Qeios

Peer Review

Review of: "Statistically Significant Linear Regression Coefficients Solely Driven by Outliers in Finite-Sample Inference"

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In the article, the author investigated the impact of outliers on the significance of a regression model. The paper contains lots of discussion on different methods and provides a very good, precise summary of the methods, but the literature is totally missing.

I have a few minor comments,

1. Table 1, which is the only table showing the results in numerical form, shows that the sign of the regression parameter changed when an outlier was added. Can you please provide the 100 observations or the scatter plot of X,Y observations to understand the pattern of the data without outliers?
2. You did not mention the min and max of the data or the value, strength, and direction of the outliers added to the data.
3. Is the data simulated as random numbers or from some specific distribution?
4. Why was the sample size selected as 100? Generally, small sample studies use 50 or 30 sample values as well.
5. From Table 1, it is apparent that you tried to evaluate the impact of an outlier in SRL. Will these results be the same for MLR with two or more than two predictors?
6. As it is quite obvious that outliers affect the classic methods and there are many studies on this topic, how is your study different and novel from the literature? Can you provide specific examples or references to similar studies to highlight how this paper differs from existing literature?

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Declarations

Potential competing interests: No potential competing interests to declare.