Dempster-Shafer theory of evidence, the V uncertainty has the form $V(m) = \Sigma_{A \subseteq X} m(A) \log_2 |A|$, where m denotes a basic probabilistic assignment defined on subsets of a finite universal set X and $|A|$ denotes the cardinality of set A. This function is recognized as a well-justified measure of nonspecificity, one of three basic types of uncertainty that have emerged from the Dempster-Shafer theory.

Given two marginal bodies of evidence that are consonant (nested), it is proved in the paper that the value of the V uncertainty for the joint body of evidence is the same regardless of whether the marginal bodies are combined by the Dempster rule or by the minimum rule applied to the corresponding marginal possibility distributions.

Given a joint basic assignment m defined on $X \times Y$ such that $m(Z) \neq 0$ implies that $Z = A \times B$ for some $A \subseteq X$ and $B \subseteq Y$, it is proved that $V(m) = V(m_{rec})$, where m_{rec} is the joint basic assignment reconstructed from the marginal basic assignments by the Dempster rule of combination.

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An Unusual Property of a Square Matrix of Fuzzy Sets

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Just as a graph is represented conveniently by matrices, it is possible to use matrices for a fuzzy intersection graph constructed from a family with a finite number of fuzzy sets. It is noted that fuzzy intersection graphs easily lend themselves to model the emission of signals, such as utterances, out of a point called a vertex and that the effect of a vertex on a finite number of neighboring vertices provides an interesting problem. The effect is modeled by a finite number of fuzzy sets. The assumptions are (1) that the membership functions in each set are polynomials with coefficients in a field F and (2) that either no two polynomials have the same variable or each polynomial is to be computed for distinct values of the variable. It is proved that to each square matrix of fuzzy sets can be associated a value called the determinant of the matrix. A theorem is proved whereby the computation of the determinant of a square matrix of fuzzy sets satisfying the assumptions is reduced to the computation of a determinant of a square matrix with coefficients in a field F.

Incorporating Confidence Measures into Fuzzy Classifiers

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In existing fuzzy classifier schemes, one normally assigns an input pattern to the class with highest membership. Often, more than one classifier is available, and each may possess desirable characteristics under various conditions. This paper presents a methodology for combining different fuzzy classifier outputs to produce linguistic confidence measures. The linguistic structure lends itself to the incorporation of higher