

On robust bivariate and multivariate correlation coefficient

ABSTRACT

The main purpose of this paper is to formulate a robust correlation coefficient for high dimensional data in the presence of multivariate outliers. The proposed method is compared with the existing robust bivariate correlation based on Adjusted Winsorization data and the well-known Pearson's correlation coefficient. The performance of our proposed method is investigated using artificial data and simulation study. An important implication of these findings is that the robust correlation based on RFCH estimator is more reliable and more efficient than the existing methods in all type of contamination scenarios.

Keyword: Robust correlation; RFCH; Winsorization; Outliers; MCD; MVE