

# Logical Algorithmics: From Relational Queries to Boolean Reasoning

Moshe Y. Vardi   

Rice University, Houston, TX, USA

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## Abstract

The standard approach to algorithm development is to focus on a specific problem and develop for it a specific algorithm. Codd's introduction of the relational model in 1970 included two fundamental ideas: (1) relations provide a universal data representation formalism, and (2) relational databases can be queried using first-order logic. Realizing these ideas required the development of a meta-algorithm, which takes a declarative query and executes it with respect to a database. In this talk, I will describe this approach, which I call Logical Algorithmics, in detail, and trace a decades-long path from the computational complexity theory of relational queries to recent tools for Boolean reasoning.

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