A Knowledge Modeling Approach for AI Applications Based on Legal Reasoning in the Semantic Web

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Abstract

Transforming the Law as machine readable code represents a precondition for developing advanced information services in the legal domain endowed with reasoning facilities. In this talk we present an approach for legal knowledge representation and reasoning in the Semantic Web. It is based on the distinction between provisions and norms and it is able to provide reasoning facilities (like Hohfeldian reasoning) for advanced legal information retrieval, as well as legal compliance checking for deontic norms. It is also shown how the approach can handle norm defeasibility. Such methodology is implemented with decidable fragments of OWL 2, while legal reasoning is implemented through available decidable reasoners.

Keywords

Knowledge Modelin, Legal Reasoning, Semantic Web

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