Management of uncertainty and coherent probabilistic reasoning

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Abstract

The management of uncertainty is a crucial problem in many fields, like statistical inference, decision theory, artificial intelligence, and so on. In this context, when the set of random quantities or events at hand has no particular structure, in order to develop a consistent probabilistic reasoning a relevant role is played by the notion of coherence of de Finetti and some suitable generalizations of it.

In the talk we consider some related theoretical aspects and algorithms for precise and imprecise probabilities, obtained in the general setting of probabilistic reasoning under coherence.