

Is it really the time to give up with semantics?

Claudia d'Amato

University of Bari, Italy
claudia.damato@uniba.it

Abstract. The construction of Knowledge bases requires quite often the intervention of knowledge engineerings and domain experts, resulting in a time consuming task. Automated approaches have been developed for building knowledge bases from existing sources of information such as web pages and crowdsourcing; seminal examples are NELL, DBPedia, YAGO and several others. Recently, increasingly complex integration processes, involving multiple sources of information, human expert intervention, crowdsourcing, have been set up with the goal of building very large sources of knowledge, as for the case of Knowledge Graphs (KGs) which are becoming important for several research fields, despite their inherent incompleteness and noise. Significant research efforts have been devoted to KG refinement, aiming at limiting these issues. Particularly, link prediction and triple classification tasks have gained major attention. They have been targeted mostly by adopting numeric based machine learning methods since they resulted to be able to scale on very large KGs. Nevertheless, KGs may also rely on expressive representation languages, such as RDFS and OWL, that are also endowed with deductive reasoning capabilities. However, both expressiveness and reasoning are most of the time disregarded by the majority of the numeric methods that have been developed, thus somehow losing knowledge that is already available. This talk aims at offering a perspective on the role that semantics and reasoning may play when developing numeric based solutions targeting KG completion at instance level. Furthermore, the role of semantics and reasoning on symbol-based machine learning solutions targeting KG enrichment at schema level, will be discussed.