Changes on CRAN
2013-12-01 to 2014-06-30

by Kurt Hornik and Achim Zeileis

New packages in CRAN task views

Bayesian: **BAYSTAR**, **PReMiuM**, **eigenmodel**, **rstiefel**, **spikeslab**.

ChemPhys: **clustvarsel**, **investr**, **nlreg**, **resemble**.

ClinicalTrials: **AGSDest**, **binomSamSize**, **metasens**.

Cluster: **PReMiuM**, **clusterfly**, **clustvarsel**, **dendextend**, **mixer**, **optpart**, **seriation**.

Econometrics: **SemiParSampleSel**, **mfx**, **mnlogit**.

Environmetrics: **Distance**, **EnvStats**, **RMark**, **bReeze**, **dsm**, **dynatopmodel**, **marked**, **mrds**.

Finance: **ChainLadder**, **GEVStableGarch**, **MarkowitzR**, **Rbitcoin**, **TAQMNGR**, **bizdays**, **egcm**, **lgarch**, **pbo**, **tvm**, **ycinterextra**.

Genetics: **rmetasim**.

HighPerformanceComputing: **Rhpc**, **ffbase**, **toaster**.

MachineLearning: **RoughSets**, **penalizedLDA**.

MetaAnalysis: **Gmisc**, **Metatron**, **RcmdrPlugin.EZR**, **extfunnel**, **metap**, **metasens**, **mmeta**, **pcnetmeta**, **robumeta**.

Multivariate: **clustvarsel**, **denpro**.

NaturalLanguageProcessing: **boilerpipeR**, **languageR**, **tm.plugin.alceste**, **tm.plugin.europresse**, **tm.plugin.lexisnexis**, **tm.plugin.webmining**.

NumericalMathematics: **QZ**, **SparseM**, **conicfit**, **geigen**, **ktsolve**, **rARPACK**.

OfficialStatistics: **MicSim**, **foreign**, **prevR**, **questionr**, **seasonal**, **sms**.

Optimization: **DEoptimR**, **GA**, **GrassmannOptim**, **NMOF**.

Phylogenetics: **TreePar**.

Psychometrics: **DFIT**, **DIFlasso**, **TestScorer**, **pcIRT**, **pcaPA**.

ReproducibleResearch: **bibtex**, **papeR**, **sparktex**, **stargazer**, **suRtex**, **table1xls**, **texreg**, **tikzDevice**, **tth**.

Robust: **GSE**, **OutlierDC**, **OutlierDM**, **RECSO**, **RobPer**, **RobRSVD**, **drgee**, **georob**, **mblm**, **robcor**, **robumeta**, **rsig**, **ssmrob**.

SocialSciences: **lmeSplines**.

Spatial: **AMOEBA**, **geospacom**, **latticeDensity**, **leafletR**, **marmap**, **seg**, **siplab**, **spaMM**, **spacom**.

SpatioTemporal: **rmatio**.

Survival: **AdapEnetClass**, **BGPhazard**, **CoxRidge**, **LogrankA**, **MAMSE**, **MRsurv**, **NADA**, **NPMLEcmprsk**, **OutlierDC**, **ROCt**, **SemiCompRisks**, **SemiMarkov**, **SurvRegCensCov**, **YPmodel**, **coarseDataTools**, **kmc**, **kmconfband**, **psbcGroup**, **rsig**, **simMSM**, **simPH**, **smoothHR**, **spatsurv**, **surv2sampleComp**, **survMisc**, **survsim**, **wtcrsk**.

TimeSeries: **BAYSTAR**, **BootPR**, **GEVStableGarch**, **KFKSDS**, **LPStimeSeries**, **MAPA**, **MSwM**, **MTS**, **Sim.DiffProc**, **TED**, **TSdist**, **VAR.etp**, **bsts**, **costat**, **depmix**, **depmixS4**, **dlnm**, **earlywarnings**, **fractal**, **glarma**, **lgarch**, **locits**, **lomb**, **mvcwt**, **npst**, **pdfetch**, **rmaf**, **seasonal**, **spectral.methods**, **stsm**, **stsm.class**, **tsintermittent**, **tsoutliers**.

WebTechnologies: **GhcnDaily**, **RForcecom**, **RISmed**, **Rbitcoin**, **RefManageR**, **Thinknum**, **XML2R**, **acs**, **ecoengine**, **fbRanks**, **hoardeR**, **httpRequest**, **jsonlite**, **okmesonet**, **pdfetch**, **plusser**, **primerTree**, **psidR**, **pubmed.mineR**, **raincpc**, **rapport**, **rbhl**, **rbison**, **rnoaa**, **soilDB**, **spocc**, **sweSCB**, **tm.plugin.webmining**, **tseries**, **weatherData**.

(* = core package)

New contributed packages

AMOEBA: A Multidirectional Optimum Ecotope-Based Algorithm. Author: Guillermo Valles. In view: *Spatial*.

AR1seg: Segmentation of an autoregressive Gaussian process of order 1. Authors: S. Chakar, E. Lebarbier, C. Levy-Leduc, S. Robin.

ARPobservation: Tools for simulating different methods of observing behavior based on alternating renewal processes. Author: James E. Pustejovsky.

ATmet: Advanced Tools for Metrology. Authors: S. Demeyer, A. Allard.

AmpliconDuo: Statistical Analysis Of Amplicon Data Of The Same Sample To Identify Artefacts. Authors: Anja Lange [aut, cre], Daniel Hoffmann [aut].

AntWeb: programmatic interface to the AntWeb. Author: Karthik Ram [aut, cre].

Anthropometry: Statistical methods for anthropometric data oriented towards the ergonomic design of products. Authors: Guillermo Vinue, Irene Epifanio, Amelia Simo, M. Victoria Ibanez, Juan Domingo, Guillermo Ayala.

BAMMtools: Analysis and visualization of macroevolutionary dynamics on phylogenetic trees. Authors: Dan Rabosky, Mike Grundler, Pascal Title, Carlos Anderson, Jeff Shi, Joseph Brown, Huateng Huang.

BANOVA: Hierarchical Bayesian ANOVA Models. Authors: Chen Dong, Michel Wedel.

BBRecapture: Bayesian Behavioural Capture-Recapture Models. Authors: Luca Tardella and Danilo Alunni Fegatelli.

BEQI2: Benthic Ecosystem Quality Index 2. Authors: Willem van Loon [aut, cph], Dennis Walvoort [aut, cre].

BIPOD: Bayesian Inference for Partially Observed diffusions. Author: Anders Chr. Jensen.

BMhyd: PCM for Hybridization. Author: Dwueng-Chwuan Jhwueng.

BalancedSampling: Balanced and spatially balanced sampling. Author: Anton Grafström.

BayesComm: Bayesian community ecology analysis. Author: Nick Golding.

BayesGESM: Bayesian Analysis of Generalized Elliptical Semiparametric Models. Authors: Luz Marina Rondon and Heleno Bolfarine.

BayesMed: Default Bayesian hypothesis tests for correlation, partial correlation, and mediation. Authors: Michele B. Nuijten, Ruud Wetzels, Dora Matzke, Conor V. Dolan, and Eric-Jan Wagenmakers.

BayesPen: Bayesian Penalized Credible Regions. Authors: Ander Wilson, Howard D. Bondell, and Brian J. Reich.

BerlinData: Easy access to Berlin related data. Authors: Kate McCurdy, Dirk Schumacher.

BiSEp: Toolkit to identify synthetic lethality and cell line resistance relationships based on bimodality in gene expression data. Author: Mark Wappett.

Blaunet: Calculate and Analyze Blau statuses for measuring social distance. Authors: Michael Genkin [aut], George Berry [aut], Liyuan Chen [aut], Matthew Brashears [aut].

Boom: Bayesian Object Oriented Modeling. Authors: Steven L. Scott is the sole author and creator of the BOOM project. Some code in the BOOM libraries has been modified from other open source projects. These include Cephes (obtained from Netlib, written by Stephen L. Moshier), NEWUOA (M.J.D Powell, obtained from Powell's web site), and a modified version of the R math libraries (R core development team).

BoomSpikeSlab: MCMC for spike and slab regression. Author: Steven L. Scott.

CAvariants: Correspondence Analysis Variants. Authors: Rosaria Lombardo and Eric J Beh.

CCMnet: Simulate Congruence Class Model for Networks. Authors: Ravi Goyal, with contributions from Mark S. Handcock, David R. Hunter, Carter T. Butts, Steven M. Goodreau, Pavel N. Krivitsky, Martina Morris, and Nicole Bohme Carnegie.

CCpop: One and two locus GWAS of binary phenotype with case-control-population design. Author: Shachar Kaufman.

CHAT: Clonal Heterogeneity Analysis Tool. Author: Bo Li.

CIDnetworks: Generative models for complex networks with conditionally independent dyadic structure. Authors: Beau Dabbs, Brian Junker, Mauricio Sadinle, Tracy Sweet, A.C. Thomas.

CMF: Collective matrix factorization. Authors: Arto Klami and Lauri Väre.

CMPControl: Control Charts for Conway-Maxwell-Poisson Distribution. Author: Kimberly Sellers and Luis Costa.

CORM: The Clustering of Regression Models Method. Authors: Li-Xuan Qin [aut], Jiejun Shi [cre].

CRAC: Cosmology R Analysis Code. Author: Jiayi Liu.

CRF: Conditional Random Fields. Author: Ling-Yun Wu [aut, cre].

CVD: Color Vision Deficiencies. Authors: José Gama [aut, cre, trl], Maria Nyberg [aut], Göran Högnäs [ths], Brian Foutch [ctb], Mark Grundland [ctb], Neil Dodgson [ctb].

CVcalibration: Estimation of the Calibration Equation with Error-in Observations. Authors: He Qi and Lu Tian.

ChargeTransport: Charge Transfer Rates and Charge Carrier Mobilities. Authors: Julien Idé and Guido Raos.

CircE: Circumplex models Estimation. Author: Michele Grassi.

ClickClust: Model-Based Clustering of Categorical Sequences. Author: Volodymyr Melnykov [aut, cre].

CoImp: Copula based imputation method. Authors: Francesca Marta Lilja Di Lascio, Simone Giannerini.

CombinS: Constructions method of rectangular PBIB and rectangular right angular PBIB(m) ($m = 4, 5$ and 7) designs. Authors: Mohamed Laib, Imane Rezgui, Zoubida Gheribi-Aoulmi and Herve Monod.

CommunityCorrelogram: Ecological Community Correlogram. Authors: J. Malia Andrus, Timothy Kuehlhorn, Luis F. Rodriguez, Angela D. Kent, and Julie L. Zilles.

ConnMatTools: Tools for working with connectivity matrices. Author: Marco Andrello.

CorReg: Linear regression based on linear structure between covariates. Authors: Clement Thery [aut, cre], Christophe Biernacki [ctb], Gaetan Loridant [ctb], Florian Watrin [ctb], Quentin Grimonprez [ctb], Vincent Kubicki [ctb].

DBFTest: DBF test of no difference between groups. Author: Christopher Minas.

DESnowball: Bagging with Distance-based Regression for Differential Gene Expression Analyses. Author: Yaomin Xu.

DEoptimR: Differential Evolution Optimization in pure R. Authors: Eduardo L. T. Conceicao and Martin Maechler [ctb]. In view: *Optimization*.

DFIT: Differential Functioning of Items and Tests (DFIT) framework analyses. Author: Victor H. Cervantes. In view: *Psychometrics*.

DNAprofiles: DNA profiling evidence analysis. Author: Maarten Kruijver.

DSsim: Distance Sampling Simulations. Author: Laura Marshall.

Density.T.HoldOut: Density.T.HoldOut: Non-combinatorial T-estimation Hold-Out for density estimation. Authors: Nelo Magalhães and Yves Rozenholc.

DescTools: Tools for descriptive statistics. Authors: Andri Signorell. Includes R source code and/or documentation previously published by (in alphabetical order): Nanina Anderegg, Tomas Aragon, Antti Arppe, Ben Bolker, Stephane Champely, Daniel Chessel, Leanne Chhay, Michael Dewey, Harold C. Doran, Stephane Dray, Charles Dupont, Jeff Enos, Claus Ekstrom, Martin Elff, John Fox, Tal Galili, Matthias Gamer, Juergen Gross, Gabor Grothendieck, Frank E. Harrell Jr, Michael Hoehle, Christian W. Hoffmann, Markus Huerzeler, Rob J. Hyndman, Pablo J. Villacorta Iglesias, David Kahle, Matthias Kohl, Mikko Korpela, Jim Lemon, Martin Maechler, Arni Magnusson, Daniel Malter, Alina Matei, David Meyer, Yongyi Min, Markus Naepflin, Derek Ogle, Sandrine Pavoine, Roland Rapold, William Revelle, Venkatraman E. Seshan, Greg Snow, Michael Smithson, Werner A. Stahel, Yves Tille, Adrian Trapletti, Kevin Ushey, Jeremy VanDerWal, Bill Venables, John Verzani, Gregory R. Warnes, Stefan Wellek, Peter Wolf, Achim Zeileis.

Disake: Discrete associated kernel estimators. Authors: W. E. Wansouwe, C. C. Kokonendji and D.T. Kolyang.

DiscML: Estimate evolutionary rates of discrete characters using maximum likelihood. Authors: Tane Kim, Weilong Hao.

DivE: Diversity Estimator. Authors: Daniel Laydon, Aaron Sim, Charles Bangham, Becca Asquith.

DoubleExpSeq: Differential Exon Usage Test for RNA-Seq data via Empirical Bayes Shrinkage of the Dispersion Parameter. Author: Sean Ruddy.

EBEN: Empirical Bayesian Elastic Net. Authors: Anhui Huang, Shizhong Xu, Xiaodong Cai.

ELT: Build Experience Life Tables. Authors: Julien Tomas, Frederic Planchet, Wassim Youssef.

EMMIXcontrasts: Contrasts in mixed effects for EMMIX model with random effects. Authors: Angus Ng, Geoff McLachlan, Kui Wang.

EMMREML: Fitting mixed models with known covariance structures. Authors: Deniz Akdemir, Okeke Uche Godfrey.

EMP: Expected Maximum Profit for Credit Scoring. Authors: Cristian Bravo and Thomas Verbraken.

ERP: Significance analysis of Event-Related Potentials data. Authors: David Causeur and Ching-Fan Sheu.

ESGtoolkit: Toolkit for the simulation of financial assets and interest rates models. Authors: Jean-Charles Croix, Thierry Moudiki, Frederic Planchet, Wassim Youssef.

EWGoF: Goodness-of-fit tests for the Exponential and two-parameter Weibull distributions. Author: Meryam Krit.

EasyMARK: Utility functions for working with mark-recapture data. Author: John Waller.

EasyStrata: Evaluation of stratified genome-wide association meta-analysis results. Author: Thomas Winkler.

Ecfun: Functions for Ecdat. Author: Spencer Graves.

EloRating: Animal Dominance Hierarchies by Elo Rating. Authors: Christof Neumann and Lars Kulik.

ElstonStewart: Elston-Stewart Algorithm. Author: Herve Perdry.

EntropyEstimation: Tools for the estimation of entropy and related quantities. Authors: Lijuan Cao and Michael Grabchak.

EnviroStat: Statistical analysis of environmental space-time processes. Authors: Nhu Le, Jim Zidek, Rick White, and Davor Cubranic, with Fortran code for Sampson-Guttorp estimation authored by Paul D. Sampson, Peter Guttorp, Wendy Meiring, and Catherine Hurley, and Runge-Kutta-Fehlberg method implementation by H.A. Watts and L.F. Shampine.

EpiDynamics: Dynamic Models in Epidemiology. Authors: Oswaldo Santos [aut, cre], Fernando Silveira Marques [aut].

Evapotranspiration: Authors: Danlu Guo, Seth Westra.

EvoRAG: Evolutionary Rates Across Gradients. Author: Jason T. Weir.

ExtDist: Extended Probability Distribution Functions. Authors: Haizhen Wu, A. Jonathan R. Godfrey, Kondaswamy Govindaraju.

ExtremeBounds: Extreme Bounds Analysis (EBA). Author: Marek Hlavac.

FDRreg: False discovery rate regression. Authors: James G. Scott, with contributions from Rob Kass and Jesse Windle.

FDboost: Boosting functional regression models. Author: Sarah Brockhaus.

FGSG: Feature grouping and selection over an undirected graph. Authors: Xiaotong Shen, Yiwen Sun, Julie Langou.

FLIM: Farewell's Linear Increments Model. Authors: Rune Hoff with contributions from Jon Michael Gran and Daniel Farewell.

FLR: Fuzzy Logic Rule Classifier. Authors: Constantinos Mavridis and Ioannis N. Athanasiadis.

FLSSS: Fixed Size Subset Sum Solution. Author: Charlie Wusuo Liu.

FPDC: PD-clustering and factor PD-clustering. Authors: Cristina Tortora and Paul D. McNicholas.

FastHCS: Compute the FastHCS outlyingness index. Author: Kaveh Vakili [aut, cre].

FisHiCal: Iterative FISH-based Calibration of Hi-C Data. Authors: Yoli Shavit, Fiona Kathryn Hamey and Pietro Lio'.

FunChisq: Nonparametric functional chi-square tests. Authors: Yang Zhang, Joe Song.

FusedLasso: Solves the generalized Fused Lasso. Author: Holger Hoefling.

GDAtools: A toolbox for the analysis of categorical data in social sciences, and especially Geometric Data Analysis. Author: Nicolas Robette.

GEVStableGarch: ARMA-GARCH/APARCH models with GEV and stable distributions. Authors: Thiago do Rego Sousa, Cira Etheowalda Guevara Otiniano and Silvia Regina Costa Lopes. In views: *Finance*, *TimeSeries*.

GHQp: Gauss Hermite Quadrature with pruning. Author: Freddy Hernandez Barajas.

GLSME: Generalized Least Squares with Measurement Error. Author: Krzysztof Bartoszek.

GMCM: Fast estimation of Gaussian Mixture Copula Models. Authors: Anders Ellern Bilgrau, Martin Boegsted, Poul Svante Eriksen.

GNE: Computation of generalized Nash equilibria. Author: Christophe Dutang.

GPFDA: Apply Gaussian Process in Functional data analysis. Authors: Jian Qing Shi, Yafeng Cheng.

GPLTR: Generalized Partially Linear Tree-based Regression Model. Authors: Cyprien Mbogning and Wilson Toussile.

GSAgm: Gene Set Analysis using the Gamma Method. Authors: Rama Raghavan, Alice Wang.

GWsignif: Genome-wide significance for whole genome sequencing studies. Authors: ChangJiang Xu and Celia M.T. Greenwood.

Gammareg: Classic gamma regression: joint modeling of mean and shape parameters. Authors: Martha Corrales and Edilberto Cepeda-Cuervo, with the colaboration of Maria Fernanda Zarate, Ricardo Duplat and Campo Elias Pardo.

GenABEL.data: Contains data which is used by **GenABEL** example and test functions. Authors: Maksim Struchalin and GenABEL project developers.

GenBinomApps: Clopper-Pearson Confidence Interval and Generalized Binomial Distribution. Authors: Horst Lewitschnig, David Lenzi.

GeneFeST: Bayesian calculation of gene-specific FST from genomic SNP data. Author: Bastian Pfeifer.

GeoGenetix: Quantification of the effect of geographic versus environmental isolation on genetic differentiation. Authors: Filippo Botta, Gilles Guillot.

Gmisc: A few handy misc functions for plots, tables, and more. Author: Max Gordon. In view: *MetaAnalysis*.

GraphPCA: Graphical tools of histogram PCA. Authors: Brahim Brahim and Sun Makosso-Kallyth.

HBSTM: Hierarchical Bayesian Space-Time models for Gaussian space-time data. Authors: Pilar Munyoz, Alberto Lopez Moreno.

HIV.LifeTables: HIV calibrated model life tables for countries with generalized HIV epidemics. Author: David J Sharrow.

HK80: Conversion Tools for HK80 Geographical Coordinate System. Author: Jinlong Zhang.

HLSM: Hierarchical Latent Space network Model. Authors: Samrachana Adhikari, Brian Junker, Tracy Sweet, Andrew C. Thomas.

HMMCont: Hidden Markov Model for Continuous Observations Processes. Author: Mikhail A. Beketov.

HMMpa: Analysing accelerometer data using hidden Markov models. Authors: Vitali Witowski, Ronja Foraita.

HSAUR3: A Handbook of Statistical Analyses Using R (3rd Edition). Authors: Brian S. Everitt and Torsten Hothorn.

HUM: Compute HUM value and visualize ROC curves. Authors: Natalia Novoselova, Junxi Wang, Jialiang Li, Frank Pessler, Frank Klawonn.

Hankel: Univariate non-parametric two-sample test based on empirical Hankel transforms. Author: Daniel Kolbe.

HiClimR: Hierarchical Climate Regionalization: An Improved Hierarchical Clustering in R for Climate Regionalization. Authors: Hamada S. Badr [aut, cre], Benjamin F. Zaitchik [aut], Amin K. Dezfuli [aut].

HiCseg: Detection of domains in HiC data. Author: Celine Levy-Leduc.

HiLMM: Estimation of heritability in high dimensional Linear Mixed Models. Author: Anna Bonnet.

ICGE: Estimation of number of clusters and identification of atypical units. Authors: Itziar Irigoien [aut, cre], Concepcion Arenas [aut].

ICsurv: Semiparametric regression analysis of interval-censored data. Authors: Christopher S. McMahan and Lianming Wang.

InventorymodelPackage: Author: Alejandro Saavedra Nieves.

IsingFit: Fitting Ising models using the eLasso method. Authors: Claudia van Borkulo, Sacha Epskamp, with contributions from Alexander Robitzsch.

IsingSampler: Sampling methods and distribution functions for the Ising model. Author: Sacha Epskamp.

IsoCI: Confidence intervals for current status data based on transformations and bootstrap. Authors: Byeong Yeob Choi, Jason P. Fine and M. Alan Brookhart.

JBTools: JB's tools and helper functions. Author: Jannis v. Buttlar.

KANT: Identify and sort genes overexpressed. Author: Noemie Robil.

KATforDCEMRI: Kinetic analysis and visualization of DCE-MRI data. Authors: Gregory Z. Ferl, Georges Hankov.

KFKSDS: Kalman Filter, Smoother and Disturbance Smoother. Author: Javier López-de-Lacalle. In view: *TimeSeries*.

LINselect: Selection of linear estimators. Authors: Yannick Baraud, Christophe Giraud, Sylvie Huet.

LOGICOIL: Multi-state prediction of coiled-coil oligomeric state. Authors: Thomas L. Vincent, Peter J. Green and Derek N. Woolfson.

LPS: Linear Predictor Score, for binary inference from multiple continuous variables. Author: Sylvain Mareschal.

LPStimeSeries: Learned Pattern Similarity and Representation for Time Series. Authors: Learned Pattern Similarity (LPS) for time series by Mustafa Gokce Baydogan, Ensemble of regression trees by Andy Liaw and Matthew Wiener. In view: *TimeSeries*.

LS2Wstat: A Multiscale Test of Spatial Stationarity for LS2W processes. Authors: Sarah Taylor [aut], Matt Nunes [aut, cre], Idris Eckley [ctb, ths].

LSAfun: Applied Latent Semantic Analysis (LSA) functions. Author: Fritz Guenther [aut, cre].

LogisticDx: Diagnostic tests for logistic regression models. Author: Chris Dardis.

MAPA: Multiple Aggregation Prediction Algorithm. Authors: Nikolaos Kourentzes and Fotios Petropoulos. In view: *TimeSeries*.

MC2toPath: Translates information from netcdf files with MC2 output into inter-PVT transitions. Authors: Dave Conklin and Emilie Henderson.

MCMC.OTU: Bayesian analysis of multivariate counts data. Author: Mikhail V. Matz.

MIICD: Multiple Imputation for interval censored data regression. Author: Marc Delord.

MILC: MIcrosimulation Lung Cancer (MILC) model. Author: Stavroula A. Chrysanthopoulou.

MMMS: Multi-Marker Molecular Signature for Treatment-specific Subgroup Identification. Authors: Lin Li, Tobias Guennel, Scott Marshall, Leo Wang-Kit Cheung.

MTS: All-purpose toolkit for analyzing multivariate time series (MTS) and estimating multivariate volatility models. Author: Ruey S. Tsay. In view: *TimeSeries*.

MXM: Discovering multiple, statistically-equivalent signatures. Authors: Ioannis Tsamardinos, Vincenzo Lagani, Giorgos Athineou.

ManyTests: Multiple testing procedures of Cox (2011) and Wang and Cox (2007). Author: Christiana Kartsonaki.

MarkowitzR: Statistical significance of the Markowitz portfolio. Author: Steven E. Pav [aut, cre]. In view: *Finance*.

Metatron: Meta-analysis for Classification Data and Correction to Imperfect Reference. Author: Huiling Huang. In view: *MetaAnalysis*.

Methplot: Visualize the methylation patterns. Author: Xin Yang.

MiST: Mixed effects Score Test for continuous outcomes. Authors: Jianping Sun, Yingye Zheng, and Li Hsu.

MicSim: Performing continuous-time microsimulation. Author: Sabine Zinn. In view: *OfficialStatistics*.

Mposterior: Robust and Scalable Bayes via a Median of Subset Posterior Measures. Author: Sanvesh Srivastava.

MultiCNVDetect: Multiple Copy Number Variation Detection. Authors: Hao Lin, Qiang Kou.

NHMMfdr: Compute FDR under dependence using NHMM. Author: Pei Fen Kuan.

NLPutils: Natural Language Processing Utilities. Author: Kurt Hornik [aut, cre].

NPS: Convenience functions and tests for working with the Net Promoter Score (NPS). Author: Brendan Rocks.

Nemenyi: Implementation of the Nemenyi post-hoc test to find the groups of data that differ after a statistical test of multiple comparisons. Author: Christian Guckelsberger.

NetSim: A Social Networks Simulation Tool in R. Author: Christoph Stadtfeld.

NormPsy: Normalisation of psychometric tests. Authors: Cecile Proust-Lima, Viviane Philipps.

NormalLaplace: The Normal Laplace Distribution. Authors: David Scott, Jason Shicong Fu and Simon Potter.

ORCI: Several confidence intervals for the odds ratio. Author: Libo Sun.

OceanView: Visualisation of Oceanographic Data and Model Output. Author: Karline Soetaert.

OrdNor: Concurrent generation of ordinal and normal data with given correlation matrix and marginal distributions. Authors: Anup Amatya and Hakan Demirtas.

OutbreakTools: Basic tools for the analysis of disease outbreaks. Authors: The Hackout team (In alphabetic order: David Aanensen, Marc Baguelin, Paul Birrell, Simon Cauchemez, Anton Camacho, Caroline Colijn, Anne Cori, Xavier Didelot, Ken Eames, Christophe Fraser, Simon Frost, Niel Hens, Joseph Hugues, Thibaut Jombart, Lulla Opatowski, Oliver Ratmann, Samuel Soubeyrand, Marc Suchard, Jacco Wallinga, Rolf Ypma).

OutlierDM: Outlier detection for replicated high-throughput data. Authors: Soo-Heang Eo [aut, cre], HyungJun Cho [aut]. In view: *Robust*.

PBC: Product of Bivariate Copulas (PBC). Authors: Van Trung Pham and Gildas Mazo, with contributions from R Core team, Nash, Zhu, Byrd, Lu-Chen and Nocedal.

PBD: Protracted birth-death model of diversification. Author: Rampal S. Etienne.

PCAmixdata: Multivariate analysis for a mixture of quantitative and qualitative data. Authors: Marie Chavent and Vanessa Kuentz and Amaury Labenne and Benoit Liquet and Jerome Saracco.

PCDSpline: Semiparametric regression analysis of panel count data using monotone splines. Authors: Bin Yao and Lianming Wang.

PCGSE: Principal Component Gene Set Enrichment. Author: H. Robert Frost.

PCPS: Principal Coordinates of Phylogenetic Structure. Author: Vanderlei Julio Debastiani.

PEMM: A Penalized EM algorithm incorporating missing-data mechanism. Authors: Lin Chen and Pei Wang.

PGM2: Recursive method for construction of nested resolvable designs and uniform designs associated. Authors: Mohamed Laib, Abla Boudraa and Zoubida Gheribi-Aoulmi.

PHeval: Evaluation of the proportional hazards assumption with a standardized score process. Author: Cecile Chauvel.

PIGE: Self contained gene set analysis for gene- and pathway-environment interaction analysis. Authors: Benoit Liquet, Therese Truong.

PIGShift: Polygenic Inverse Gamma rate Shifts. Author: Joshua G. Schraiber.

PMCMR: Calculate Pairwise Multiple Comparisons of Mean Rank Sums. Author: Thorsten Pohlert.

PSMix: Population structure inference using mixture model. Authors: Baolin Wu [aut, cph], Nianjun Liu [aut, cph], Hongyu Zhao [aut, cph], Jose Gama [cre].

PTE: Personalized Treatment Evaluator. Authors: Adam Kapelner, Justin Bleich.

Paneldata: Linear models for panel data. Author: Zaghdoudi Taha.

ParetoPosStable: Computing, fitting and validating the Pareto Positive Stable distribution. Authors: Antonio Jose Saez-Castillo [aut, cre], Faustino Prieto [aut], Jose Maria Sarabia [aut].

PedCNV: An implementation for association analysis with CNV data. Authors: Meiling Liu, Sungho Won and Weicheng Zhu.

Peptides: Calculate indices and theoretical physicochemical properties of peptides and protein sequences. Authors: Daniel Osorio, Paola Rondon-Villarreal and Rodrigo Torres.

PerMallows: Permutations and Mallows distributions. Author: Ekhine Irurozki.

PermAlgo: Permutational algorithm to simulate survival data. Authors: Marie-Pierre Sylvestre, Thad Edens, Todd MacKenzie, Michal Abrahamowicz. In view: *Survival*.

PharmPow: Pharmacometric Power calculations for mixed study designs. Authors: Frank Kloprogge and Joel Tarning.

PoisNor: Simultaneous generation of multivariate data with Poisson and normal marginals. Authors: Anup Amatya and Hakan Demirtas.

PopED: Population (and individual) optimal Experimental Design. Authors: Andrew C. Hooker [aut, cre, trl, cph], Sebastian Ueckert [aut] (MATLAB version), Marco Foracchia [aut] (O-Matrix version), Joakim Nyberg [aut] (MATLAB version), Eric Stroemberg [ctb] (MATLAB version).

PortRisk: Portfolio Risk Analysis. Authors: Tamal Kanti Panja, Sourish Das, Rajeswaran Viswanathan.

Power2Stage: Power and Sample size distribution of 2-stage BE studies via simulations. Authors: Detlew Labes [aut, cre], Helmut Schuetz [ctb].

QuantifQuantile: Estimation of conditional quantiles using optimal quantization. Authors: Isabelle Charlier and Davy Paindaveine and Jerome Saracco.

R4CDISC: Read CDISC data files. Author: Ippei Akiya.

R4CouchDB: An R convenience layer for CouchDB. Author: Thomas Bock.

RADami: Phylogenetic Analysis of RADseq Data. Author: Andrew L. Hipp.

RAHRS: Data fusion filters for Attitude Heading Reference System (AHRS) with several variants of the Kalman filter and the Mahoney and Madgwick filters. Authors: Jose' Gama [aut, cre, trl], Vlad Maximov [aut], Sebastian O.H. Madgwick [aut], Alain Barraud [ctb], Göran Högnäs [ths].

RAPIDR: Reliable Accurate Prenatal non-Invasive Diagnosis R package. Author: Kitty Lo.

RApiSerialize: R API Serialization. Authors: Dirk Eddelbuettel, Junji Nakano, Ei-ji Nakama, and R Core (original code).

REdaS: Companion Package to the Book "R: Einführung durch angewandte Statistik". Author: Marco Johannes Maier [cre, aut].

RGENERATE: A tool for generation random variable time series using the tools of 'vars' or 'RMAWGEN'. Author: Emanuele Cordano.

RI2by2: Randomization inference for treatment effects on a binary outcome. Author: Joseph Rigdon.

RImageJROI: Read ImageJ Region of Interest (ROI) files. Authors: David C Sterratt [aut, cph, cre], Mikko Vihtakari [aut, cph].

RJSONLD: Semantic packaging tools for standard analytics. Author: Joseph Dureau.

ROC632: Construction of diagnostic or prognostic scoring system and internal validation of its discriminative capacities based on ROC curve and 0.633+ boostrap resampling. Author: Y. Foucher.

ROCt: Time-dependent ROC curve estimation and adaptation to the relative survival context. Authors: Y. Foucher, K. Trebern-Launay and M. Lorent. In view: *Survival*.

RPublica: ProPublica API Client. Author: Thomas J. Leeper.

RPushbullet: R interface to the wonderful Pushbullet service. Author: Dirk Eddelbuettel.

RSNPset: Authors: Chanhee Yi, Alexander Sibley, and Kouros Owzar.

RSelenium: R bindings for Selenium WebDriver. Author: John Harrison.

RSpincalc: Converting between attitude representations: DCM, Euler angles, Quaternions, and Euler vectors. Authors: Jose' Gama [aut, cre], John Fuller [aut, cph], Paolo Leva [aut, cph], Göran Högnäs [ths].

RTextureMetrics: Functions for calculation of texture metrics for Grey Level Co-occurrence Matrices. Author: Hans-Joachim Klemmt.

RWBP: Detects spatial outliers using a Random Walk on Bipartite Graph. Authors: Sigal Shaked and Ben Nasi.

RWebLogo: plotting custom sequence logos. Author: Omar Wagih.

RYoudaoTranslate: Functions to translate English words into Chinese. Author: Ke-Hao Wu.

RankResponse: Ranking Responses in a Single Response Question or a Multiple Response Question. Authors: Hsiuying Wang, Yu-Jun Lin.

RapidPolygonLookup: Polygon lookup using kd trees. Authors: Markus Loecher and Madhav Kumar.

Rchoice: Discrete Choice (Binary, Poisson and Ordered) Models with Random Parameters. Author: Mauricio Sarrias.

RcmdrPlugin.NMBU: R Commander Plug-In for statistics at NMBU. Authors: Kristian Hovde Liland, Solve Sæbø.

Rcpp11: R and C++11. Authors: Romain Francois [aut, cre], Kevin Ushey [aut], John Chambers [ctb].

RcppRedis: Rcpp bindings for Redis using the hiredis library. Author: Dirk Eddelbuettel.

RefFreeEWAS: EWAS using reference-Free DNA methylation mixture deconvolution. Authors: E. Andres Houseman.

RefManageR: Straightforward BibTEX and BibLATEX Bibliography Management. Author: Mathew W. McLean [aut, cre]. In view: *WebTechnologies*.

RegClust: Cluster analysis via regression coefficients. Authors: Weichao Bao, Xin Tong, Meredith Ray, Hongmei Zhang.

RelValAnalysis: Relative Value Analysis. Author: Ting-Kam Leonard Wong [aut, cre].

Reot: Empirical Orthogonal Teleconnections in R. Authors: Tim Appelhans, Florian Detsch, Thomas Nauss.

ReporteRs: Microsoft Word, Microsoft Powerpoint and HTML documents generation from R. Author: David Gohel.

ReporteRsjars: External jars required for package **ReporteRs**. Author: David Gohel.

Rhpc: High-Performance Computing. Authors: Junji Nakano and Ei-ji Nakama. In view: *HighPerformanceComputing*.

RobRSVD: Robust Regularized Singular Value Decomposition. Authors: Lingsong Zhang and Chao Pan. In view: *Robust*.

Rothermel: Rothermel fire spread model for R. Authors: Giorgio Vacchiano, Davide Ascoli.

RoughSets: Data Analysis Using Rough Set and Fuzzy Rough Set Theories. Authors: Lala Septem Riza, Andrzej Janusz, Chris Cornelis, Francisco Herrera, Dominik Slezak, and Jose Manuel Benitez. In view: *MachineLearning*.

Rpdb: Read, write, visualize and manipulate PDB files. Author: Julien Idé.

Rphylip: An R interface for PHYLIP. Authors: Liam J. Revell, Scott A. Chamberlain.

Rrdrand: Generate Physical Random Numbers on Intel CPUs with the RdRand instruction. Authors: Eiji Nakama, Junji Nakano.

RsimMosaic: R Simple IMage Mosaic creation library. Author: Alberto Krone-Martins.

Rsomoclu: R package for somoclu. Authors: Peter Wittek [aut], Shichao Gao [cre].

Rtsne: T-distributed Stochastic Neighbor Embedding using Barnes-Hut implementation. Author: Jesse Krijthe.

Rttf2pt1: Package for ttf2pt1 program. Authors: Winston Chang, Andrew Weeks, Frank M. Siegert, Mark Heath, Thomas Henlick, Sergey Babkin, Turgut Uyar, Rihardas Hepas, Szalay Tamas, Johan Vromans, Petr Titera, Lei Wang, Chen Xiangyang, Zvezdan Petkovic, Rigel, I. Lee Hetherington.

Ruchardet: Detect character encoding. Author: Heewon Jeon.

Rvcg: Manipulations of triangular meshes (smoothing, quadric edge collapse decimation, im- and export of various mesh file-formats, cleaning, etc.) based on the VCGLIB API. Author: Stefan Schlager; the authors of VCGLIB for the included version of the code.

SCBmeanfd: Simultaneous Confidence Bands for the Mean of Functional Data. Author: David Degras.

SCI: Standardized Climate Indices such as SPI, SRI or SPEI. Authors: Lukas Gudmundsson and James H. Stagge.

SCORER2: An algorithm for distinguishing parallel dimeric and trimeric coiled-coil sequences. Authors: Craig T. Armstrong, Thomas L. Vincent, Peter J. Green and Derek N. Woolfson.

SNFtool: Similarity Network Fusion. Authors: Bo Wang, Aziz Mezlini, Feyyaz Demir, Marc Fiume, Zhuowen Tu, Michael Brudno, Benjamin Haibe-Kains, Anna Goldenberg.

SPAr: Perform rare variants association analysis based on summation of partition approaches. Author: Ruixue Fan.

STEPCAM: ABC-SMC inference of the STEPCAM model. Authors: Thijs Janzen and Fons van der Plas.

STPGA: Selection of Training Populations by Genetic Algorithm. Author: Deniz Akdemir.

Sample.Size: Sample size calculation. Authors: Wei Jiang, Jonathan Mahnken, Matthew Mayo.

SemiCompRisks: Parametric and semi-parametric analyses of semi-competing risks data. Authors: Kyu Ha Lee and Sebastien Haneuse. In view: *Survival*.

SeqFeatR: Calculates possible epitopes and co-mutations. Author: Bettina Budeus.

ShrinkCovMat: Shrinkage Covariance Matrix Estimators. Author: Anestis Touloumis.

SimRAD: Simulations to predict the number of loci expected in RAD and GBS approaches. Authors: Olivier Lepais [aut, cre], Jason Weir [aut].

SimSeq: Nonparametric Simulation of RNA-Seq Data. Author: Samuel Benidt.

SocialMediaMineR: A Social Media Search and Analytic Tool. Author: Marco Toledo Bastos.

SocialNetworks: Generates social networks based on distance. Authors: Glenna Nightingale, Peter Nightingale.

SoftClustering: Soft Clustering Algorithms. Author: G. Peters.

SpecsVerification: Forecast verification routines for the SPECS FP7 project. Author: Stefan Siegert [aut, cre].

StableEstim: Estimate the 4 parameters of stable law using different methods. Authors: Tarak Kharrat, Georgi N. Boshnakov.

StereoMorph: Stereo Camera Calibration and Reconstruction. Authors: Aaron Olsen, Annat Haber.

Storm: Write Storm Bolts in R using the Storm Multi-Language Protocol. Author: Allen Day.

SubLasso: Gene selection using Lasso for Microarray data with user-defined genes fixed in model. Authors: Fengfeng Zhou, Youxi Luo, Qinghan Meng, Ruiquan Ge, Guoqin Mai, Jikui Liu.

Sunder: Quantification of the effect of geographic versus environmental isolation on genetic differentiation. Authors: Filippo Botta, Casper Eriksen, Gilles Guillot.

Surrogate: Evaluation of surrogate endpoints in clinical trials. Authors: Wim Van der Elst, Ariel Alonso and Geert Molenberghs.

SurvRegCensCov: Weibull Regression for a Right-Censored Endpoint with Interval-Censored Covariate. Authors: Stanislas Hubeaux and Kaspar Rufibach. In view: *Survival*.

TAQMNGR: Manage tick-by-tick transaction data. Authors: Francesco Calvori, Fabrizio Cipollini, Giampiero M. Gallo. In view: *Finance*.

TED: Turbulence time series Event Detection and classification. Authors: Yanfei Kang, Danijel Belusic and Kate Smith-Miles. In view: *TimeSeries*.

TFDEA: Technology Forecasting using Data Envelopment Analysis functions. Author: ETA Research Group at Portland State University.

TFMPvalue: Efficient and accurate p-value computation for Position Weight Matrices. Author: Ge Tan.

TSdist: Distance Measures for Time Series data. Authors: Usue Mori, Alexander Mendiburu, J.A. Lozano. In view: *TimeSeries*.

Table1Heatmap: Table 1 Heatmap. Author: Philip C Schouten.

TaoTeProgramming: Illustrations from Tao Te Programming. Author: Pat Burns.

TcGSA: Time-course Gene Set Analysis. Author: Boris P. Hejblum [aut, cre].

TeachNet: Fits neural networks to learn about back propagation. Author: Georg Steinbuss.

TopKLists: Inference, aggregation and visualization for top-*k* ranked lists. Authors: Michael G. Schimek, Eva Budinska, Jie Ding, Karl G. Kugler, Vendula Svendova, Shili Lin.

TrackReconstruction: Reconstruct animal tracks from magnetometer, accelerometer, depth and optional speed data. Author: Brian Battaile.

TreatmentSelection: Evaluate Treatment Selection Biomarkers. Authors: Marshall Brown and Holly Janes.

TurtleGraphics: Turtle graphics in R. Authors: Anna Cena [aut], Marek Gagolewski [aut], Marcin Kosinski [aut], Natalia Potocka [aut], Barbara Zogala-Siudem [aut, cre].

UBCRM: Functions to simulate and conduct dose escalation phase I studies. Author: Benjamin Esterni with contribution from Baboukar Mane.

VAR.etp: VAR modelling: estimation, testing, and prediction. Author: Jae. H. Kim. In view: *TimeSeries*.

VIMGUI: Visualization and Imputation of Missing Values. Authors: Daniel Schopfhauser, Matthias Templ, Andreas Alfons, Alexander Kowarik, Bernd Prantner.

VNM: Multiple objective optimal design. Authors: Seung Won Hyun, Weng Kee Wong, and Yarong Yang.

VdgRsm: Variance Dispersion and Fraction of Design Space Plots. Authors: Patchanok Srisuradetchai, John J. Borkowski.

VideoComparison: Video comparison tool. Authors: Silvia Espinosa, Joaquin Ordieres, Antonio Bello, Jose Maria Perez.

VoxR: Metrics extraction of trees from T-LiDAR data. Authors: Bastien Lecigne, Sylvain Delagrange and Christian Messier.

Wats: Wrap Around Time Series graphics. Authors: Will Beasley [aut, cre], Joe Rodgers [aut], Matthew Schuelke [ctb], Ronnie Coleman [ctb], Mark Joseph Lachowicz [ctb].

WikipediR: A MediaWiki API wrapper. Author: Oliver Keyes.

WrightMap: Wright Map: IRT item-person map with ConQuest integration. Authors: David Torres Irribarra and Rebecca Freund.

XBRL: Extraction of business financial information from XBRL documents. Authors: Roberto Bertolusso and Marek Kimmel.

XNomial: Exact Goodness-Of-Fit Test For Multinomial Data With Fixed Probabilities. Author: Bill Engels.

Xmisc: Xiaobei's miscellaneous classes and functions. Author: Xiaobei Zhao [aut, cre, cph].

aRpsDCA: Arps Decline Curve Analysis in R. Author: Derrick Turk [aut, cre, cph].

accrual: Bayesian Accrual Prediction. Authors: Yu Jiang, Steve Simon, Matthew S. Mayo, Rama Raghavan, Byron J. Gajewski.

acm4r: Align-and-Count Method comparisons of RFLP data. Authors: Andrea Benedetti, Sahir Rai Bhatnagar, Xiaofei Zhao.

acss: Algorithmic Complexity for Short Strings. Authors: Nicolas Gauvrit [aut], Henrik Singmann [aut, cre], Fernando Soler Toscano [ctb], Hector Zenil [ctb].

acss.data: Data Only: Algorithmic Complexity of Short Strings (Computed via Coding Theorem Method). Authors: Fernando Soler Toscano [aut], Nicolas Gauvrit [aut], Hector Zenil [aut], Henrik Singmann [aut, cre].

additivityTests: Additivity tests in the two way ANOVA with single sub-class numbers. Authors: Marie Simeckova [aut], Thomas Rusch [aut], Petr Simecek [cre].

adhoc: Calculate ad hoc distance thresholds for DNA barcoding identification. Author: Gontran Sonet.

aemo: Download and process AEMO price and demand data. Authors: Imanuel Costigan [aut, cre], Australian Energy Market Operator [cph].

aidar: Tools for reading AIDA (`http://aida.freehep.org/`) files into R. Author: Andreas Pfeiffer.

algstat: Algebraic statistics in R. Authors: David Kahle and Luis Garcia-Puente.

anominate: alpha-NOMINATE Ideal Point Estimator. Authors: Royce Carroll, Christopher Hare, Jeffrey B. Lewis, James Lo, Keith T. Poole, and Howard Rosenthal.

apmsWAPP: Pre- and Postprocessing for AP-MS data analysis based on spectral counts. Author: Martina Fischer.

apsimr: Edit, run and evaluate APSIM simulations from R easily. Author: Bryan Stanfill.

argparser: Command-line argument parser. Author: David JH Shih.

arnie: "Arnie" box office records 1982-2014. Author: Imanuel Costigan [aut, cre].

assertthat: Easy pre and post assertions. Author: Hadley Wickham [aut, cre].

astrochron: An R Package for Astrochronology. Author: Stephen Meyers.

autoencoder: An implementation of sparse autoencoder for automatic learning of representative features from unlabeled data. Authors: Eugene Dubossarsky (project leader, chief designer), Yuriy Tyshetskiy (design, implementation, testing).

babel: Ribosome profiling data analysis. Authors: Adam B. Olshen, Richard A. Olshen, Barry S. Taylor.

bartMachine: Bayesian Additive Regression Trees. Authors: Adam Kapelner and Justin Bleich.

bcpmeta: Bayesian Multiple Changepoint Detection Using Metadata. Author: Yingbo Li.

bdvis: Biodiversity Data Visualizations. Authors: Vijay Barve, Javier Otegui.

beepr: Easily Play Notification Sounds on any Platform. Author: Rasmus Bååth.

benford.analysis: Benford Analysis for data validation and forensic analytics. Author: Carlos Cinelli.

berryFunctions: function collection related to hydrology, zooming and shapefiles. Author: Berry Boessenkool.

bezier: Bezier Curve and Spline Toolkit. Author: Aaron Olsen.

bigalgebra: BLAS routines for native R matrices and big.matrix objects. Authors: Michael J. Kane, Bryan Lewis, and John W. Emerson.

bigpca: PCA, transpose and multicore functionality for big.matrix objects. Author: Nicholas Cooper.

bigsplines: Big Splines (smoothing splines for large samples). Author: Nathaniel E. Helwig.

bilan: Bilan water balance model. Authors: T. G. Masaryk Water Research Institute, p.r.i.: Ladislav Kasparek, Martin Hanel, Stanislav Horacek, Petr Maca, Adam Vizina.

binda: Multi-Class Discriminant Analysis using Binary Predictors. Authors: Sebastian Gibb and Korbinian Strimmer.

bingat: Binary Graph Analysis Tools. Authors: Terrence Brooks, Berkley Shands, Skye Buckner-Petty, Patricio S. La Rosa, Elena Deych, William D. Shannon.

bioPN: Simulation of deterministic and stochastic biochemical reaction networks using Petri Nets. Authors: Roberto Bertolusso and Marek Kimmel.

biotools: Tools for Biometry and Applied Statistics in Agricultural Science. Author: Anderson Rodrigo da Silva.

biplotbootGUI: Bootstrap on Classical Biplots. Authors: Ana Belen Nieto Librero, Purificacion Galindo Villardon.

birdring: Methods to analyse ring re-encounter data. Authors: Fraenzi Korner-Nievergelt, Rob Robinson.

birk: MA Birk functions. Author: Matthew A Birk.

blockmatrix: Tools to solve algebraic systems with partitioned matrices. Author: Emanuele Cordano.

blowtorch: Constrained optimization via stochastic gradient descent. Author: Steven Pollack.

bmmix: Bayesian multinomial mixture. Author: Thibaut Jombart.

bold: Interface to Bold Systems API. Author: Scott Chamberlain [aut, cre].

boolean3: Boolean Binary Response Models. Author: Jason W. Morgan.

boostr: A modular framework to bag or boost any estimation procedure. Author: Steven Pollack.

bootLR: Bootstrapped confidence intervals for (negative) likelihood ratio tests. Authors: Keith A. Marill and Ari B. Friedman.

brainR: Helper functions to **misc3d** and **rgl** packages for brain imaging. Author: John Muschelli III.

breakpoint: Multiple Break-Point Detection via the Cross-Entropy Method. Authors: Priyadarshana W.J.R.M. and Georgy Sofronov.

bshazard: Nonparametric Smoothing of the Hazard Function. Authors: Paola Rebora, Agus Salim, Marie Reilly.

bsts: Bayesian structural time series. Author: Steven L. Scott. In view: *TimeSeries*.

bujar: Buckley-James Regression for Survival Data with High-Dimensional Covariates. Authors: Zhu Wang and others (see COPYRIGHTS).

cAIC4: Conditional Akaike information criterion for lme4. Authors: Benjamin Saefken and David Ruegamer, with contributions from Sonja Greven and Thomas Kneib.

capm: Companion Animal Population Management. Authors: Oswaldo Santos [aut, cre], Marcos Amaku [ctb], Fernando Ferreira [ctb].

caseMatch: Identify similar cases for qualitative case studies. Author: Rich Nielsen.

cati: Community Assembly by Traits: Individuals and beyond. Authors: Adrien Taudiere, Cyrille Violle with contribution of Francois Munoz.

ccda: Combined Cluster and Discriminant Analysis. Authors: Solt Kovacs, Jozsef Kovacs, Peter Tanos.

cgam: Constrained Generalized Additive Model. Authors: Mary C. Meyer and Xiyue Liao.

checkmate: Fast and versatile argument checks. Authors: Michel Lang, Bernd Bischl.

chipPCR: Toolkit of helper functions to pre-process amplification data. Authors: Stefan Roediger, Michal Burdukiewicz.

choroplethr: Functions to simplify the creation of choropleths (thematic maps) in R. Authors: Ari Lamstein [cre, aut], Brian P Johnson [ctb, frontend animation code].

chromoR: Analysis of chromosomal interactions data (correction, segmentation and comparison). Author: Yoli Shavit.

clere: CLERE methodology for simultaneous variables clustering and regression. Authors: Loic Yengo, Mickael Canouil.

clickstream: Analyzes clickstreams based on Markov chains. Author: Michael Scholz.

clustMD: Model based clustering for mixed data. Author: Damien McParland.

cna: Coincidence Analysis (CNA). Author: Mathias Ambuehl.

colourlovers: R client for the COLOURlovers API. Author: Thomas J. Leeper.

comato: Analysis of Concept Maps. Author: Andreas Muehling.

confreq: Configural Frequencies Analysis Using Loglinear Modeling. Authors: Joerg-Henrik Heine, R.W. Alexandrowicz and some package testing by Mark Stemmler.

conicfit: Algorithms for fitting circles, ellipses and conics based on the work by Prof. Nikolai Chernov. Authors: Jose' Gama [aut, cre], Nikolai Chernov [aut, cph], Göran Högnäs [ths]. In view: *NumericalMathematics*.

cooccur: Probabilistic Species Co-occurrence Analysis in R. Authors: Daniel M. Griffith, Joseph A. Veech, and Charles J. Marsh.

corclass: Correlational Class Analysis. Author: Andrei Boutyline.

correlate: Multivariate Data Generation by Permutation. Authors: Pascal van Kooten, Gerko Vink.

cosmosR: Author: Maxime Wack.

covreg: A simultaneous regression model for the mean and covariance. Authors: Xiaoyue Niu and Peter Hoff.

cpca: Methods to perform Common Principal Component Analysis (CPCA). Authors: Andrey Ziyatdinov [aut, cre], Samir Kanaan-Izquierdo [aut], Nickolay T. Trendafilov [aut], Alexandre Perera-Lluna [aut].

crackR: Probabilistic damage tolerance analysis for fatigue cracking of metallic aerospace structures. Author: Keith Halbert.

crossval: Generic Functions for Cross Validation. Author: Korbinian Strimmer.

csn: Closed-skew normal distribution. Author: Eugene Girtcius.

cstar: Substantive significance testing for regression estimates and marginal effects. Author: Justin Esarey.

csvread: Fast Specialized CSV File Loader. Author: Sergei Izrailev.

cubfits: Codon Usage Bias Fits. Authors: Wei-Chen Chen [aut, cre], Russell Zaretzki [aut], William Howell [aut], Drew Schmidt [aut], Michael Gilchrist [aut], Students REU13 [ctb].

cutoffR: CUTOFF: A Spatio-temporal Imputation Method. Authors: Lingbing Feng, Gen Nowak, Alan. H. Welsh, Terry. J. O'Neill.

cuttlefish.model: Performs LPUE standardization and stock assessment of the English Channel cuttlefish stock using a two-stage biomass model. Authors: Michael Gras and Jean-Paul Robin.

dagbag: Learning directed acyclic graphs (DAGs) through bootstrap aggregating. Authors: Ru Wang, Jie Peng.

dams: Dams in the United States from the National Inventory of Dams (NID). Author: Gopi Goteti.

datalist: Convert data sets for import into JAGS, WinBUGS and OpenBUGS and to generate data.frames for predicting the effects of particular variables. Author: Joe Thorley [aut, cre].

dawai: Discriminant analysis with additional information. Authors: David Conde, Miguel A. Fernandez, Bonifacio Salvador.

deepnet: Deep learning toolkit in R. Author: Xiao Rong.

dendextend: Extending R's dendrogram functionality. Authors: Tal Galili [aut, cre, cph], Gavin Simpson [ctb], jefferis [ctb] (imported code from his dendroextras package), Marco Gallotta [ctb], plannapus [ctb], Gregory [ctb], R core team [ctb] (Other than the Infastructure, some code came from their examples), Kurt Hornik [ctb], Uwe Ligges [ctb], Yoav Benjamini [ths]. In view: *Cluster*.

dendextendRcpp: Faster dendrogram manipulation using **Rcpp**. Authors: Tal Galili [aut, cre, cph], Romain Francois [ctb], Dirk Eddelbuettel [ctb], Kevin Ushey [ctb], Yoav Benjamini [ths].

dendsort: Sorting and reordering dendrogram nodes. Author: Ryo Sakai.

dfexplore: Explore data.frames by plotting NA and classes of each variable. Author: Joris Muller.

diskmemoiser: Disk Memoisation For R. Author: Farzad Noorian.

dissUtils: Utilities for making pairwise comparisons of multivariate data. Author: Benjamin N. Taft.

dnet: Omics data integrative analysis in terms of network, evolution and ontology. Authors: Hai Fang and Julian Gough.

docopt: Commandline interface specification language. Author: Edwin de Jonge.

domino: Domino Data Lab R console bindings. Author: Jacek Glodek.

dplyr: A grammar of data manipulation. Authors: Hadley Wickham, Romain Francois.

drgee: Doubly Robust Generalized Estimating Equations. Authors: Johan Zetterqvist, Arvid Sjölander, with contributions from Alexander Ploner. In view: *Robust*.

drsmooth: Dose-Response Modeling with Smoothing Splines. Authors: Greg Hixon [aut, cph], Anne Bichteler [aut, cre], Chad Thompson [ctb], Liz Abraham [ctb].

dualScale: Dual Scaling Analysis of Multiple Choice Data. Authors: Jose G. Clavel, Shizuiko Nishisato and Antonio Pita.

dynatopmodel: Implementation of the Dynamic TOPMODEL hydrological model. Authors: Peter Metcalfe, based on Fortran code by Keith Beven and Jim Freer. In view: *Environmetrics*.

dynia: Fit Dynamic Intervention Model. Authors: Jinkun Xiao and A.I. McLeod.

easingr: Fetch the Cleveland Federal Reserve Bank easing policy tool data. Author: Matt Barry.

easynls: Easy nonlinear model. Author: Emmanuel Arnhold.

ebSNP: Genotyping and SNP calling using single-sample next generation sequencing data. Author: Na You.

ecoengine: Programmatic interface to the API serving UC Berkeley's Natural History Data. Author: Karthik Ram [aut, cre]. In view: *WebTechnologies*.

edeR: Email Data Extraction Using R. Author: Jaynal Abedin.

edmr: Empirical differentially methylated regions calculation. Authors: Sheng Li [aut, cre, cph], Francine Garrett-Bakelman [ctb], Altuna Akalin [ctb], Paul Zumbo [ctb], Ari Melnick [ctb], Chris Mason [ctb, ths].

eegAnalysis: Tools for analysis and classification of electroencephalography (EEG) data. Authors: Murilo Coutinho Silva, George Freitas von Borries.

egcm: Engle-Granger cointegration models. Author: Matthew Clegg. In view: *Finance*.

eiwild: Ecological Inference with individual and aggregate data. Author: Thomas Schlesinger.

erpR: Event-related potentials (ERP) analysis, graphics and utility functions. Authors: Giorgio Arcara, Anna Petrova.

etasFLP: Estimation of an ETAS model. Mixed FLP (Forward Likelihood Predictive) and ML estimation of non-parametric and parametric components of the ETAS model for earthquake description. Authors: Marcello Chiodi [aut, cre], Giada Adelfio [aut].

eulerian: Find eulerian paths from graphs. Authors: Ashis Saha, with contribution from Jaewoo Kang.

evolvability: Calculation of evolvability parameters. Author: Geir H. Bolstad.

expp: Spatial analysis of extra-pair paternity. Authors: Mihai Valcu, Lotte Schlicht.

extWeibQuant: Estimate the lower extreme quantile with the censored Weibull MLE and censored Weibull Mixture. Author: Yang (Seagle) Liu.

fSRM: Social Relations Analyses with roles ("Family SRM"). Authors: Felix Schönbrodt, Lara Stas, Tom Loeys.

factorplot: Authors: Dave Armstrong.

falcon: Finding Allele-specific Copy Number in Next-Generation Sequencing Data. Authors: Hao Chen and Nancy R. Zhang.

fastHICA: Hierarchical Independent Component Analysis: a multi-scale sparse non-orthogonal data-driven basis. Authors: Piercesare Secchi, Simone Vantini, and Paolo Zanini.

fastM: Fast Computation of Multivariate M-estimators. Authors: Lutz Duembgen, Klaus Nordhausen, Heike Schuhmacher.

fat2Lpoly: Two-locus Family-based Association Test with Polytomic Outcome. Authors: Alexandre Bureau and Jordie Croteau.

fcd: Fused Community Detection. Authors: Yang Feng, Richard J. Samworth and Yi Yu.

federalregister: Client package for the U.S. Federal Register API. Author: Thomas J. Leeper.

fifer: A collection of miscellaneous functions. Author: Dustin Fife.

findpython: Python tools to find an acceptable python binary. Authors: Trevor L Davis and Paul Gilbert.

finiteruinprob: Computation of the probability of ruin within a finite time horizon. Authors: Benjamin Baumgartner [aut, cre], Riccardo Gatto [ctb, ths].

flowfield: Forecasts future values of a univariate time series. Author: Kyle A. Caudle.

frair: Functional response analysis in R. Author: Daniel Pritchard.

freestats: Statistical algorithms used in common data mining course. Author: Xiaoyao Yang.

freqparcoord: Novel Methods for Parallel Coordinates. Authors: Norm Matloff and Yingkang Xie.

freqweights: Working with frequency tables. Author: Emilio Torres-Manzanera.

frm: Regression analysis of fractional responses. Author: Joaquim J.S. Ramalho.

fslr: Wrapper functions for FSL (FMRIB Software Library) from Functional MRI. of the Brain (FMRIB). Author: John Muschelli.

funreg: Functional Regression for Irregularly Timed Data. Authors: John Dziak [aut, cre], Mariya Shiyko [aut].

gRapfa: Acyclic Probabilistic Finite Automata. Authors: Smitha Ankinakatte and David Edwards.

gSeg: Graph-Based Change-Point Detection (g-Segmentation). Authors: Hao Chen and Nancy R. Zhang.

gamboostMSM: Estimating multistate models using gamboost(). Author: Holger Reulen.

gamlss.spatial: Fit spatial data in **gamlss**. Authors: Fernanda De Bastiani, Mikis Stasinopoulos.

gconcord: Concord method for Graphical Model Selection. Author: Sang-Yun Oh Kshitij Khare Bala Rajaratnam.

gdalUtils: Wrappers for the Geospatial Data Abstraction Library (GDAL) Utilities. Authors: Jonathan Asher Greenberg and Matteo Mattiuzzi.

genasis: Global ENvironmental ASsessment Information System (GENASIS) computational tools. Authors: Jiri Kalina, Jana Klanova, Ladislav Dusek, Tom Harner, Jana Boruvkova, Jiri Jarkovsky.

gendata: Generate and modify synthetic datasets. Author: Francis Huang.

geoCount: Analysis and Modeling for Geostatistical Count Data. Author: Liang Jing.

gfcanalysis: Tools for working with Hansen et al. 2013 Global Forest Change dataset. Author: Alex Zvoleff [aut, cre].

ggtern: An extension to **ggplot2**, for the creation of ternary diagrams. Author: Nicholas Hamilton.

ggvis: Interactive grammar of graphics. Authors: RStudio, Inc.

glarma: Generalized Linear Autoregressive Moving Average Models. Authors: William T.M. Dunsmuir, Cenanning Li, and David J. Scott. In view: *TimeSeries*.

glcm: Calculate textures from grey-level co-occurrence matrices (GLCMs) in R. Author: Alex Zvoleff [aut, cre].

glmx: Generalized Linear Models Extended. Authors: Achim Zeileis [aut, cre], Roger Koenker [aut], Philipp Doebler [aut].

goft: Tests of fit for some probability distributions. Authors: Elizabeth Gonzalez-Estrada, Jose A. Villasenor-Alva.

goftest: Classical Goodness-of-Fit Tests for Univariate Distributions. Authors: Julian Faraway [aut], George Marsaglia [aut], John Marsaglia [aut], Adrian Baddeley [aut, cre].

gramEvol: Grammatical Evolution For R. Authors: Farzad Noorian, Anthony Mihirana de Silva.

greport: Graphical Reporting for Clinical Trials. Author: Frank E Harrell Jr.

groc: Generalized Regression on Orthogonal Components. Authors: M. Bilodeau and P. Lafaye de Micheaux.

grppenalty: Concave 1-norm and 2-norm group penalty in linear and logistic regression. Author: Dingfeng Jiang.

gset: Group Sequential Design in Equivalence Studies. Author: Fang Liu.

gsscopu: Copula Density and 2-D Hazard Estimation using Smoothing Splines. Author: Chong Gu.

h2o: H2O R Interface. Authors: Anqi Fu, Tom Kraljevic and Petr Maj, with contributions from the 0xdata team.

hamlet: Hierarchical Optimal Matching and Machine Learning Toolbox. Author: Teemu Daniel Laajala.

hasseDiagram: Drawing Hasse diagram. Author: Krzysztof Ciomek.

hawkes: Hawkes process simulation and calibration toolkit. Author: Riadh Zaatour.

hazus: Damage functions from FEMA's HAZUS software for use in modeling financial losses from natural disasters. Author: Gopi Goteti.

hcci: Interval estimation for the parameters of linear models with heteroskedasticity (Wild Bootstrap). Authors: Pedro Rafael Diniz Marinho [aut, cre], Francisco Cribari Neto [aut, ctb].

hdi: High-Dimensional Inference. Authors: Lukas Meier, Nicolai Meinshausen.

heatmap3: A improved heatmap package. Authors: Shilin Zhao, Yan Guo, Quanhu Sheng, Yu Shyr.

helsinki: Helsinki open data R tools. Authors: Juuso Parkkinen, Leo Lahti, Joona Lehtomaki.

hflights: Flights that departed Houston in 2011. Author: Hadley Wickham.

hglasso: Learning graphical models with hubs. Author: Kean Ming Tan.

hiddenf: The hidden F-test for nonadditivity. Authors: Jason A. Osborne and Christopher T. Franck.

hoardeR: Author: Daniel Fischer. In view: *WebTechnologies*.

hpoPlot: Functions to plot graphviz style graphs of sets of HPO terms. Author: Daniel Greene.

hqmisc: Miscellaneous convenience functions and datasets. Author: Hugo Quené [aut, cre].

hrr: Horizontal rule for the R language. Author: Leonardo Di Donato.

htmltools: Tools for HTML. Authors: RStudio, Inc.

hybridEnsemble: Build, deploy and evaluate a Hybrid Ensemble. Authors: Michel Ballings, Dauwe Vercamer, and Dirk Van den Poel.

hypergea: Hypergeometric tests. Author: Markus Boenn.

iC10: A copy number and expression-based classifier for breast tumours. Author: Oscar M Rueda.

iC10TrainingData: Training datasets for **iC10** package. Author: Oscar M Rueda.

iDynoR: Analysis of iDynoMiCS Simulation Results. Authors: Kieran Alden, Jan-Ulrich Kreft.

iRepro: Reproducibility for Interval-Censored Data. Author: Jelena Kovacic.

iScreen: image-based High-Throughput RNAi Screening Analysis Tool. Author: Rui Zhong.

icapca: Mixed ICA/PCA. Author: Roger Woods.

icd9: tools for working with ICD-9 codes, and finding comorbidities. Author: Jack O. Wasey [aut, cre].

imputeR: A General Imputation Framework in R. Authors: Lingbing Feng, Gen Nowak, Alan. H. Welsh, Terry. J. O'Neill.

in2extRemes: Into the **extRemes** Package. Author: Eric Gilleland.

interventionalDBN: Interventional Inference for Dynamic Bayesian Networks. Author: Simon Spencer.

invGauss: Threshold regression that fits the (randomized drift) inverse Gaussian distribution to survival data. Author: Hakon K. Gjessing.

io: A unified framework for input-output operations in R. Author: David JH Shih.

ipdw: Interpolation by Inverse Path Distance Weighting. Author: Joseph Stachelek.

isingLenzMC: Monte Carlo for classical Ising Model. Author: Mehmet Suzen.

isotonic.pen: Penalized Isotonic Regression in one and two dimensions. Authors: Mary C Meyer, Jiwen Wu, and Jean D. Opsomer.

iterpc: Efficient iterator for permutations and combinations. Authors: Randy Lai [aut, cre], Martin Broadhurst [aut].

ivfixed: Instrumental fixed effect panel data model. Author: Zaghdoudi Taha.

ivlewbel: Uses heteroscedasticity to estimate mismeasured and endogenous regressor models. Author: Alan Fernihough.

ivpack: Instrumental Variable Estimation. Author: Dylan Small.

jackstraw: Non-parametric Jackstraw for Principal Component Analysis. Author: Neo Christopher Chung.

jointPm: Risk estimation using the joint probability method. Authors: Feifei Zheng, Michael Leonard, Seth Westra.

jsonlite: A smarter JSON encoder/decoder for R. Authors: Jeroen Ooms, Duncan Temple Lang, Jonathan Wallace. In view: *WebTechnologies*.

kimisc: Kirill's miscellaneous functions. Author: Kirill Mueller.

kintone: kintone REST client package for R. Author: Ryu Yamashita.

kmc: Kaplan–Meier estimator with constraints for right censored data – a recursive computational algorithm. Authors: Yifan Yang, Mai Zhou. In view: *Survival*.

knnIndep: Independence tests and benchmarks. Author: Sebastian Dümcke.

kyotil: Utility Functions by Youyi & Krisz. Authors: Youyi Fong, Krisztian Sebestyen.

lambda.tools: Tools for modeling data with functional programming. Author: Brian Lee Yung Rowe.

lar: History of labour relations. Authors: Richard Zijdeman [aut, cre], Josemiguel Lana-Berasain [ctb].

lassoscore: high-dimensional inference with the penalized score test. Author: Arend Voorman.

lctools: Local Correlation, Spatial Inequalities and other tools. Author: Stamatis Kalogirou.

leafletR: Interactive web-maps based on the Leaflet JavaScript library. Author: Christian Graul. In view: *Spatial*.

letsR: Tools for data handling and analysis in macroecology. Authors: Bruno Vilela and Fabricio Villalobos.

lgarch: Simulation and estimation of log-GARCH models. Author: Genaro Sucarrat. In views: *Finance*, *TimeSeries*.

linkim: Linkage information based genotype imputation method. Authors: Yi Xu and Jixiang Wu.

lllcrc: Local Log-linear Models for Capture-Recapture. Author: Zach Kurtz.

lmms: Linear mixed effect model splines for modelling and analysis of time course data. Authors: Jasmin Straube, Kim-Anh Le Cao and Emma Huang with contributions of Dominique Gorse.

loa: Various plots, options and add-ins for use with **lattice**. Author: Karl Ropkins.

localsolver: R API to LocalSolver. Authors: Walerian Sokolowski [aut, cre, cph], Wit Jakuczun [aut, cph], Natalia Okinczyc [aut], Bogumil Kaminski [aut].

loe: Local Ordinal Embedding. Authors: Yoshikazu Terada, Ulrike von Luxburg.

lpmodeler: Modeler for linear programs (LP) and mixed integer linear programs (MILP). Author: Cyrille Szymanski [aut].

lsgl: Linear sparse group lasso. Author: Martin Vincent.

ltbayes: Simulation-Based Bayesian Inference for Latent Traits of Item Response Models. Author: Timothy R. Johnson.

mGSZ: Gene set analysis based on GSZ-scoring function and asymptotic p-value. Authors: Pashupati Mishra, Petri Toronen.

maSAE: Mandallaz' model-assisted small area estimators. Authors: Andreas Dominik Cullmann [aut, cre], Daniel Mandallaz [ctb], Alexander Francis Massey [ctb].

magrittr: A forward-pipe operator for R. Authors: Stefan Milton Bache and Hadley Wickham.

mailR: A utility to send emails from R. Author: Rahul Premraj.

mapStats: Geographic display of survey data statistics. Author: Samuel Ackerman.

maptpx: MAP estimation of topic models. Author: Matt Taddy.

mbest: Moment-Based Estimation for Hierarchical Models. Author: Patrick O. Perry.

mcheatmaps: Multiple matrices heatmap visualization. Authors: Thierry Chenard [aut], Rafael Najmanovich [aut, cre].

mdatools: Multivariate data analysis for chemometrics. Author: Sergey Kucheryavskiy.

memgene: Spatial pattern detection in genetic distance data using Moran's Eigenvector Maps. Authors: Pedro Peres-Neto, Paul Galpern.

metaRNASeq: Meta-analysis of RNA-seq data. Authors: Guillemette Marot, Florence Jaffrezic, Andrea Rau.

metap: Meta-analysis of significance values. Author: Michael Dewey. In view: *MetaAnalysis*.

metasens: Advanced statistical methods to model and adjust for bias in meta-analysis. Authors: Guido Schwarzer [aut, cre], James Carpenter [aut], Gerta Rücker [aut]. In views: *ClinicalTrials*, *MetaAnalysis*.

mewAvg: A Fixed Memeory Moving Expanding Window Average. Authors: Adam L. Pintar and Zachary H. Levine.

mfx: Marginal Effects, Odds Ratios and Incidence Rate Ratios for GLMs. Author: Alan Fernihough. In view: *Econometrics*.

miceadds: Some additional multiple imputation functions, especially for **mice**. Author: Alexander Robitzsch [aut, cre].

mime: Map filenames to MIME types. Author: Yihui Xie.

minque: Linear Mixed Model Analyses. Author: Jixiang Wu.

miscset: Miscellaneous Tools Set. Author: Sven E. Templer.

mixlm: Mixed model ANOVA and statistics for education. Authors: Kristian Hovde Liland, Solve Sæbø.

mme: Multinomial Mixed Effects Models. Authors: E. Lopez-Vizcaino, M.J. Lombardia and D. Morales.

mnlogit: Multinomial Logit Model. Authors: Wang Zhiyu, Asad Hasan. In view: *Econometrics*.

monitoR: Acoustic template detection in R. Authors: Sasha D. Hafner and Jon Katz, with code for the Fourier transform from the **seewave** package (by Jerome Sueur, Thierry Aubin, and Caroline Simonis), and code for the readMP3 function from the **tuneR** package (by Uwe Ligges).

morgenstemning: Color schemes compatible with red-green color perception difficulties. Authors: Matthias Geissbuehler, James Manton.

morse: MOdelling tools for Reproduction and Survival data in Ecotoxicology. Authors: Marie Laure Delignette-Muller [aut, cre], Philippe Ruiz [aut, cre], Sandrine Charles [aut], Wandrille Duchemin [ctb], Christelle Lopes [ctb], Philippe Veber [ctb].

mph: Multiscale persistent homology. Author: Samuel Gerber.

msos: Datasets and Functions used in Multivariate Statistics: Old School by John Marden. Authors: John Marden [aut, cph] and James Balamuta [cre, ctb, com].

multicon: Multivariate Constructs. Author: Ryne A. Sherman.

multigroup: Methods for multigroup data analysis. Authors: Aida Eslami, El Mostafa Qannari, Stephanie Bougeard, Gaston Sanchez.

multinbmod: Regression analysis of overdispersed correlated count data. Author: Ivonne Solis-Trapala.

munsellinterpol: Interpolation of Munsell renotation data to convert any hue and chroma values to CIE xyY, CIE XYZ, sRGB, CIE Lab or CIE Luv. Authors: Jose Gama [aut, cre, trl], Paul Centore [aut, cph], Göran Högnäs [ths].

mvctm: Multivariate Variance Components Tests for Multilevel Data. Author: Denis Larocque.

mvnfast: Fast multivariate normal methods. Authors: Matteo Fasiolo, using the C++ parallel RNG of Thijs van den Berg and Ziggurat algorithm of Jens Maurer and Steven Watanabe (boost).

mwa: Causal inference in spatiotemporal event data. Authors: Sebastian Schutte and Karsten Donnay.

mycobacrvR: Integrative immunoinformatics for Mycobacterial diseases in R platform. Authors: Deepika Kulshreshtha, Rupanjali Chaudhuri, S. Ramachandran.

nat: NeuroAnatomy Toolbox for Analysis of 3D Image Data. Authors: Greg Jefferis and James Manton.

nat.utils: File System Utility Functions for NeuroAnatomy Toolbox. Author: Gregory Jefferis.

ncdf.tools: Easier ncdf file handling. Author: Jannis v. Buttlar.

ncdf4.helpers: Helper functions for use with the **ncdf4** package. Author: David Bronaugh for the Pacific Climate Impacts Consortium (PCIC).

networkDynamicData: Dynamic network datasets. Author: Skye Bender-deMoll [cre, aut].

networkreporting: Tools for using network reporting estimators. Authors: Dennis Feehan, Matthew Salganik.

neuroim: Reading, writing and representing brain imaging data. Author: Bradley R. Buchsbaum.

ngram: An *n*-gram Babbler. Authors: Drew Schmidt [aut, cre], Christian Heckendorf [aut].

nlsMicrobio: Nonlinear regression in predictive microbiology. Authors: Florent Baty and Marie-Laure Delignette-Muller.

nmcdr: Non-parametric Multiple Change-points Detection. Authors: Changliang Zou, Lancezhange.

noncensus: U.S. Census Regional and Demographic Data. Author: John A. Ramey.

normtest: Tests for Normality. Authors: Ilya Gavrilov, Ruslan Pusev.

npbr: Nonparametric boundary regression. Authors: Abdelaati Daouia, Thibault Laurent, Hohsuk Noh.

npcp: Some nonparametric tests for change-point detection in (multivariate) observations. Author: Ivan Kojadinovic.

nplr: N-Parameter Logistic Regression. Authors: Frederic Commo [aut, cre], Brian M. Bot [aut].

numOSL: Numeric routines for optically stimulated luminescence dating. Author: Peng Jun.

obs.agree: Assess agreement between observers. Authors: Teresa Henriques, Luis Antunes and Cristina Costa-Santos.

ocedata: Oceanographic datasets for Oce. Author: Dan Kelley.

openxlsx: '.xlsx' reading, writing and editing. Authors: Alexander Walker [aut, cre], Luca Braglia [ctb].

optR: Optimization Toolbox for solving linear systems. Author: Prakash (PKS Prakash).

optiRum: Miscellaneous functions for finance / credit risk analysts. Author: Stephanie Locke [aut, cre].

orca: Counting graphlet orbits in sparse graphs. Authors: Tomaz Hocevar, Janez Demsar.

pSI: Specificity Index Statistic. Authors: Xiaoxiao Xu, Alan B. Wells, David OBrien, Arye Nehorai, Joseph D. Dougherty.

paf: Attributable Fraction Function for Censored Survival Data. Author: Li Chen.

paleobioDB: Downloading, visualizing and processing data from Paleobiology Database. Authors: Sara Varela [aut, cre], Javier González Hernández [aut], Luciano Fabris Sgarbi [aut].

paleofire: Analysis of sedimentary charcoal records from the Global Charcoal Database to reconstruct past biomass burning. Author: Global Paleofire Working Group.

palinsol: Insolation for palaeoclimate studies. Author: Michel Crucifix.

panelAR: Estimation of Linear AR(1) Panel Data Models with Cross-Sectional Heteroskedasticity and/or Correlation. Author: Konstantin Kashin.

parallelMCMCcombine: Methods for combining independent subset Markov chain Monte Carlo (MCMC) posterior samples to estimate a posterior density given the full data set. Authors: Alexey Miroshnikov, Erin Conlon.

pbo: Probability of Backtest Overfitting. Author: Matt Barry. In view: *Finance*.

pcIRT: IRT models for polytomous and continuous item responses. Author: Christine Hohensinn. In view: *Psychometrics*.

pcg: Preconditioned Conjugate Gradient Algorithm for solving $Ax = b$. Authors: B N Mandal and Jun Ma.

pcnetmeta: Methods for patient-centered network meta-analysis. Authors: Lifeng Lin, Jing Zhang, and Haitao Chu. In view: *MetaAnalysis*.

pdfetch: Fetch economic and financial time series data from public sources. Author: Abiel Reinhart. In views: *TimeSeries*, *WebTechnologies*.

pdmod: Proximal/distal modeling framework for Pavlovian conditioning phenomena. Author: Chloe Bracis.

peacots: Periodogram Peaks in Correlated Time Series. Author: Stilianos Louca.

performanceEstimation: An infra-structure for performance estimation of predictive models. Author: Luis Torgo.

phenability: Nonparametric Stability Analysis. Author: Leonardo Castelo Branco.

phreeqc: R interface to the phreeqc geochemical modeling program. Authors: S.R. Charlton, D.L. Parkhurst, and C.A.J. Appelo, with contributions from D. Gillespie for Chipmunk BASIC and S.D. Cohen, A.C. Hindmarsh, R. Serban, D. Shumaker, and A.G. Taylor for CVODE/SUNDIALS.

phyloland: Modelling Competitive Exclusion and Limited Dispersal in a Statistical Phylo-geographic Framework. Authors: Louis Ranjard, Marie Paturel.

phyreg: Implements the Phylogenetic Regression of Grafen (1989). Author: Alan Grafen.

pipeR: Specialized, high-performance pipeline operators. Author: Kun Ren.

pkgKitten: Create simple packages which do not upset R CMD check. Author: Dirk Eddelbuettel.

plot2groups: Plot scatter points for two groups of values. Author: Fuquan Zhang [aut, cre].

plot3D: Plotting multi-dimensional data. Author: Karline Soetaert.

plot3Drgl: Plotting multi-dimensional data using **rgl**. Author: Karline Soetaert.

plotMCMC: MCMC Diagnostic Plots. Authors: Arni Magnusson [aut, cre], Ian Stewart [aut].

plusser: A Google+ Interface for R. Author: Christoph Waldhauser [aut, cre]. In view: *WebTechnologies*.

pmcgd: Authors: Antonio Punzo and Paul D. McNicholas.

pollstR: R client for the Huffpost Pollster API. Authors: Jeffrey B. Arnold [aut, cre], Thomas J. Leeper [aut].

popRange: A spatially and temporally explicit forward genetic simulator. Author: Kimberly F. McManus.

pqantimalarials: Web tool for estimating under-five deaths caused by poor-quality anti-malarials in sub-Saharan Africa. Author: J. Patrick Renschler.

praktikum: Kvantitatiivsete meetodite praktikumi asjad / Functions used in the course "Quantitative methods in behavioural sciences" (SHPH.00.004), University of Tartu. Author: Kenn Konstabel.

predfinitepop: Predictive Inference on Totals and Averages of Finite Populations Segmented in Planned and Unplanned Domains. Authors: Juan Carlos Martinez-Ovando, Sergio I. Olivares-Guzman, Adriana Roldan-Rodriguez.

psData: Download regularly maintained political science data sets and make commonly used, but infrequently updated variables based on this data. Author: Christopher Gandrud.

pt: Computational models for prospect theory and other theories of risky decision making. Author: Gary Au.

pubmed.mineR: Text mining of PubMed Abstracts. Authors: Jyoti Sharma, S. Ramachan-dran, Ab Rauf Shah. In view: *WebTechnologies*.

pushoverr: Send push notifications using Pushover. Author: Brian Connelly [aut, cre].

qVarSel: Variable Selection for Clustering and Classification. Author: Stefano Benati.

qcr: Quality control and reliability. Authors: Miguel Flores, Salvador Naya, Ruben Fernan-dez.

qdapDictionaries: Dictionaries and word lists for the **qdap** package. Author: Tyler Rinker.

qdapTools: Tools for the **qdap** package. Authors: Bryan Goodrich [ctb], Dason Kurkiewicz [ctb], Kirill Muller [ctb], Tyler Rinker [aut, cre].

qlcMatrix: Utility sparse matrix functions for Quantitative Language Comparison. Author: Michael Cysouw.

qmethod: Analysis of subjective perspectives using Q methodology. Author: Aiora Zabala [aut, cre].

qqman: Q-Q and manhattan plots for GWAS data. Author: Stephen Turner.

quipu: Summary charts of micro satellite profiles for a set of biological samples. Authors: Reinhard Simon, Pablo Carhuapoma, Vilma Hualla, Stef de Haan, Marc Ghislain, Jorge Nunez, Rene Gomez, Felipe de Mendiburu, William Roca, Merideth Bonierbale.

r2d2: Bivariate (Two-Dimensional) Confidence Region and Frequency Distribution. Authors: Arni Magnusson [aut], Julian Burgos [aut, cre], Gregory R. Warnes [ctb].

rARPACK: R wrapper of ARPACK for large scale eigenvalue/vector problems, on both dense and sparse matrices. Authors: Yixuan Qiu and authors of the ARPACK library. In view: *NumericalMathematics*.

rAvis: Interface to the bird-watching datasets at proyectoavis.com. Authors: Javier González Hernández, Sara Varela González.

rClinicalCodes: R tools for integrating with the www.clinicalcodes.org repository. Author: David Springate.

rDVR: Start, stop and save a video server from within R. Author: John Harrison [aut, cre].

rHealthDataGov: Retrieve data sets from the HealthData.gov data API. Author: Erin LeDell.

rSCA: Stepwise Cluster Analysis. Author: Xiuquan Wang.

rTensor: Tools for tensor analysis and decomposition. Authors: James Li and Jacob Bien and Martin Wells.

rWBclimate: Access World Bank climate data. Author: Edmund Hart [aut, cre].

rags2ridges: Ridge Estimation of Precision Matrices from High-Dimensional Data. Authors: Carel F.W. Peeters, Wessel N. van Wieringen.

rainfreq: Rainfall Frequency (Design Storm) Estimates from the US National Weather Service. Author: Gopi Goteti.

randomUniformForest: Random Uniform Forests for Classification and Regression. Author: Saip Ciss.

randtests: Testing randomness in R. Authors: Frederico Caeiro and Ayana Mateus.

rapportools: Miscellaneous (stats) helper functions with sane defaults for reporting. Authors: Aleksandar Blagotić and Gergely Daróczi.

rareNMtests: Ecological and biogeographical null model tests for comparing rarefaction curves. Authors: Luis Cayuela and Nicholas J. Gotelli.

raters: An index of inter-rater agreement among a set of raters. Authors: Daniele Giardiello, Piero Quatto and Stefano Vigliani.

rbhl: R interface to the Biodiversity Heritage Library. Authors: Scott Chamberlain [aut, cre], Karthik Ram [aut]. In view: *WebTechnologies*.

rbison: R interface to the USGS BISON API. Author: Scott Chamberlain [aut, cre]. In view: *WebTechnologies*.

rbitcoinchartsapi: R Package for the BitCoinCharts.com API. Author: Thomas P. Fuller.

rdrobust: Robust data-driven statistical inference in Regression-Discontinuity designs. Authors: Sebastian Calonico, Matias D. Cattaneo, Rocio Titiunik.

readODS: Read ODS files and puts them into data frames. Author: Gerrit-Jan Schutten.

recalls: Access U.S. Federal Government Recall Data. Author: Thomas J. Leeper.

regRSM: Random Subspace Method (RSM) for linear regression. Authors: Pawel Teisseyre, Robert A. Klopotek.

repfdr: Replicability Analysis for Multiple Studies of High Dimension. Authors: Ruth Heller, Shachar Kaufman, Shay Yaacoby, Daniel Yekutieli.

reportRx: Tools for automatically generating reproducible clinical report. Authors: Ryan Del Bel, Wei Xu.

resample: Resampling functions. Author: Tim Hesterberg.

resemble: Regression and similarity evaluation for memory-based learning in spectral chemometrics. Authors: Leonardo Ramirez-Lopez and Antoine Stevens. In view: *ChemPhys*.

revealedPrefs: Revealed preferences and microeconomic rationality. Author: Julien Boelaert.

rgabriel: Gabriel Multiple Comparison Test and Plot the Confidence Interval on Barplot. Authors: Yihui Xie, Miao Yu.

rgpui: UI for the RGP genetic programming framework. Author: Oliver Flasch.

rinat: Access iNaturalist data through APIs. Authors: Vijay Barve, Edmund Hart.

riverplot: Sankey or ribbon plots. Author: January Weiner.

rivervis: River Visualisation Tool. Authors: Feng Mao, Yichuan Shi, and Keith Richards.

rlist: A toolset for working with lists. Author: Kun Ren.

rmaf: Refined Moving Average Filter. Author: Debin Qiu. In view: *TimeSeries*.

rmatio: Read and write matlab files. Authors: Stefan Widgren [aut, cre] (Author of the R interface to the C-library matio), Christopher Hulbert [aut] (Author of the C-library matio, `http://sourceforge.net/projects/matio/`). In view: *SpatioTemporal*.

rmngb: rmngb Miscellaneous. Author: Antoine Filipovic Pierucci.

rnoaa: NOAA climate data from R. Authors: Hart Edmund [aut, cre], Scott Chamberlain [aut], Karthik Ram [aut]. In view: *WebTechnologies*.

robcor: Robust Correlations. Author: Paul Smirnov. In view: *Robust*.

robumeta: Robust variance meta-regression. Authors: Zachary Fisher and Elizabeth Tipton. In views: *MetaAnalysis*, *Robust*.

rorutadis: Robust Ordinal Regression UTADIS. Author: Krzysztof Ciomek.

rpart.utils: Tools for parsing and manipulating rpart objects, including generating machine readable rules. Author: Craig Varrichio.

rpartitions: Code for integer partitioning. Authors: Ken Locey, Daniel McGlinn.

rprintf: Adaptive builder for formatted strings. Author: Kun Ren.

rstudioapi: Safely access the RStudio API. Author: RStudio.

rvTDT: Population control weighted rare-variants TDT. Authors: Yu Jiang, Andrew S. Allen.

ryouready: Companion to the "R your ready?" book. Author: Mark Heckmann.

s2dverification: Set of common tools for model diagnostics. Authors: Nicolau Manubens Gil, Virginie Guemas, Isabel Andreu-Burillo, Fabian Lienert, Javier Garcia-Serrano, Ludovic Auger.

samplesize4surveys: Sample size calculations for complex surveys. Author: Hugo Andres Gutierrez Rojas.

sand: Statistical Analysis of Network Data with R. Authors: Eric D Kolaczyk, Gabor Csardi.

sbioPN: Simulation of deterministic and stochastic spatial biochemical reaction networks using Petri Nets. Authors: Roberto Bertolusso and Marek Kimmel.

scalreg: Scaled sparse linear regression. Author: Tingni Sun.

scrypt: Scrypt key derivation functions for R. Authors: RStudio, Inc.; Colin Percival.

sdmvspecies: Create virtual species for species distribution modelling. Authors: Xiaoquan Kong, Renyan Duan, Minyi Huang.

seasonal: R interface to X-13ARIMA-SEATS. Author: Christoph Sax. In views: *OfficialStatistics*, *TimeSeries*.

seawaveQ: U.S. Geological Survey seawaveQ model. Authors: Karen R. Ryberg and Aldo V. Vecchia.

secrdesign: Sampling Design for Spatially Explicit Capture–Recapture. Author: Murray Efford.

semiArtificial: Generator of semi-artificial data. Author: Marko Robnik-Sikonja.

sensitivitymw: Sensitivity analysis using weighted M-statistics. Author: Paul R. Rosenbaum.

seqDesign: Simulation and group sequential monitoring of randomized multi-arm two-stage Phase IIb/III treatment efficacy trials with time-to-event endpoints. Authors: Michal Juraska and Doug Grove, with contributions from Xuesong Yu and Peter B. Gilbert.

sequenza: Analysis and visualization of tumor genome sequencing data. Authors: Francesco Favero, Andrea M. Marquard, Tejal Joshi, Aron C. Eklund.

sesem: Spatially explicit structural equation modeling. Authors: Eric Lamb [aut, cre], Kerrie Mengersen [aut], Katherine Stewart [aut], Udayanga Attanayake [aut], Steven Siciliano [aut].

sglOptim: Sparse group lasso generic optimizer. Author: Martin Vincent.

sglasso: Lasso method for RCON(V,E) models. Author: Luigi Augugliaro.

sglr: Power and boundary calculations in pre-licensure vaccine trials using a sequential generalized likelihood ratio test. Authors: Balasubramanian Narasimhan [aut, cre], Mei-Chiung Shih [aut].

sharpshootR: A collection of functions to support soil survey. Author: USDA-NRCS Soil Survey Staff.

shinyBS: Twitter Bootstrap Components for Shiny. Author: Eric Bailey.

shinyFiles: A server-side file system viewer for **shiny**. Author: Thomas Lin Pedersen.

showtext: Enable (any) R Graphics Device to Show Text Using System Fonts. Authors: Yixuan Qiu and authors/contributors of the included software.

shp2graph: Convert a SpatialLinesDataFrame object to an "igraph-class" object. Author: Binbin Lu.

shuffle: The shuffle estimator for explainable variance. Author: Yuval Benjamini.

siRSM: Single-Index Response Surface Models. Authors: Huan Cheng, Mu Zhu.

simplexreg: Regression Analysis of Proportional Data Using Simplex Distribution. Authors: Peng Zhang, Zhengguo Qiu and Chengchun Shi.

siplab: Spatial individual-plant modelling. Author: Oscar Garcia. In view: *Spatial*.

sitar: SITAR growth curve analysis. Author: Tim Cole.

skda: Sparse (Multicategory) Kernel Discriminant Analysis. Authors: Len Stefanski, Yichao Wu, and Kyle White.

slfm: Tools for fitting sparse latent factor model. Authors: Joao Duarte and Vinicius Mayrink.

soc.ca: Specific correspondence analysis for the social sciences. Authors: Anton Grau Larsen, with contributions from Christoph Ellersgaard and Stefan Andrade.

soilphysics: Soil Physical Analysis. Authors: Anderson Rodrigo da Silva, Renato Paiva de Lima.

solr: General purpose R interface to Solr. Author: Scott Chamberlain [aut, cre].

sortinghat: Author: John A. Ramey.

sotkanet: Sotkanet R Tools. Authors: Leo Lahti, Einari Happonen, Juuso Parkkinen, Joona Lehtomaki.

sp23design: Design and Simulation of seamless Phase II-III Clinical Trials. Authors: Balasubramanian Narasimhan [aut, cre], Mei-Chiung Shih [aut], Pei He [aut].

spBayesSurv: Spatial Copula Modelling to Bayesian Survival Analysis. Authors: Haiming Zhou and Tim Hanson.

spaMM: Mixed models, particularly spatial GLMMs. Authors: François Rousset [aut, cre, cph], Jean-Baptiste Ferdy [aut, cph]. In view: *Spatial*.

spatial.gev.bma: Hierarchical spatial generalized extreme value (GEV) modeling with Bayesian Model Averaging (BMA). Author: Alex Lenkoski.

spatialTailDep: Estimation of spatial tail dependence models. Authors: Anna Kiriliouk, Johan Segers.

spatsurv: Bayesian spatial survival analysis with parametric proportional hazards models. Authors: Benjamin M. Taylor and Barry S. Rowlingson. In view: *Survival*.

spcr: Sparse principal component regression. Author: Shuichi Kawano.

spdynmod: Spatio-dynamic wetland plant communities model. Authors: Javier Martinez-Lopez, Babak Naimi, Julia Martinez-Fernandez.

spectral.methods: Singular Spectrum Analysis (SSA) tools for time series analysis. Author: Jannis v. Buttlar. In view: *TimeSeries*.

spfrontier: Spatial Stochastic Frontier models estimation. Author: Dmitry Pavlyuk.

spocc: R interface to many species occurrence data sources. Authors: Scott Chamberlain [aut, cre], Karthik Ram [aut], Ted Hart [aut]. In view: *WebTechnologies*.

sqliter: Connection wrapper to SQLite databases. Author: Wilson Freitas.

ss3sim: Fisheries stock assessment simulation testing with Stock Synthesis. Authors: Sean Anderson [aut, cre], Cole Monnahan [aut], Kelli Johnson [aut], Kotaro Ono [aut], Juan Valero [aut], Curry Cunningham [aut], Felipe Hurtado-Ferro [aut], Roberto Licandeo [aut], Carey McGilliard [aut], Melissa Muradian [ctb], Cody Szuwalski [aut], Katyana Vert-pre [aut], Athol Whitten [aut].

sse: Sample size estimation. Author: Thomas Fabbro.

ssym: Fitting Semiparametric Symmetric Regression Models. Authors: Luis Hernando Vanegas and Gilberto A. Paula.

statfi: statfi R tools. Authors: Leo Lahti, Juuso Parkkinen, Joona Lehtomaki.

stilt: Separable Gaussian Process Interpolation (Emulation). Authors: Roman Olson, Won Chang, Klaus Keller, and Murali Haran.

stm: Estimation of the Structural Topic Model. Authors: Margaret E. Roberts, Brandon M. Stewart and Dustin Tingley.

stochprofML: Stochastic Profiling using Maximum Likelihood Estimation. Author: Christiane Fuchs.

stosim: Stochastic Simulator for Reliability Modeling of Repairable Systems. Author: Jacob T. Ormerod.

strap: Stratigraphic Tree Analysis for Palaeontology. Author: Mark A. Bell Graeme T. Lloyd.

streamMOA: **stream** Interface to MOA Algorithms. Authors: Michael Hahsler [aut, cre, cph], Matthew Bolanos [aut, cph], John Forrest [aut, cph].

stressr: Fetch and plot financial stress index and component data. Author: Matt Barry.

stringi: Character string processing facilities. Authors: Marek Gagolewski and Bartek Tartanus (stringi source code); IBM and other contributors (ICU4C 52.1 source code); Unicode, Inc. (Unicode Character Database).

stsm: Structural Time Series Models. Author: Javier López-de-Lacalle. In view: *TimeSeries*.

stsm.class: Class and Methods for Structural Time Series Models. Author: Javier López-de-Lacalle. In view: *TimeSeries*.

subsemble: An Ensemble Method for Combining Subset-Specific Algorithm Fits. Authors: Erin LeDell, Stephanie Sapp, Mark van der Laan.

survivalMPL: Penalised Maximum Likelihood for Survival Analysis Models. Authors: Dominique-Laurent Couturier, Jun Ma, Stephane Heritier.

sweSCB: An R interface to the web API of Statistics Sweden. Authors: Love Hansson, Thomas Reinholdsson, Mans Magnusson. In view: *WebTechnologies*.

swirl: Statistics with Interactive R Learning. Authors: Nick Carchedi [aut, cre], Bill Bauer [aut], Gina Grdina [aut], Sean Kross [aut].

sybilccFBA: Cost Constrained FLux Balance Analysis: MetabOlic Modeling with ENzyme kineTics (MOMENT). Author: Abdelmoneim Amer Desouki [aut, cre].

sybilcycleFreeFlux: cycle-Free Flux balance analysis: Efficient removal of thermodynamically infeasible cycles from metabolic flux distributions. Author: Abdelmoneim Amer Desouki [aut, cre].

synchrony: Methods for computing spatial, temporal, and spatiotemporal statistics. Author: Tarik C. Gouhier.

synlik: Synthetic Likelihood methods for intractable likelihoods. Authors: Matteo Fasiolo and Simon Wood.

sysfonts: Loading system fonts into R. Authors: Yixuan Qiu and authors/contributors of the included fonts.

tab: Functions for creating summary tables for statistical reports. Author: Dane R. Van Domelen.

tableone: Create "Table 1" to describe baseline characteristics. Authors: Kazuki Yoshida, Justin Bohn.

threeboost: Thresholded variable selection and prediction based on estimating equations. Authors: Julian Wolfson and Christopher Miller.

tictoc: Functions for timing R scripts, as well as implementations of Stack and List structures. Author: Sergei Izrailev.

tigerstats: R for Elementary Statistics. Authors: Rebekah Robinson and Homer White.

tm.plugin.alceste: Import texts from files in the Alceste format using the **tm** text mining framework. Author: Milan Bouchet-Valat [aut, cre]. In view: *NaturalLanguageProcessing*.

tm.plugin.europresse: Import articles from Europresse using the **tm** text mining framework. Author: Milan Bouchet-Valat [aut, cre]. In view: *NaturalLanguageProcessing*.

tm.plugin.lexisnexis: Import articles from LexisNexis using the **tm** text mining framework. Author: Milan Bouchet-Valat [aut, cre]. In view: *NaturalLanguageProcessing*.

tmle.npvi: Targeted Minimum Loss Estimation (TMLE) of a NP variable importance of a continuous exposure. Authors: Antoine Chambaz, Pierre Neuvial.

toaster: analytics and visualization with Aster Database. Author: Gregory Kanevsky. In view: *HighPerformanceComputing*.

tosls: Instrumental Variables Two Stage Least Squares estimation. Author: Zaghdoudi Taha.

transnet: Conducts transmission modeling on a bayesian network. Authors: Alun Thomas [aut, cph], Andrew Redd [com, cre, ctb].

transport: Optimal transport in various forms. Authors: Dominic Schuhmacher with substantial contributions of code by Bjoern Baehre and Carsten Gottschlich.

tsintermittent: Intermittent Time Series Forecasting. Authors: Nikolaos Kourentzes and Fotios Petropoulos. In view: *TimeSeries*.

tsoutliers: Automatic Detection of Outliers in Time Series. Author: Javier López-de-Lacalle. In view: *TimeSeries*.

turfR: TURF Analysis for R. Author: Jack Horne [aut, cre].

tvm: Time Value of Money Functions. Author: Juan Manuel Truppia. In view: *Finance*.

ucbthesis: UC Berkeley graduate division thesis template. Author: Steven Pollack.

unbalanced: Implementation of different data-driven method for unbalanced datasets. Authors: Andrea Dal Pozzolo, Olivier Caelen and Gianluca Bontempi.

uniReg: Unimodal penalized spline regression using B-splines. Author: Claudia Koellmann.

uplift: Uplift Modeling. Author: Leo Guelman.

userfriendlyscience: Quantitative analysis made accessible. Author: Gjalt-Jorn Peters.

ustyc: Fetch US Treasury yield curve data. Author: Matt Barry.

vardpoor: Variance estimation for sample surveys by the ultimate cluster method. Authors: Juris Breidaks [aut, cre], Martins Liberts [aut].

vbsr: Variational Bayes Spike Regression Regularized Linear Models. Author: Benjamin Logsdon.

vdg: Variance Dispersion Graphs and Fraction of Design Space Plots. Author: Pieter Schoonees [aut, cre, cph].

vecsets: like base::sets tools but keeps duplicate elements. Author: Carl Witthoft.

wbs: Wild Binary Segmentation for multiple change-point detection. Authors: Rafal Baranowski and Piotr Fryzlewicz.

weatherData: Get Weather Data from the Web. Author: Ram Narasimhan. In view: *WebTechnologies*.

wesanderson: A Wes Anderson Palette Generator. Authors: Karthik Ram [aut, cre], Richards Clark [ctb].

wrspathrow: Functions for working with Worldwide Reference System (WRS). Author: Alex Zvoleff [aut, cre].

wrspathrowData: Data used by the **wrspathrow** package. Author: Alex Zvoleff [aut, cre].

wskm: Weighted *k*-means Clustering. Authors: Graham Williams [aut], Joshua Z Huang [aut], Xiaojun Chen [aut], Qiang Wang [aut], Longfei Xiao [aut], He Zhao [cre].

wsrf: Weighted Subspace Random Forest. Authors: Qinghan Meng [aut], He Zhao [aut, cre], Graham Williams [aut], Junchao Lv [ctb].

wtcrsk: Competing risks regression models with covariate-adjusted censoring weight. Author: Peng He. In view: *Survival*.

xergm: Extensions for Exponential Random Graph Models (ERGM). Authors: Philip Leifeld [aut, cre], Skyler J. Cranmer [aut], Bruce A. Desmarais [aut].

xhmmScripts: XHMM R scripts. Author: Menachem Fromer.

ycinterextra: Yield curve or zero-coupon prices interpolation and extrapolation. Author: Thierry Moudiki. In view: *Finance*.

ykmeans: K-means using a target variable. Author: Yohei sato.

yuima: The YUIMA Project package for SDEs. Author: YUIMA Project Team.

zCompositions: Replacement of zeros and nondetects in compositional data sets. Authors: Javier Palarea-Albaladejo and Josep Antoni Martin-Fernandez.

zoib: Bayesian Inference for Zero/One Inflated Beta Regression. Author: Fang Liu with contributions YunChuan Kong.

Other changes

The following packages were moved to the Archive: **ANN**, **BINCO**, **BayesTree**, **CAscaling**, **CGP**, **CalciOMatic**, **ChangeAnomalyDetection**, **ClinicalRobustPriors**, **CvM2SL1Test**, **CvM2SL2Test**, **DPM.GGM**, **DataFrameConstr**, **DesignPatterns**, **EasyUpliftTree**, **EstSimPDMP**, **ExactSampling**, **FunNet**, **GGIR**, **GGally**, **GOFSN**, **GUTS**, **GridR**, **HGLMMM**, **HIBAG**, **HMMmix**, **HiDimDA**, **JGR**, **JMLSD**, **LearnEDA**, **MAVTgsa**, **MCUSUM**, **MEWMA**, **MLDA**, **MTSKNN**, **MetaPath**, **MultiChIPmixHMM**, **PL.popN**, **POT**, **Peak2Trough**, **QLSpline**, **QT**, **RLastFM**, **RSearchYJ**, **RSofia**, **RTDAmeritrade**,

RTisean, RWebMA, RadialPlotter, RcppZiggurat, RecordLinkage, RiDMC, Rvelslant, SDisc, SNPRelate, SRMA, SigWinR, SlimPLS, Snowball, SparseTSCGM, SpatialPack, StochaTR, StructR, TAHMMAnnot, TGUICore, TGUITeaching, TPAM, TSPC, TWIX, TinnR, ToxLim, VisCov, VizCompX, WMTregions, WeightedCluster, XiMpLe, YjdnJlp, adk, ageprior, aggrisk, binarySimCLF, birch, bscr, caGUI, cems, charlson, cladoRpp, cldr, colcor, compositionsGUI, convevol, copas, corrperm, cpm, dynpred, easystab, eco, ecp, eigendog, el.convex, epibase, evtree, flubase, gamesNws, gazetools, gdsfmt, gearman, glmmAK, glrt, gmvalid, govdat, gppois, gregmisc, h5r, hints, hof, iSubpathwayMiner, iWebPlots, imputation, indicspecies, int64, kernelPop, knorm, koRpus, leiv, ljr, lossDev, magnets, mchof, mixfdr, mtcreator, mugnet, mutatr, ndvits, nga, nloptwrap, numConversion, odprism, opencpu.encode, orth, pa, pamctdp, parboost, pcrsim, pcurve, pgmm, postgwas, ppMeasures, probemapper, protoclust, pycno, rHadoopClient, rbamtools, readMETEO, rlandscape, rmac, rngSetSeed, rolasized, ropensnp, scapeMCMC, sensitivityPStrat, seq2R, sessionTools, shapes, sheldusr, sifds, simPopulation, sinartra, skewtools, snort, spclust, sprint, sspir, stochmod, stratasphere, survivalBIV, tagcloud, tclust, tmg, tonymisc, ttime, validator, vmv, waveclock, websockets, wethepeople, xpose4classic, xpose4data, xpose4generic, xpose4specific

The following packages were resurrected from the Archive: BootPR, CatDyn, LSC, RFreak, RHive, RcmdrPlugin.pointG, RcmdrPlugin.sos, Sim.DiffProc, anchors, binhf, binomSamSize, bujar, cem, cladoRcpp, clues, clusterfly, cond, cplm, csampling, dtt, elrm, epinet, extfunnel, fbati, financial, fitDRC, fractal, geospacom, hydrogeo, languageR, ltsk, marg, mblm, mmeta, nlreg, npst, pcaPA, polytomous, ripa, rsdepth, simone, spacom, tikzDevice

The following package had to be removed: **CDS**.

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