervised learning (k-means, hierarchical clustering, density-based spatial clustering of applications with noise). Designed for students and practitioners in data science and artificial intelligence.

**License** MIT + file LICENSE

**Encoding** UTF-8

**Language** en-US

**URL** <https://github.com/mohsenmehdinia/DrData>

**BugReports** <https://github.com/mohsenmehdinia/DrData/issues>

**RoxygenNote** 7.3.3

**Imports** shiny (>= 1.7.0), stats, utils

**Suggests** shinydashboard, plotly, DT, ggplot2, dplyr, tidyr, readr, readxl, caret, randomForest, rpart, rpart.plot, e1071, class, nnet, colourpicker, glmnet, cluster, dbscan, GGally, gbm, pROC, reshape2, scales, nortest, tseries, testthat (>= 3.0.0), knitr, rmarkdown

**VignetteBuilder** knitr

**NeedsCompilation** no

**Author** Mohsen Mehdinia [aut, cre]

**Maintainer** Mohsen Mehdinia <mehdinia.55@gmail.com>

**Repository** CRAN

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build_model_formula	<i>Build a model formula with optional interaction terms</i>
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## Description

Build a model formula with optional interaction terms

## Usage

```
build_model_formula(
  target,
  features,
  use_interactions = FALSE,
  interaction_vars = NULL
)
```

## Arguments

target	Single character: response variable name.
features	Character vector of predictor names.
use_interactions	Logical; add two-way interactions? Default FALSE.
interaction_vars	Character vector of variables to interact.

## Value

A `formula` object.

## Examples

```
build_model_formula("mpg", c("cyl", "hp", "wt"))
build_model_formula("mpg", c("cyl", "hp", "wt"), TRUE, c("cyl", "hp"))
```

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ml\_metrics\_regression *Compute regression performance metrics*

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**Description**

Compute regression performance metrics

**Usage**

```
ml_metrics_regression(y_true, y_pred)
```

**Arguments**

y_true	Numeric vector of observed values.
y_pred	Numeric vector of predicted values.

**Value**

One-row data.frame with columns RMSE, MAE, R2.

**Examples**

```
ml_metrics_regression(c(1,2,3,4,5), c(1.1,1.9,3.2,3.8,5.1))
```

---

ml\_prepare\_data *Prepare a data frame for machine learning*

---

**Description**

Prepare a data frame for machine learning

**Usage**

```
ml_prepare_data(data, target, features = NULL)
```

**Arguments**

data	A data.frame.
target	Single character string: the response column name.
features	Character vector of predictor names. Default: all except target.

**Value**

Named list: data, target, features.

**Examples**

```
prep <- ml_prepare_data(mtcars, target = "mpg")
names(prep)
```

---

**ml\_split***Split a data frame into training and test sets*

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**Description**

Split a data frame into training and test sets

**Usage**

```
ml_split(data, train_ratio = 0.8, seed = 42)
```

**Arguments**

data	A data.frame to split.
train_ratio	Numeric in (0,1); proportion for training. Default 0.8.
seed	Integer random seed. Default 42.

**Value**

Named list with train and test data frames.

**Examples**

```
splits <- ml_split(mtcars, train_ratio = 0.75, seed = 1)
nrow(splits$train)
```

---

**run\_app***Run the DrData Application*

---

**Description**

Launches the 'DrData' interactive 'Shiny' application for statistical analysis and machine learning workflows.

**Usage**

```
run_app()
```

**Value**

No return value, called for side effects.

**Examples**

```
if(interactive()){  
  run_app()  
}
```

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