

Postlab

⇒ 1

A* Algorithm

A* is a best-first search algorithm that combines the cost of reaching a node from the start node ($g(n)$) and the estimated cost of reaching the goal from that node ($h(n)$). It selects the node with the lowest total cost ($f(n) = g(n) + h(n)$) for expansion.

AO Algorithm

AO* is an adaptive version of A* that incrementally updates heuristic estimates during the search process. It adjusts heuristic estimates to minimize the error between the estimated cost and the actual cost.

⇒ 2

AO algorithm and Underestimation

- AO* algorithm only guarantees optimality when heuristic values are underestimated.
- If heuristic values are overestimated, AO* algorithm may not converge to the optimal solution.
- This is because AO* relies on heuristic estimates to guide the search, and overestimation can lead to premature pruning of potentially optimal paths.