

On entropy, divergence and recent reconsiderations: A bridge to Copulas

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Measures of statistical information are important and omnipresent quantities and they have received considerable attention in many fields. The popularity of the said measures is due on their various conceptual interpretations and their applications in formulating practical problems in probability, statistics, engineering, economics, among others. This talk will present an overview of broad classes of measures of information which are defined by means of the probability density function. Properties of these measures will be briefly mentioned. Moreover, applications of these measures in several disciplines and frames, from estimation and testing of hypotheses to canonical correlation analysis, will be also briefly exposed. Recent reconsiderations of the said measures, defined in terms of the distribution function, will be presented. This approach creates a bridge between statistical information theory and copula theory and it also allows a combination of the respective areas to formulate, develop and address problems in both topics. Some preliminary results on the light of extreme value copulas will be presented.