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The optimal valid partitioning procedures.

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The purpose of discussed optimal valid partitioning (OVP) methods is uncovering of ordinal or continuous explanatory variables effect on outcome variables of different types. The OVP approach is based on searching partitions of explanatory variables space that in the best way separate observations with different levels of outcomes. Partitions of single variables ranges or two-dimensional admissible areas for pairs of variables are searched inside corresponding families. Statistical validity associated with revealed regularities is estimated with the help of permutation test repeating search of optimal partition for each permuted dataset. Monte Carlo simulation was used to test performance of OVP procedures both on ability to uncover regularities specified by experiments scenario and probability of false regularities that partially or completely do not agree with scenario. At the first stage OVP method was examined with the same technique for estimating statistical validities associated with simplest and more complicated partitions. However probability of partially false regularities appeared to be too high for this procedure. So alternative technique was suggested where statistical validity associated with more complicated partitions is calculated using statistically valid simplest partitions previously found for the same explanatory variables. (orig.)

Classification: K95 K75

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