Project Description

Rule-based expert systems, which provide the expressive competence of sets of implication sentences in logic, can be regarded as tree-based information structures. Deciding which questions to ask the user is trivial for such expert systems -- the task simply involves backward-chaining from the root of the tree. In contrast, constraint networks can encode sets of arbitrary sentences in logic. However, this greater expressiveness results in an information structure which is a graph rather than a tree. In constraint-based expert systems, the task of deciding which questions to ask the user is much more complex than in tree-structured rule-based expert systems. This project is investigating several alternative approaches to question generation in constraint-based expert systems.

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