

Some of these packages also have functions to explore patterns of missingness

- ▶ **Amelia II:** A Program for Missing Data
- ▶ **Hmisc:** Harrell Miscellaneous
- ▶ **mi:** Missing Data Imputation and Model Checking
- ▶ **mitools:** Tools for multiple imputation of missing data

Amelia: Amelia II: A Program for Missing Data

Amelia II "multiply imputes" missing data in a single cross-section (such as a survey), from a time series (like variables collected for each year in a country), or from a time-series-cross-sectional data set (such as collected by years for each of several countries). Amelia II implements our bootstrapping-based algorithm that gives essentially the same answers as the standard IP or EMis approaches, is usually considerably faster than existing approaches and can handle many more variables. Unlike Amelia I and other statistically rigorous imputation software, it virtually never crashes (but please let us know if you find to the contrary!). The program also generalizes existing approaches by allowing for trends in time series across observations within a cross-sectional unit, as well as priors that allow experts to incorporate beliefs they have about the values of missing cells in their data. Amelia II also includes useful diagnostics of the fit of multiple imputation models. The program works from the R command line or via a graphical user interface that does not require users to know R.

Version:	1.7.3
Depends:	R ($\geq 3.0.2$), Rcpp (≥ 0.11)
Imports:	foreign , <code>utils</code>
LinkingTo:	Rcpp (≥ 0.11), RcppArmadillo
Suggests:	<code>tcltk</code> , Zelig
Published:	2014-11-15

mice: Multivariate Imputation by Chained Equations

Multiple imputation using Fully Conditional Specification (FCS) implemented by the MICE algorithm. Each variable has its own imputation model. Built-in imputation models are provided for continuous data (predictive mean matching, normal), binary data (logistic regression), unordered categorical data (polytomous logistic regression) and ordered categorical data (proportional odds). MICE can also impute continuous two-level data (normal model, `pan`, second-level variables). Passive imputation can be used to maintain consistency between variables. Various diagnostic plots are available to inspect the quality of the imputations.

Version: 2.22
Depends: R ($\geq 2.10.0$), methods, [Rcpp](#) ($\geq 0.10.6$), [lattice](#)
Imports: [MASS](#), [nnet](#), [randomForest](#), [rpart](#)
LinkingTo: [Rcpp](#)
Suggests: [AGD](#), [gamlss](#), [lme4](#), [mitools](#), [nlme](#), [pan](#), [survival](#), [Zelig](#)
Published: 2014-06-11
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MissingDataGUI: A GUI for Missing Data Exploration

Provides numeric and graphical summaries for the missing values from both categorical and quantitative variables. A variety of imputation methods are applied, including the univariate imputations like fixed or random values, multivariate imputations like the nearest neighbors and multiple imputations, and imputations conditioned on a categorical variable.

Version: 0.2-2

Depends: [gWidgetsRGtk2](#), [ggplot2](#)

Imports: [GGally](#), [cairoDevice](#), [grid](#), [reshape](#)

Suggests: [Hmisc](#), [norm](#), [mice](#), [mi](#)

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License: [GPL-2](#) | [GPL-3](#) [expanded from: GPL (≥ 2.0)]

NeedsCompilation: no

Materials: [README](#) [NEWS](#)

CRAN checks: [MissingDataGUI results](#)

VIM: Visualization and Imputation of Missing Values

New tools for the visualization of missing and/or imputed values are introduced, which can be used for exploring the data and the structure of the missing and/or imputed values. Depending on this structure of the missing values, the corresponding methods may help to identify the mechanism generating the missing values and allows to explore the data including missing values. In addition, the quality of imputation can be visually explored using various univariate, bivariate, multiple and multivariate plot methods. A graphical user interface available in the separate package VIMGUI allows an easy handling of the implemented plot methods.

Version: 4.4.1
Depends: R ($\geq 3.1.0$), [colorspace](#), grid, [data.table](#) ($\geq 1.9.4$)
Imports: [car](#), grDevices, [robustbase](#), stats, [sp](#), [vcd](#), [MASS](#), [nnet](#), [e1071](#), methods, [Rcpp](#), utils, graphics
LinkingTo: [Rcpp](#)
Published: 2015-09-15
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Maintainer: Matthias Templ <matthias.templ at gmail.com>
License: [GPL-2](#) | [GPL-3](#) [expanded from: GPL (≥ 2)]
URL: <https://github.com/alexkowa/VIM>
NeedsCompilation: yes
Materials: [README](#) [NEWS](#)