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EAS: Efficient and Accurate Statistics

Statistics is a field of study that deals with collection, organization, analysis and interpretation of data. Often, collected data is either too large to perform calculations by hand, and/or researchers do not have the statistical skills to properly analyze a set of data. Instead of acquiring the mathematical skills required or outsourcing statistical analysis to statisticians, researchers often carry out statistical analysis by themselves, using powerful statistical analysis software such as R. However, because R is open source, the mathematics and mechanics of available packages in R are manipulated by their creators to suit a specific need. Therefore, there are many packages in R which perform very similar tests but due to differences in mathematics and mechanics of the package, yield different results on the same of data set. The majority of users are unaware of the mathematical differences of the packages, and choose arbitrary packages to perform a test. Their choice is partly driven by simply finding a package that contains the name of the test they seek. This can lead to the researcher unknowingly providing erroneous results. This project implements a web application that seeks to minimize statistical errors due to improper use of statistical analysis tests, while improving the user experience with the R statistical analysis software.