

Quantile-based classification

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The idea of using quantiles in classification is relatively recent. The median classifier for high-dimensional problems (Hall et al., 2009), the quantile classifier (Hennig and Viroli; 2016); the ensemble and the directional quantile classifiers (Lai and McLeod; 2020; Farcomeni et al., 2021) represent main relevant proposals for supervised classification. These ideas proved to perform well for high dimensional and skewed data compared to other classical classification strategies. For clustering purposes quantiles lead to analogues appealing advantages. In this context, K-quantiles have been recently introduced (Hennig et al., 2019). In this talk the main quantile-based strategies for supervised and unsupervised classification will be presented and discussed, both from the theoretical and empirical points of view.