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Semantic Interoperability Challenges to process Large Amount of Data Perspectives in Forensic and Legal Medicine

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Abstract

This article is a position paper dealing with semantic interoperability challenges. It addresses the Variety and Veracity dimensions when integrating, sharing and reusing large amount of heterogeneous data for data analysis and decision making applications in the healthcare domain. Many issues are raised by the necessity to conform Big Data to interoperability standards. We discuss how semantics can contribute to the improvement of information sharing and address the problem of data mediation with domain ontologies. We then introduce the main steps for building domain ontologies as they could be implemented in the context of Forensic and Legal medicine. We conclude with a particular emphasis on the current limitations in standardization and the importance of knowledge formalisation.

Keywords: Variety in Big Data; Knowledge Engineering; Semantic Interoperability; Ontology; Forensic Science

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