Optimum variable weighting with clustering and mind map technique

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Abstract:

Two additional steps are added to the iterative k-means clustering process to automatically compute the variable weights and view weights. We used two real-life data sets to investigate the properties of two types of weights in TW-k-means and investigated the difference between the weights of TW-k-means and the weights of the individual variable weighting method. The research has discovered the convergence property of the view weights in TW-k-means. We evaluate TW-k-means with five clustering algorithms on three real-life data sets and the results have shown that the TW-k-means algorithm significantly outperformed the other five clustering algorithms in four evaluation indices. In this proposed work we have done modification work with the two types of weights, compact views and significant variables can be identified and effect of low-quality views and noise variables can be reduced. Therefore, TW-k-means can obtain better clustering results than individual variable weighting clustering algorithms from multi view data. We discussed the difference of the weights between TW-k-means and EW-k means algorithms. The experiments also discovered the convergence property of the view weights in TW-k-means. We compared TW-k-means with five clustering algorithms on three real-life data sets and the results have shown that the TW-k-means algorithm significantly outperformed and also mind mapping technique also introduced for the multi view data with this we can easily maintain the user search data.

Keywords:

Tw K Means, Mapping, Variable Weighting, Ew K means.