

Fuzzy Belief Revision

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Abstract	Fuzzy sets, having been the long-standing mainstay of modeling and manipulating imperfect information, are an obvious candidate for representing uncertain beliefs.

Unfortunately, unadorned fuzzy sets are too limited to capture complex or potentially inconsistent beliefs, because all too often they reduce to absurdities ("nothing is possible") or trivialities ("everything is possible").

However, we show that by combining the syntax of propositional logic with the semantics of fuzzy sets a rich framework for expressing and manipulating uncertain beliefs can be created, admitting Gärdenfors-style expansion, revision, and contraction operators and being moreover amenable to easy integration with conventional ``crisp'' information processing.

The model presented here addresses many of the shortcomings of traditional approaches for building fuzzy data models, which will hopefully lead to a wider adoptance of fuzzy technologies for the creation of information systems.

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Attachment

[witte_fuzzybeliefrevision.pdf](#) [12]

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