

Knowledge Representation and Reasoning

Reprezentacja i Przetwarzanie Wiedzy

Zagadnienia do egzaminu zerowego:
Topics for the 0-th exam:

Constraint Programming:

- backtracking search,
- constraint propagation (forward checking, arc consistency),
- global constraints (alldifferent)
- symmetry breaking
- Examples: Latin Squares, Sudoku

Planning:

- representation of states in STRIPS model
- representation of operators in STRIPS model
- modeling state change (with Delete Results and Add Results)
- search for solutions: blind search vs. informed search; heuristics
- Example: the Three-Block World

Problem reduction/decomposition and AND/OR graphs:

- modeling problem structure with AND/OR graphs
- what is a solution graph?
- solution search in AND/OR graphs
- Example: The Towers of Hanoi
- Example: MiniMax strategy

It is required to:

- understand the basic concepts
- be able to describe a formal model
- be able to simulate simple reasoning
- analyze basic properties of systems and solutions
- have some idea about example applications