**List of functions**

**statistical functions**

*Descriptive statistics*

rab\_trimmean: computes the X% trimmean

rab\_bootse

rab\_hd

*T-tests for means, trimmed means and medians*

rab\_1ttest: percentile bootstrap, equivalent to a one sample t-test. Allows testing if an estimator (mean, median, or trimmean) is different from zero using confidence intervals computed via bootstrap.

rab\_pttest: percentile bootstrap on differences, equivalent to a paired t-test

rab\_2ttest:

*ANOVA, ANCOVA and multiple pair-wise testing*

rab\_anova: weighted least square N-way ANOVA or ANCOVA

rab\_npanova: rank based ANOVA

rab\_repanova: robust Hotteling T-test; combines the multivariate approach of repeated measure ANOVA using Hotteling T (thus accounts for dependencies between repeated measures, I.e. non-sphericity) with robust estimates of the covariance (using the minimum generalized variance) and bootstrap (to estimate the T distribution rather than an approximate F transform).

*Correlations and Regressions*

rab\_regress: smooth weighted regression,

rab\_Pearson: bootstrapped Pearson correlation

rab\_Spearman: bootstrapped Spearman correlation

rab\_bendcorr: bootstrapped bend correlation

rab\_skippedcorr: bootstrapped skipped correlation

**Data visualization**

in addition to plot outputs related to each statistical function, data plots are available for violin plots, bar graphs, histograms, curves

**Robust Analysis of Behaviour (rab folder)**

rab\_outliers: allows to detect univariate outliers based on robust approaches. By default S-outliers are computed, but M-outliers can also be computed (with or without adjustment for small samples).

rab\_std: routine to automatically compute sensitivity, bias, etc. using signal detection theory.

rab\_vincentize: vencentize distributions using robust estimators