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Logic Programming in Databases: from Datalog to Semantic Web Rules

Topics:

Much has happened in database research since the introduction of the relational model, in 1970, and its strong logical foundations influence its advances ever since. Logic has been a common ground where Database and Artificial Intelligence research competed with each other and collaborated for a long time. The product of this joint effort has been a set of logic-based technologies, such as datalog, description logics, ontologies etc., capturing the data semantics in an explicit way and enabling complex reasoning tasks.

In particular, the rule-based paradigm has accompanied the relational model for almost all its life: the coupling of logic programming with databases; the introduction of active database rules, whose semantics, often defined in a procedural way, has also been investigated on a logic-programming basis; and integrity constraint specification and management, are just some examples.

More recently, with the advent of the Semantic Web and of ontologies, the issue has been addressed of how ontologies and semantics can help solving typical database problems, through a better understanding of knowledge representation. However, while ontologies provide solid grounds for representing the database at the schema level, the application logic cannot be expressed, hence the opportunity to combine ontologies with logical rules as it has been done with databases.

Throughout the history of the marriage of logic programming with databases, very interesting semantic challenges have thus come to the stage. This special issue welcomes papers on all aspects that conjugate databases and logic-based methods, with special emphasis on logic programming and semantics.

Submissions:

Submitted papers should be written in English, and formatted using the LaTeX style files developed by Cambridge University Press for TPLP. Revised and enhanced versions of papers published at conferences that have not appeared in archival journals are eligible for submission. Papers describing important past research in this area which have not been published in archival journal papers are also solicited. For any doubt regarding the appropriateness of the topic of a paper for this special issue please email tplpspring2010@easychair.org

Submission website:

<http://www.easychair.org/conferences?conf=tplpspring2010>

Editor Website:

http://home.dei.polimi.it/tanca/Semantic_LP.html