

These tables demonstrate that, e.g., Property P6 is suitable for simplification of the data mining process. We can simplify the data mining process provided we have a suitable set \mathcal{E} possessing associations from the right side of the first table. Then it would be sufficient to mine only for associations from the left side of that table. For example, in the first rows we can see the associations

“IF *Hour* is *ML Me* THEN *Temp* is *ML Me*.”

“IF *Temp* is *ML Me* THEN *Y_NO2* is *ML Me*.”

Then we immediately obtain another association

“IF *Hour* is *ML Me* THEN *Y_NO2* is *ML Me*”.

6. Conclusions, future work

In this paper we studied relations among attributes (see the beginning of Section 4) of a given data set that are given by common fuzzy confirmation measures. Within this contribution (and also [13]) we provided a short survey of found relations and counterexamples (see Subsection 4.8).

The most promising and detailed results can be obtained for the minimum-based confirmation measure. This jointly with other facts (e.g., together with less computational complexity of such confirmation measures) gives another argument for its use. According to our experience, the remaining confirmation measures are rather complex to use, especially when we use several attributes in considered expressions.

We realize that our results are rather negative and that there still are some open tasks devoted even to Properties P1-P8 considered in this contribution. On the other side, this contribution is, in fact, our first step in this area. We intend to extend our research, e.g., to study relations given by other properties of confirmation measures, for instance, by those admitting various dependencies as it was suggested in [7], to create novel algorithms for mining of linguistic associations using the knowledge we have discovered, or to specify formally how the user of the data mining process can cooperate with this process by its linguistically expressed knowledge.

This contribution partially contains results (without proofs) from [12] where the same problem was studied. But, since some tasks from [13] remained open therein, we have answered them within this paper - see Examples 1,2,3,4,5, Lemmas 1,2,4,8 and Corollary 1.

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