Dedicated to Professor Ioan A. RUS on the occasion of his 70th anniversary

Computing constrained default extensions - a constraint satisfaction problem

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ABSTRACT. Constrained default logic belongs to the class of default logics which formalize default reasoning. This type of nonmonotonic reasoning is modelled by *defaults* which permit inferring conclusions in the absence of complete information, using default assumptions. Using the classical inference rules and the defaults, the set of initial facts is extended with formulas, called *nonmonotonic theorems* (*beliefs*), obtaining *extensions*.

This paper presents a new approach in computing *constrained extensions*. We define the problem of computing the generating default sets of extensions as a *constraint satisfaction problem* and we introduce *BTCE* algorithm for solving this problem. The proposed algorithm is based on a top-down approach and uses pruning for an efficient search.

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