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Planning for an Efficient Implementation of Hypothetical Bousi∼Prolog

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Abstract

This paper explores the integration of hypothetical reasoning into an efficient implementation of the fuzzy logic language Bousi∼Prolog. To this end, we first analyse what would be expected from a logic inference system, equipped with what is called embedded implication, to model solving goals with respect to assumptions. We start with a propositional system and incrementally build more complex systems and implementations to satisfy the requirements imposed by a system like Bousi∼Prolog. Finally, we propose an inference system, operational semantics, and the translation function to generate efficient Prolog programs from Bousi∼Prolog programs.[1]

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Keywords: Fuzzy Logic Programming, Fuzzy Prolog, Bousi∼Prolog, Hypothetical Reasoning, System Implementation

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