Editorial

by Michael Lawrence

On behalf of the editorial board, I am pleased to publish Volume 8, Issue 2 of the R Journal. This issue contains 33 contributed research articles. Each of them either presents an R package, a specific extension of an R package or applications using R packages available from the Comprehensive R Archive Network (CRAN, http:://CRAN.R-project.org). This issue highlights the breadth and depth of the R package ecosystem, covering advances in statistical computing and visualization, as well as novel applications of R in specific domains. The authors have described a small but representative sample of the now more than 11000 packages distributed through CRAN and Bioconductor.

As usual the bulk of this issue presents advancements in the field of applied statistics, including **multipleNCC** for inverse probability weighting of nested case-control data, **SimCorMultRes** for simulating correlated categorical responses, **Qtools** for quantile inference, and **MLCIRTwithin** for discovering latent traits in questionnaire responses. The **CAVariants** package implements multiple methods for correspodence analysis, and **hdm** provides tools for computing uncertainty in high-dimensional, sparse models. There are articles describing how to analyze normal tolerance intervals with the **tolerance** package, perform associated kernel estimation using **ake**, evaluate principal surrages with **pseval**, find subgroups using evolutionary fuzzy methods implemented in **SDEFSR**, and use the distance covariance function to analyze time series data with **dCovTS**. Further articles describe **quantreg.nonpar** for quantile regression with non-parametric series, **micompr** for multivariate independent comparison of observations, **WeDiBaDis** for weighted discrimant analysis, **TSDist** for computing distances for time series, **condSURV** for estimating conditional survival functions, and **mctest** for testing collinearity between regressors.

We are fortunate to present a number of data visualization packages including: **rnrfa** for viewing data from the UK National River Flow Archive, **easyROC**, a GUI for analyzing ROC curves, **geozoo** for generating libraries of high-dimensional shapes, and **ggfortify** for getting data into shape for plotting.

Researchers continue to find new ways to apply R to scientific pursuits, including **QPot** for understanding how stochasticity affects systems of differential equations, **nmfgpu4R** for large scale non-negative matrix factorization (NMF) using GPUs, and the **units** package for computing on scientific units. Applications to biology include **TRONCO** for modeling tumor progression and **ACSNMineR** for detecting module enrichment and depletion. Other applications include **diverse** for analyzing diversity in complex systems, **comf** for analyzing thermal comfort data, **water** for estimating evapotranspiration from satellite images, **eiCompare** for comparing ecological inference estimates, particularly in the context of analyzing voting patterns, **mixtox** for assessing the toxicity of chemical mixtures, **tigris** for accessing geographic data from the US Census, and **rPref** for computing Pareto frontiers, useful for implementing preference-based database queries.

In addition the News and Notes section contains the usual updates on the R Foundation, CRAN and the Bioconductor project.

I hope you enjoy the issue.

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