

Abstract

The article presents the information-theoretic based feature information interaction, a measure that can describe complex feature dependencies in multivariate settings. According to the theoretical development, feature interactions are more accurate than current, bivariate dependence measures due to their stable and unambiguous definition. In experiments with artificial and real data we compare the empirical estimates of correlation, mutual information and 3-way feature interaction. We can conclude that feature interactions give a more detailed and accurate description of data structures that should be exploited for information fusion in multimedia problems.