SHORT NOTICE

LINGUISTIC CATEGORIZATION OF OBSERVATIONS OF BEHAVIOR

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The ideas developed in Freksa (1981a) are now being applied in the project "Linguistic categorization of observations of behavior" at the Max Planck Institute for Psychiatry. This project is concerned with the representation of inherently imprecise and fuzzy information. Such information is obtained in empirical studies in which it is not possible to specify a purely 'data-driven' measurement model as in the physical sciences. In this type of study, 'concept-driven' judgment processes are required to arrive at descriptions of the observed phenomena. We argue that for this kind of process, the conventional "measurement and error" paradigm is inappropriate (Freksa 1981b). Rather than representing feature observations by points and error tolerances, we propose a linguistic representation in terms of simplified possibility distributions. Pilot experiments have suggested that these representations correspond more closely to the cognitive image of the observer's perception; as a consequence, the descriptions exhibit higher consistency than numerical descriptions.

A method has been developed (Freksa 1981c) to record subjective 'soft' observations in linguistic terms and to interpret them in terms of more objective reference data. This method is particularly attractive in connection with an interactive computer system to support semantic adaptation of subjective concepts (cf. Lopez de Mantaras 1980). However, the approach is transparent and suitable for graphical evaluation by hand as well. A major advantage of this approach over more traditional methods results from the fact that each observer may use his or her individual terminology, which he or she is well acquainted with, to describe his or her observations.

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References

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