

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

Kimberly Kato  
Department of Computer Science  
University of Texas at El Paso  
El Paso, Texas 79968, USA  
kekato@miners.utep.edu

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.