Inferential aspects in regression models for interval-valued variables

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Regression models are widely used to solve problems in many fields. However, the use of inferential techniques is an important role in order validate these models. In the last years, some approaches were proposed to fit a regression model for interval-valued variables. We start this talk discussing about some of these techniques, in a historical perspective. Finally, we present a regression model for interval-valued variables based on copula theory. Some inferential aspects as goodness-of-fit measures and residual analysis are discussed for this method. A Monte Carlo simulation study demonstrated asymptotic properties for the maximum likelihood estimates obtained form the copula regression model. Application to real data set is also considered.

Keywords: Copula, Interval variable; Regression; Inference.