appendix

2023-01-22

Appendix

Effect size derivation

Effect size can be defined as the difference of a parameter for a particular model or distribution, or a statistic derived from a sample. Importantly, it needs to reflect the treatment we try to measure. Centred on a conventional statistical test, we usually can deduce the effect size from the test statistic by substituting the null parameter value. When considering the diagnostics of residual departures, there exist many possibilities of test statistics for a variety of model assumptions. Meanwhile, diagnostic plots such as the residual plot have no general agreement on measuring how strong a model violation pattern is. To build a bridge between various residual-based tests, and the visual test, we focus on the shared information embedded in the testing procedures, which is the distribution of residuals. When comes to comparison of distribution, Kullback-Leibler divergence is a classical way to represent the information loss or entropy increase caused by the approximation to the true distribution, which in our case, the inefficiency due to the use of false model assumptions.

Following the terminology introduced by @kullback1951information. P represents the measured probability distribution, and Q represents the assumed probability distribution. The Kullback-Leibler divergence is given as $\int_{-\infty}^{\infty} log(p(x)/q(x))p(x)dx$, where $p(.)$ and $q(.)$ denote probability densities of P and Q.

p-value scatter plot

A collection interesting lineups (unusual results)

why unusual? what is the possible explanations?

targe journal

JRSSB: Journal of the Royal Statistical Society Series B (Statistical Methodology) Deadline: Jan 1, Apr 1

Reading: style of writing, author guideline (https://rss.onlinelibrary.wiley.com/hub/journal/14679868/author-guidelines)

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