UDACITY

PROJECT

Implement a Planning Search

A part of the Artificial Intelligence Program

PROJECT REVIEW

CODE REVIEW 6

NOTES

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Meets Specifications

Dear Student,

You did excellent job on this project! ⭐ You correctly implemented all algorithms and provided a great report on their performance. Your research report is very well written and provides a great overview of important developments in the field of AI planning and search.

Keep up the great work, I wish you many wonderful learning experiences in this nanodegree 😃

Planning Problem Representation

The problems and class methods in the `my_air_cargo_problems.py` module are correctly represented.

Correct!

An optimal sequence of actions is identified for each problem in the written report.

Well done, you have identified optimal plan lengths and an optimal sequence of actions for each problem.

Automated Heuristics

Automated heuristics "ignore-preconditions" and "level-sum" (planning graph) are correctly implemented.

Correct!

Performance Comparison

At least three uninformed planning algorithms (including breadth- and depth-first search) are compared on all three problems, and at least two automatic heuristics are used with A* search for planning on all three problems including "ignore-preconditions" and "level-sum" from the Planning Graph.

Excellent! You have compared the performance of uninformed planning algorithms as well as A* algorithm with automatic heuristics. You have correctly compared their performance on all three problems.

A brief report lists (using a table and any appropriate visualizations) and verbally describes the performance of the algorithms on the problems compared, including the optimality of the solutions, time elapsed, and the number of node expansions required.

Your presentation of the performance is well written and the results are presented in a very clear way ⭐. All relevant information have been included for comparison. You provided great discussion on the optimality and efficiency of the selected algorithms regarding speed and number of expansions.

The report explains the reason for the observed results using at least one appropriate justification from the video lessons or from outside resources (e.g., Norvig and Russell's textbook).

You provided great reasoning for the observed results with good discussion on the performance of the algorithms and on the tradeoff for the heuristics between speed and complexity. Better heuristics reduce the number of node expansions but may be costly to compute. The report could be further improved by including references to the relevant video lessons or to outside sources (e.g. Norvig and Russell's textbook).

Research Review

The report includes a summary of at least three key developments in the field of AI planning and search.

Excellent work on the research report! You provided a great overview of important developments in the field of AI planning. Your presentation is very well written, nicely formatted and supported by a list of references. 👏🏽

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