RESEARCH REVIEW

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Planning or more precisely: automated planning and scheduling is one of the major fields of AI (among the others like: Machine Learning, Natural Language Processing, Computer Vision and more). To accomplish given tasks, these systems need to have input data containing descriptions of initial states of the world, desired goals and actions. And the role of planning systems is to find sequences of actions which lead from initial state to given goal.

Planning Domain Definition Language (PDDL[1]), was introduced as a computer-parsable, standardized syntax for representing planning problems and has been used as the standard language for the International Planning Competition since 1998. PDDL was derived from the original STRIPS planning language.

Originally STRIPS[2] was a name for the planning component in software used in Shakey, the robot developed at the Stanford Research Institute (SRI), which was the first machine to be able to reason about its own actions. Shakey with his abilities (visual analysis, route finding, object manipulation and more) is called an ancestor of self driving cars, military drones, Mars rovers and overall field of Robotics and AI.

ADL[3] (Action Description Language) is one of STRIPS extensions which removed some of its constraints to handle more realistic problems. Unlike STRIPS, ADL doesn't assume that unmentioned literals are false, but rather unknown, what is better known as the Open World Assumption. It also supports negative literals, quantified variables in goals.

[1] https://en.wikipedia.org/wiki/Planning_Domain_Definition_Language
[2] https://machinelearnings.co/historical-intro-to-ai-planning-languages-92ce9321b538
[3] https://en.wikipedia.org/wiki/Action_description_language