

How to Assign Numerical Values to Partially Ordered Levels Of Confidence: Robustness Approach

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In many practical situations, expert's levels of confidence are described by words from natural language, and these words are only partially ordered. Since computers are much more efficient processing numbers than words, it is desirable to assign numerical values to these degrees. Of course, there are many possible assignments that preserve order between words. It is reasonable to select an assignment which is the most robust, i.e., for which the largest possible deviation from the numerical values still preserves the order. In this paper, we describe such assignments for situations when we have 2, 3, and 4 different words.