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Analysis of Uncertainty in Ontologies and Semantic Web

Guest Editor:

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Message from the Guest Editor

Dear Colleagues,

Uncertainty is an intrinsic feature of many application domains, and many important real-world tasks require it to be managed. The term uncertainty should be understood here in a broad sense, including many different types of imperfect knowledge, including imprecision, inconsistency, randomness, incompleteness, incompleteness, ignorance, and ambiguity, among others. To manage different types of uncertainty, many different approaches have been proposed, such as probability theory, fuzzy logic, and possibility theory, among many others.

Existing languages, logical formalisms, and tools to manage ontologies and Semantic Web technologies have proved to be useful in many applications, but many aspects of the Semantic Web vision require managing uncertainty in some way, e.g., representing imprecise knowledge, answering inconsistent knowledge bases, ranking the quality of answers of a query, assigning degrees of trust to knowledge, etc. Although there has been a lot of work in the field, there are still many unsolved problems that must be addressed before uncertain extensions reach a satisfactory maturity level.



