

## Available Packages for Self-service Data Platform

Python & Modules	
Package	Version
absl-py	1.4.0
anyio	3.7.0
argon2-cffi	21.3.0
argon2-cffi-bindings	21.2.0
arrow	1.2.3
asttokens	2.2.1
astunparse	1.6.3
attrs	23.1.0
backcall	0.2.0
beautifulsoup4	4.12.2
bleach	6.0.0
cachetools	5.3.1
certifi	2023.5.7
cffi	1.15.1
charset-normalizer	3.1.0
comm	0.1.3
contourpy	1.0.7
cycler	0.11.0
debugpy	1.6.7
decorator	5.1.1
defusedxml	0.7.1
exceptiongroup	1.1.1
executing	1.2.0
fastjsonschema	2.17.1
flatbuffers	1.12
fonttools	4.39.4
fqdn	1.5.1
gast	0.4.0
google-auth	2.19.0
google-auth-oauthlib	0.4.6
google-pasta	0.2.0
grpcio	1.54.2
h5py	3.8.0
idna	3.4
importlib-metadata	6.6.0

Python & Modules	
Package	Version
ipykernel	6.23.1
ipython	8.13.2
ipython-genutils	0.2.0
isoduration	20.11.0
jedi	0.18.2
Jinja2	3.1.2
joblib	1.2.0
jsonpointer	2.3
jsonschema	4.17.3
jupyter_client	8.2.0
jupyter_core	5.3.0
jupyter-events	0.6.3
jupyter_server	2.6.0
jupyter_server_terminals	0.4.4
jupyterlab-pygments	0.2.2
keras	2.9.0
Keras-Preprocessing	1.1.2
kiwisolver	1.4.4
libclang	16.0.0
Markdown	3.4.3
MarkupSafe	2.1.2
matplotlib	3.6.0
matplotlib-inline	0.1.6
mistune	2.0.5
nbclassic	1.0.0
nbclient	0.8.0
nbconvert	7.4.0
nbformat	5.9.0
nest-asyncio	1.5.6
notebook	6.5.4
notebook_shim	0.2.3
numpy	1.22.4
nvidia-cublas-cu11	11.10.3.66
nvidia-cuda-nvrtc-cu11	11.7.99
nvidia-cuda-runtime-cu11	11.7.99
nvidia-cudnn-cu11	8.5.0.96

Python & Modules	
Package	Version
oauthlib	3.2.2
opt-einsum	3.3.0
overrides	7.3.1
packaging	23.1
pandas	1.4.1
pandocfilters	1.5.0
parso	0.8.3
pexpect	4.8.0
pickleshare	0.7.5
Pillow	9.5.0
pip	23.1.2
platformdirs	3.5.1
prometheus-client	0.17.0
prompt-toolkit	3.0.38
protobuf	3.19.6
psutil	5.9.5
ptyprocess	0.7.0
pure-eval	0.2.2
pyasn1	0.5.0
pyasn1-modules	0.3.0
pycparser	2.21
Pygments	2.15.1
PyGObject	3.26.1
pyparsing	3.0.9
pyrsistent	0.19.3
python-apt	1.6.6
python-dateutil	2.8.2
python-json-logger	2.0.7
pytz	2023.3
PyYAML	6
pyzmq	25.1.0
requests	2.31.0
requests-oauthlib	1.3.1
rfc3339-validator	0.1.4
rfc3986-validator	0.1.1
rsa	4.9

Python & Modules	
Package	Version
scikit-learn	1.0.2
scipy	1.7.1
Send2Trash	1.8.2
setuptools	67.8.0
six	1.16.0
sniffio	1.3.0
soupsieve	2.4.1
stack-data	0.6.2
tensorboard	2.9.1
tensorboard-data-server	0.6.1
tensorboard-plugin-wit	1.8.1
tensorflow-estimator	2.9.0
tensorflow-gpu	2.9.1
tensorflow-io-gcs-filesystem	0.32.0
termcolor	2.3.0
terminado	0.17.1
threadpoolctl	3.1.0
tinycss2	1.2.1
torch	1.13.0
torchaudio	0.13.0
torchvision	0.14.0
tornado	6.3.2
traitlets	5.9.0
typing_extensions	4.6.2
unattended-upgrades	0.1
uri-template	1.2.0
urllib3	1.26.16
wcwidth	0.2.6
webcolors	1.13
webencodings	0.5.1
websocket-client	1.5.2
Werkzeug	2.3.4
wheel	0.40.0
wrapt	1.15.0
zipp	3.15.0

R & Modules	
Package	Description
abind	Combine Multidimensional Arrays
airway	RangedSummarizedExperiment for RNA-Seq in airway smooth muscle cells, by Himes et al PLoS One 2014
annotate	Annotation for microarrays
AnnotationDbi	Manipulation of SQLite-based annotations in Bioconductor
ape	Analyses of Phylogenetics and Evolution
aricode	Efficient Computations of Standard Clustering Comparison Measures
ash	David Scott's ASH Routines
askpass	Safe Password Entry for R, Git, and SSH
assertthat	Easy Pre and Post Assertions
backports	Reimplementations of Functions Introduced Since R-3.0.0
base	The R Base Package
base64enc	Tools for base64 encoding
BayesFactor	Computation of Bayes Factors for Common Designs
bayestestR	Understand and Describe Bayesian Models and Posterior Distributions
BH	Boost C++ Header Files
Biobase	Biobase: Base functions for Bioconductor
BiocGenerics	S4 generic functions used in Bioconductor
BiocParallel	Bioconductor facilities for parallel evaluation
Biostrings	Efficient manipulation of biological strings
bit	Classes and Methods for Fast Memory-Efficient Boolean Selections
bit64	A S3 Class for Vectors of 64bit Integers
bitops	Bitwise Operations
blob	A Simple S3 Class for Representing Vectors of Binary Data ('BLOBS')
boot	Bootstrap Functions (Originally by Angelo Canty for S)
brew	Templating Framework for Report Generation
brio	Basic R Input Output
broom	Convert Statistical Objects into Tidy Tibbles
bslib	Custom 'Bootstrap' 'Sass' Themes for 'shiny' and 'rmarkdown'
BWStest	Baumgartner Weiss Schindler Test of Equal Distributions
cachem	Cache R Objects with Automatic Pruning
callr	Call R from R
car	Companion to Applied Regression
carData	Companion to Applied Regression Data Sets
caret	Classification and Regression Training
caTools	Tools: Moving Window Statistics, GIF, Base64, ROC AUC, etc
cellranger	Translate Spreadsheet Cell Ranges to Rows and Columns
checkmate	Fast and Versatile Argument Checks
class	Functions for Classification
ClassDiscovery	Classes and Methods for "Class Discovery" with Microarrays or Proteomics
cli	Helpers for Developing Command Line Interfaces
clipr	Read and Write from the System Clipboard
clock	Date-Time Types and Tools
cluster	Finding Groups in Data: Cluster Analysis Extended Rousseeuw et al.
clusterCrit	Clustering Indices
coda	Output Analysis and Diagnostics for MCMC
codetools	Code Analysis Tools for R

R & Modules	
Package	Description
colorspace	A Toolbox for Manipulating and Assessing Colors and Palettes
colourpicker	A Colour Picker Tool for Shiny and for Selecting Colours in Plots
commonmark	High Performance CommonMark and Github Markdown Rendering in R
compiler	The R Compiler Package
contfrac	Continued Fractions
coro	'Coroutines' for R
correlation	Methods for Correlation Analysis
corrplot	Visualization of a Correlation Matrix
cowplot	Streamlined Plot Theme and Plot Annotations for 'ggplot2'
cpp11	A C++11 Interface for R's C Interface
crayon	Colored Terminal Output
credentials	Tools for Managing SSH and Git Credentials
crosstalk	Inter-Widget Interactivity for HTML Widgets
crul	HTTP Client
curl	A Modern and Flexible Web Client for R
data.table	Extension of `data.frame`
datasets	The R Datasets Package
datawizard	Easy Data Wrangling and Statistical Transformations
DBI	R Database Interface
dbplyr	A 'dplyr' Back End for Databases
dbscan	Density-Based Spatial Clustering of Applications with Noise (DBSCAN) and Related Algorithms
DelayedArray	A unified framework for working transparently with on-disk and in-memory array-like datasets
deldir	Delaunay Triangulation and Dirichlet (Voronoi) Tessellation
DEoptimR	Differential Evolution Optimization in Pure R
desc	Manipulate DESCRIPTION Files
DESeq2	Differential gene expression analysis based on the negative binomial distribution
deSolve	Solvers for Initial Value Problems of Differential Equations ('ODE', 'DAE', 'DDE')
devtools	Tools to Make Developing R Packages Easier
diagram	Functions for Visualising Simple Graphs (Networks), Plotting Flow Diagrams
dichromat	Color Schemes for Dichromats
diffobj	Diffs for R Objects
digest	Create Compact Hash Digests of R Objects
DNACopy	DNA copy number data analysis
doParallel	Foreach Parallel Adaptor for the 'parallel' Package
downlit	Syntax Highlighting and Automatic Linking
dplyr	A Grammar of Data Manipulation
dqrng	Fast Pseudo Random Number Generators
dtplyr	Data Table Back-End for 'dplyr'
dynamicTreeCut	Methods for Detection of Clusters in Hierarchical Clustering Dendrograms
e1071	Misc Functions of the Department of Statistics, Probability Theory Group (Formerly: E1071), TU Wien
edgeR	Empirical Analysis of Digital Gene Expression Data in R
effectsize	Indices of Effect Size
ellipsis	Tools for Working with ...
elliptic	Weierstrass and Jacobi Elliptic Functions

R & Modules	
Package	Description
evaluate	Parsing and Evaluation Tools that Provide More Details than the Default
exactRankTests	Exact Distributions for Rank and Permutation Tests
extrafont	Tools for Using Fonts
extrafontdb	Package for holding the database for the extrafont package
fansi	ANSI Control Sequence Aware String Functions
farver	High Performance Colour Space Manipulation
fastcluster	Fast Hierarchical Clustering Routines for R and 'Python'
fastmap	Fast Data Structures
fit.models	Compare Fitted Models
fitdistrplus	Help to Fit of a Parametric Distribution to Non-Censored or Censored Data
FNN	Fast Nearest Neighbor Search Algorithms and Applications
fontawesome	Easily Work with 'Font Awesome' Icons
forcats	Tools for Working with Categorical Variables (Factors)
foreach	Provides Foreach Looping Construct
foreign	Read Data Stored by 'Minitab', 'S', 'SAS', 'SPSS', 'Stata', 'Systat', 'Weka', 'dBase', ...
formatR	Format R Code Automatically
Formula	Extended Model Formulas
fs	Cross-Platform File System Operations Based on 'libuv'
fueleconomy	EPA Fuel Economy Data
futile.logger	A Logging Utility for R
futile.options	Futile Options Management
future	Unified Parallel and Distributed Processing in R for Everyone
future.apply	Apply Function to Elements in Parallel using Futures
gameofthrones	Palettes Inspired in the TV Show "Game of Thrones"
gapminder	Data from Gapminder
gargle	Utilities for Working with Google APIs
gbm	Generalized Boosted Regression Models
gbRd	Utilities for processing Rd objects and files
genefilter	genefilter: methods for filtering genes from high-throughput experiments
geneplotter	Graphics related functions for Bioconductor
generics	Common S3 Generics not provided by Base R (methods related to model fitting)
GenomeInfoDb	Utilities for manipulating chromosome names, including modifying them to follow a particular naming style
GenomeInfoDbData	Species and taxonomy ID look up tables used by GenomeInfoDb
GenomicRanges	Representation and manipulation of genomic intervals
gert	Simple Git Client for R
GGally	Extension to 'ggplot2'
ggalt	Extra Coordinate Systems, 'Geoms', Statistical Transformations, Scales and Fonts for 'ggplot2'
gganimate	A Grammar of Animated Graphics
ggcorrplot	Visualization of a Correlation Matrix using 'ggplot2'
ggExtra	Add Marginal Histograms to 'ggplot2', and More 'ggplot2' Enhancements
ggforce	Accelerating 'ggplot2'
ggfortify	Data Visualization Tools for Statistical Analysis Results
ggiraph	Make 'ggplot2' Graphics Interactive
ggnetwork	Geometries to Plot Networks with 'ggplot2'
ggplot2	Create Elegant Data Visualisations Using the Grammar of Graphics

R & Modules	
Package	Description
ggpubr	'ggplot2' Based Publication Ready Plots
ggraph	An Implementation of Grammar of Graphics for Graphs and Networks
ggrepel	Automatically Position Non-Overlapping Text Labels with 'ggplot2'
ggribbles	Ridgeline Plots in 'ggplot2'
ggsci	Scientific Journal and Sci-Fi Themed Color Palettes for 'ggplot2'
ggsignif	Significance Brackets for 'ggplot2'
ggstance	Horizontal 'ggplot2' Components
ggstatsplot	'ggplot2' Based Plots with Statistical Details
ggtext	Improved Text Rendering Support for 'ggplot2'
ggthemes	Extra Themes, Scales and Geoms for 'ggplot2'
gh	'GitHub' 'API'
gifski	Highest Quality GIF Encoder
gistr	Work with 'GitHub' 'Gists'
gitcreds	Query 'git' Credentials from 'R'
glmnet	Lasso and Elastic-Net Regularized Generalized Linear Models
globals	Identify Global Objects in R Expressions
glue	Interpreted String Literals
gmp	Multiple Precision Arithmetic
GO.db	A set of annotation maps describing the entire Gene Ontology
goftest	Classical Goodness-of-Fit Tests for Univariate Distributions
googledrive	An Interface to Google Drive
googlesheets4	Access Google Sheets using the Sheets API V4
gower	Gower's Distance
gplots	Various R Programming Tools for Plotting Data
graphics	The R Graphics Package
graphlayouts	Additional Layout Algorithms for Network Visualizations
grDevices	The R Graphics Devices and Support for Colours and Fonts
grid	The Grid Graphics Package
gridExtra	Miscellaneous Functions for "Grid" Graphics
gridSVG	Export 'grid' Graphics as SVG
gridtext	Improved Text Rendering Support for 'Grid' Graphics
gtable	Arrange 'Grobs' in Tables
gtools	Various R Programming Tools
hardhat	Construct Modeling Packages
harrypotter	Palettes Generated from All "Harry Potter" Movies
haven	Import and Export 'SPSS', 'Stata' and 'SAS' Files
here	A Simpler Way to Find Your Files
hexbin	Hexagonal Binning Routines
hflights	Flights that departed Houston in 2011
highr	Syntax Highlighting for R Source Code
Hmisc	Harrell Miscellaneous
hms	Pretty Time of Day
htmlTable	Advanced Tables for Markdown/HTML
htmltools	Tools for HTML
htmlwidgets	HTML Widgets for R
httplib	'HTTP' Status Code Helper
httpuv	HTTP and WebSocket Server Library



R & Modules	
Package	Description
httr	Tools for Working with URLs and HTTP
httr2	Perform HTTP Requests and Process the Responses
hypergeo	The Gauss Hypergeometric Function
ica	Independent Component Analysis
ids	Generate Random Identifiers
igraph	Network Analysis and Visualization
impute	impute: Imputation for microarray data
ini	Read and Write '.ini' Files
insight	Easy Access to Model Information for Various Model Objects
interp	Interpolation Methods
ipmisc	Miscellaneous Functions for Data Cleaning and Analysis
ipred	Improved Predictors
IRanges	Foundation of integer range manipulation in Bioconductor
IRdisplay	'Jupyter' Display Machinery
IRkernel	Native R Kernel for the 'Jupyter Notebook'
irlba	Fast Truncated Singular Value Decomposition and Principal Components Analysis for Large Dense and Sparse Matrices
isoband	Generate Isolines and Isobands from Regularly Spaced Elevation Grids
iterators	Provides Iterator Construct
janeaustenr	Jane Austen's Complete Novels
jcolors	Colors Palettes for R and 'ggplot2', Additional Themes for 'ggplot2'
jpeg	Read and write JPEG images
jquerylib	Obtain 'jQuery' as an HTML Dependency Object
jsonlite	A Simple and Robust JSON Parser and Generator for R
KEGGREST	Client-side REST access to the Kyoto Encyclopedia of Genes and Genomes (KEGG)
KernSmooth	Functions for Kernel Smoothing Supporting Wand & Jones (1995)
km.ci	Confidence Intervals for the Kaplan-Meier Estimator
KMsurv	Data sets from Klein and Moeschberger (1997), Survival Analysis
knitr	A General-Purpose Package for Dynamic Report Generation in R
kSamples	K-Sample Rank Tests and their Combinations
labeling	Axis Labeling
lambda.r	Modeling Data with Functional Programming
lars	Least Angle Regression, Lasso and Forward Stagewise
later	Utilities for Scheduling Functions to Execute Later with Event Loops
lattice	Trellis Graphics for R
latticeExtra	Extra Graphical Utilities Based on Lattice
lava	Latent Variable Models
lazyeval	Lazy (Non-Standard) Evaluation
leiden	R Implementation of Leiden Clustering Algorithm
lifecycle	Manage the Life Cycle of your Package Functions
limma	Linear Models for Microarray Data
listenv	Environments Behaving (Almost) as Lists
lme4	Linear Mixed-Effects Models using 'Eigen' and S4
lmtest	Testing Linear Regression Models
lobstr	Visualize R Data Structures with Trees
locfit	Local Regression, Likelihood and Density Estimation
lpSolve	Interface to 'Lp_solve' v. 5.5 to Solve Linear/Integer Programs

R & Modules	
Package	Description
lsei	Solving Least Squares or Quadratic Programming Problems under Equality/Inequality Constraints
lubridate	Make Dealing with Dates a Little Easier
luz	Higher Level 'API' for 'torch'
maftools	Summarize, Analyze and Visualize MAF Files
magrittr	A Forward-Pipe Operator for R
mapproj	Map Projections
maps	Draw Geographical Maps
maptools	Tools for Handling Spatial Objects
markdown	Render Markdown with 'commonmark'
MASS	Support Functions and Datasets for Venables and Ripley's MASS
mathjaxr	Using 'Mathjax' in Rd Files
Matrix	Sparse and Dense Matrix Classes and Methods
MatrixGenerics	S4 Generic Summary Statistic Functions that Operate on Matrix-Like Objects
MatrixModels	Modelling with Sparse and Dense Matrices
matrixStats	Functions that Apply to Rows and Columns of Matrices (and to Vectors)
maxstat	Maximally Selected Rank Statistics
mc2d	Tools for Two-Dimensional Monte-Carlo Simulations
mclust	Gaussian Mixture Modelling for Model-Based Clustering, Classification, and Density Estimation
memoise	'Memoisation' of Functions
metap	Meta-Analysis of Significance Values
methods	Formal Methods and Classes
mgcv	Mixed GAM Computation Vehicle with Automatic Smoothness Estimation
mime	Map Filenames to MIME Types
miniUI	Shiny UI Widgets for Small Screens
minqa	Derivative-Free Optimization Algorithms by Quadratic Approximation
mnormt	The Multivariate Normal and t Distributions, and Their Truncated Versions
ModelMetrics	Rapid Calculation of Model Metrics
modelr	Modelling Functions that Work with the Pipe
multcomp	Simultaneous Inference in General Parametric Models
multcompView	Visualizations of Paired Comparisons
multtest	Resampling-based multiple hypothesis testing
munsell	Utilities for Using Munsell Colours
mutoss	Unified Multiple Testing Procedures
mvtnorm	Multivariate Normal and t Distributions
nasaweather	Collection of datasets from the ASA 2006 data expo
network	Classes for Relational Data
nlme	Linear and Nonlinear Mixed Effects Models
nloptr	R Interface to NLOpt
nnet	Feed-Forward Neural Networks and Multinomial Log-Linear Models
npsurv	Nonparametric Survival Analysis
numDeriv	Accurate Numerical Derivatives
oompaBase	Class Unions, Matrix Operations, and Color Schemes for OOMPA
oompaData	Data to Illustrate OOMPA Algorithms
openssl	Toolkit for Encryption, Signatures and Certificates Based on OpenSSL
openxlsx	Read, Write and Edit xlsx Files
pairwiseComparisons	Multiple Pairwise Comparison Tests

R & Modules	
Package	Description
paletteer	Comprehensive Collection of Color Palettes
palr	Colour Palettes for Data
pals	Color Palettes, Colormaps, and Tools to Evaluate Them
parallel	Support for Parallel computation in R
parallelDist	Parallel Distance Matrix Computation using Multiple Threads
parallelly	Enhancing the 'parallel' Package
parameters	Processing of Model Parameters
patchwork	The Composer of Plots
pbapply	Adding Progress Bar to '*apply' Functions
pbdZMQ	Programming with Big Data -- Interface to 'ZeroMQ'
pbkrtest	Parametric Bootstrap, Kenward-Roger and Satterthwaite Based Methods for Test in Mixed Models
pcaPP	Robust PCA by Projection Pursuit
performance	Assessment of Regression Models Performance
pheatmap	Pretty Heatmaps
pillar	Coloured Formatting for Columns
pkgbuild	Find Tools Needed to Build R Packages
pkgconfig	Private Configuration for 'R' Packages
pkgdown	Make Static HTML Documentation for a Package
pkgload	Simulate Package Installation and Attach
plogr	The 'plog' C++ Logging Library
plotly	Create Interactive Web Graphics via 'plotly.js'
plotrix	Various Plotting Functions
plotROC	Generate Useful ROC Curve Charts for Print and Interactive Use
plyr	Tools for Splitting, Applying and Combining Data
PMCMRplus	Calculate Pairwise Multiple Comparisons of Mean Rank Sums Extended
png	Read and write PNG images
polyclip	Polygon Clipping
polynom	A Collection of Functions to Implement a Class for Univariate Polynomial Manipulations
praise	Praise Users
preprocessCore	A collection of pre-processing functions
prettyunits	Pretty, Human Readable Formatting of Quantities
prismatic	Color Manipulation Tools
pROC	Display and Analyze ROC Curves
processx	Execute and Control System Processes
prodlim	Product-Limit Estimation for Censored Event History Analysis
profvis	Interactive Visualizations for Profiling R Code
progress	Terminal Progress Bars
progressr	An Inclusive, Unifying API for Progress Updates
proj4	A simple interface to the PROJ.4 cartographic projections library
promises	Abstractions for Promise-Based Asynchronous Programming
proxy	Distance and Similarity Measures
pryr	Tools for Computing on the Language
ps	List, Query, Manipulate System Processes
purrr	Functional Programming Tools
quantmod	Quantitative Financial Modelling Framework
quantreg	Quantile Regression

R & Modules	
Package	Description
R.methodsS3	S3 Methods Simplified
R.oo	R Object-Oriented Programming with or without References
R.utils	Various Programming Utilities
R6	Encapsulated Classes with Reference Semantics
ragg	Graphic Devices Based on AGG
randomForest	Breiman and Cutler's Random Forests for Classification and Regression
ranger	A Fast Implementation of Random Forests
RANN	Fast Nearest Neighbour Search (Wraps ANN Library) Using L2 Metric
rappdirs	Application Directories: Determine Where to Save Data, Caches, and Logs
rbibutils	Read 'Bibtex' Files and Convert Between Bibliography Formats
rbokeh	R Interface for Bokeh
rcmdcheck	Run 'R CMD check' from 'R' and Capture Results
RColorBrewer	ColorBrewer Palettes
Rcpp	Seamless R and C++ Integration
RcppAnnoy	'Rcpp' Bindings for 'Annoy', a Library for Approximate Nearest Neighbors
RcppArmadillo	'Rcpp' Integration for the 'Armadillo' Templated Linear Algebra Library
RcppEigen	'Rcpp' Integration for the 'Eigen' Templated Linear Algebra Library
RcppParallel	Parallel Programming Tools for 'Rcpp'
RcppProgress	An Interruptible Progress Bar with OpenMP Support for C++ in R Packages
RcppTOML	'Rcpp' Bindings to Parser for "Tom's Obvious Markup Language"
RCurl	General Network (HTTP/FTP/...) Client Interface for R
Rdpack	Update and Manipulate Rd Documentation Objects
readr	Read Rectangular Text Data
readxl	Read Excel Files
recipes	Preprocessing and Feature Engineering Steps for Modeling
rematch	Match Regular Expressions with a Nicier 'API'
rematch2	Tidy Output from Regular Expression Matching
remotes	R Package Installation from Remote Repositories, Including 'GitHub'
repr	Serializable Representations
reprex	Prepare Reproducible Example Code via the Clipboard
reshape	Flexibly Reshape Data
reshape2	Flexibly Reshape Data: A Reboot of the Reshape Package
reticulate	Interface to 'Python'
rgeos	Interface to Geometry Engine - Open Source ('GEOS')
rgl	3D Visualization Using OpenGL
Rhtslib	HTSlib high-throughput sequencing library as an R package
rio	A Swiss-Army Knife for Data I/O
rlang	Functions for Base Types and Core R and 'Tidyverse' Features
rle	Common Functions for Run-Length Encoded Vectors
rmarkdown	Dynamic Documents for R
Rmpfr	R MPFR - Multiple Precision Floating-Point Reliable
robust	Port of the S+ "Robust Library"
robustbase	Basic Robust Statistics
ROCR	Visualizing the Performance of Scoring Classifiers
roxygen2	In-Line Documentation for R
rpart	Recursive Partitioning and Regression Trees
rprojroot	Finding Files in Project Subdirectories

R & Modules	
Package	Description
rrcov	Scalable Robust Estimators with High Breakdown Point
RSpectra	Solvers for Large-Scale Eigenvalue and SVD Problems
RSQLite	SQLite Interface for R
rstatix	Pipe-Friendly Framework for Basic Statistical Tests
rstudioapi	Safely Access the RStudio API
Rtsne	T-Distributed Stochastic Neighbor Embedding using a Barnes-Hut Implementation
Rttf2pt1	'ttf2pt1' Program
rversions	Query 'R' Versions, Including 'r-release' and 'r-oldrel'
rvest	Easily Harvest (Scrape) Web Pages
S4Vectors	Foundation of vector-like and list-like containers in Bioconductor
sampling	Survey Sampling
sandwich	Robust Covariance Matrix Estimators
sass	Syntactically Awesome Style Sheets ('Sass')
scales	Scale Functions for Visualization
scattermore	Scatterplots with More Points
scico	Colour Palettes Based on the Scientific Colour-Maps
sctransform	Variance Stabilizing Transformations for Single Cell UMI Data
SDMTools	Species Distribution Modelling Tools: Tools for processing data associated with species distribution modelling exercises
selectr	Translate CSS Selectors to XPath Expressions
sessioninfo	R Session Information
Seurat	Tools for Single Cell Genomics
SeuratObject	Data Structures for Single Cell Data
shape	Functions for Plotting Graphical Shapes, Colors
shiny	Web Application Framework for R
shinyjs	Easily Improve the User Experience of Your Shiny Apps in Seconds
sitmo	Parallel Pseudo Random Number Generator (PPRNG) 'sitmo' Header Files
sn	The Skew-Normal and Related Distributions Such as the Skew-t and the SUN
sna	Tools for Social Network Analysis
snow	Simple Network of Workstations
sourcetools	Tools for Reading, Tokenizing and Parsing R Code
sp	Classes and Methods for Spatial Data
SparseM	Sparse Linear Algebra
spatial	Functions for Kriging and Point Pattern Analysis
spatstat.data	Datasets for 'spatstat' Family
spatstat.explore	Exploratory Data Analysis for the 'spatstat' Family
spatstat.geom	Geometrical Functionality of the 'spatstat' Family
spatstat.random	Random Generation Functionality for the 'spatstat' Family
spatstat.sparse	Sparse Three-Dimensional Arrays and Linear Algebra Utilities
spatstat.utils	Utility Functions for 'spatstat'
splines	Regression Spline Functions and Classes
SQUAREM	Squared Extrapolation Methods for Accelerating EM-Like Monotone Algorithms
statmod	Statistical Modeling
statnet.common	Common R Scripts and Utilities Used by the Statnet Project Software
stats	The R Stats Package
stats4	Statistical Functions using S4 Classes
statsExpressions	Tidy Dataframes and Expressions with Statistical Details

R & Modules	
Package	Description
stringi	Character String Processing Facilities
stringr	Simple, Consistent Wrappers for Common String Operations
SummarizedExperiment	SummarizedExperiment container
SuppDists	Supplementary Distributions
survival	Survival Analysis
survminer	Drawing Survival Curves using 'ggplot2'
survMisc	Miscellaneous Functions for Survival Data
sys	Powerful and Reliable Tools for Running System Commands in R
systemfonts	System Native Font Finding
tcltk	Tcl/Tk Interface
tensor	Tensor product of arrays
testthat	Unit Testing for R
textshaping	Bindings to the 'HarfBuzz' and 'Fribidi' Libraries for Text Shaping
TFisher	Optimal Thresholding Fisher's P-Value Combination Method
TH.data	TH's Data Archive
tibble	Simple Data Frames
tidygraph	A Tidy API for Graph Manipulation
tidyr	Tidy Messy Data
tidyselect	Select from a Set of Strings
tidyverse	Easily Install and Load the 'Tidyverse'
timechange	Efficient Manipulation of Date-Times
timeDate	Rmetrics - Chronological and Calendar Objects
tinytex	Helper Functions to Install and Maintain TeX Live, and Compile LaTeX Documents
tmvnsim	Truncated Multivariate Normal Simulation
tools	Tools for Package Development
torch	Tensors and Neural Networks with 'GPU' Acceleration
torchvision	Models, Datasets and Transformations for Images
triebeard	'Radix' Trees in 'Rcpp'
tsne	T-Distributed Stochastic Neighbor Embedding for R (t-SNE)
TTR	Technical Trading Rules
tweenr	Interpolate Data for Smooth Animations
tzdb	Time Zone Database Information
urlchecker	Run CRAN URL Checks from Older R Versions
urltools	Vectorised Tools for URL Handling and Parsing
USAboundaries	Historical and Contemporary Boundaries of the United States of America
usethis	Automate Package and Project Setup
utf8	Unicode Text Processing
utils	The R Utils Package
uuid	Tools for Generating and Handling of UUIDs
uwot	The Uniform Manifold Approximation and Projection (UMAP) Method for Dimensionality Reduction
vctrs	Vector Helpers
viridis	Colorblind-Friendly Color Maps for R
viridisLite	Colorblind-Friendly Color Maps (Lite Version)
vroom	Read and Write Rectangular Text Data Quickly
waldo	Find Differences Between R Objects
WGCNA	Weighted Correlation Network Analysis

R & Modules	
Package	Description
whisker	{{mustache}} for R, Logicless Templating
withr	Run Code 'With' Temporarily Modified Global State
WRS2	A Collection of Robust Statistical Methods
xfun	Supporting Functions for Packages Maintained by 'Yihui Xie'
XML	Tools for Parsing and Generating XML Within R and S-Plus
xml2	Parse XML
xopen	Open System Files, 'URLs', Anything
xtable	Export Tables to LaTeX or HTML
xts	eXtensible Time Series
XVector	Foundation of external vector representation and manipulation in Bioconductor
yaml	Methods to Convert R Data to YAML and Back
zeallot	Multiple, Unpacking, and Deconstructing Assignment
zip	Cross-Platform 'zip' Compression
zlibbioc	An R packaged zlib-1.2.5
zoo	S3 Infrastructure for Regular and Irregular Time Series (Z's Ordered Observations)

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