Knowledge Modeling for Data Sharing, Integration, and Reuse

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Abstract

Increasing amounts of data are shared, often publicly on the World Wide Web, for reuse by third parties. Such reuse usually necessitates the integration of this data with other data, or with software, in order to enable data-based applications, fine-grained search, data analytics, etc. This integration is often a significant cost factor due to the wide variance regarding representational choices for data, ranging from syntactic data formats to semantic heterogeneity stemming from different viewpoints of data providers. In this presentation, we will shed light on the role of knowledge modeling for data sharing and reuse. In particular, we will discuss how Semantic Web Technologies make it easier to integrate and thus reuse heterogeneous data.

Biographical Sketch

Pascal Hitzler is (full) Professor and Director of Data Science at the Department of Computer Science and Engineering at Wright State University in Dayton, Ohio, U.S.A. His research record lists over 300 publications in such diverse areas as semantic web, neural-symbolic integration, knowledge representation and reasoning, machine learning, denotational semantics, and set-theoretic topology. He is Editor-in-chief of the Semantic Web journal by IOS Press, and of the IOS Press book series Studies on the Semantic Web. He is co-author of the W3C Recommendation OWL 2 Primer, and of the book Foundations of Semantic Web Technologies by CRC Press, 2010 which was named as one out of seven Outstanding Academic Titles 2010 in Information and Computer Science by the American Library Association's Choice Magazine, and has translations into German and Chinese. He is on the editorial board of several journals and book series and is a founding steering committee member of the Web Reasoning and Rule Systems (RR) conference series, of the Neural-Symbolic Learning and Reasoning (NeSy) workshop series, and of the Association for Ontology Design and Patterns (ODPA). He also frequently acts as conference chair in various functions. For more information, see http://www.pascal-hitzler.de.