

Research Review

Planning and search are core characteristics in Artificial Intelligence, in this article three main algorithms will be discussed that have set the stage for further AI growth.

Graphplan

Graphplan is a plan generator which consists of two stages. First it builds a data structure which stores the results from running the initial states. Secondly the backwards search which starts from the goals and searches for a substructure that will actually achieve the goal.

STRIPS

To solve the complexity of the frame problem within the situation calculus STRIPS introduced the Strips Assumption. The main difference is the perspective that planning problems are fundamentally dynamic in structure. This dynamic view has since dominated the field of planning and search.

Planning Domain Description Language (PDDL)

STRIPS was too inexpressive and lead to the development of a new approach. This was PDDL which in turn was proposed as a standard for planning problems based on the STRIPS assumption. This is a more powerful method which can be extended to tackle more complex planning problems.

Although PDDL was derived from STRIPS the main advantage is that problems can be expressed in a human readable format and it leverages this to become a much more powerful approach.

Reference

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