Título: Enhancing Similarity Measures With Imperfect Rule-Based Background Knowledge

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Similarity measures are the core of such diverse techniques as similarity-based classification, clustering and case-based reasoning. The performance of these techniques depends heavily on the quality of the similarity measure. This volume provides a systematical approach for constructing knowledge-rich similarity measures. That is, existing domain knowledge is exploited as much as possible for defining similarity measures. A particular focus is on the handling of incomplete domain knowledge. It is shown that even incomplete and slightly incorrect knowledge can increase the classification accuracy. The integration of domain knowledge into similarity measures is partly motivated by technical considerations and partly by a cognitive science perspective. That is, this work is inspired by results of recent studies on human similarity assessment. The proposed techniques are analyzed formally and experimentally. Furthermore, they are evaluated successfully in opponent modeling in the multi-agent system RoboCup.