A SIMPLE VIEW OF THE DEMPSTER-SHAFER THEORY OF EVIDENCE AND ITS IMPLICATIONS FOR THE RULE OF COMBINATION

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During the past two years, the Dempster-Shafer theory of evidence has attracted attention within the AI community as a promising method of dealing with uncertainty in expert systems. As presented in the literature, the theory is hard to master. In a simple approach which is outlined in this paper, the Dempster-Shafer theory is viewed in the context of relational databases as an application of familiar retrieval techniques to second-order relations, that is, relations in which the data entries are relations in first normal form. The relational viewpoint clarifies some of the controversial issues in the Dempster-Shafter theory and facilitates its use in AI-oriented applications.