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A Logical Interpretation of RDF

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Abstract

The Resource Description Framework (RDF) is intended to be used to capture and express the conceptual structure of information offered in the Web. Interoperability is considered to be an important enabler of future web applications. While XML supports syntactic interoperability, RDF is aimed at semantic interoperability. Interoperability is only given if different users/agents interpret an RDF data model in the same way. Important aspects of the RDF model are, however, expressed in prose which may lead to misunderstandings. To avoid this, capturing the intended semantics of RDF in first-order logic might be a valuable contribution and may provide RDF with a formalization allowing its full exploitation as a key ingredient of the evolving Semantic Web. This paper seeks to express the concepts and constraints of the RDF model in first-order logic.

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