Lecture 9: Covering Missed Content in L8 and Summarising ARIN Part 1

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1 Lecture 8 Missed Slides

1.1 (Simplified) Memory-Bounded A* Search

Use all available memory: expand best nodes until available memory is full. When the available memory is full, SMA* drops the worst node (i.e node with the highest *f-value*). If all of the nodes in the fringe have the same *f-value* then SMA* solves this by expanding the *newest* best node and deleting the *oldest* worst node. SMA* is complete if the solution is reachable and optimal if the solution is reachable.

1.2 Memory-Bounded Heuristic Search

Iterative-Deepening A* (IDA*) search is a hybrid between iterative deepening search and A*. Here the cut-off information is the *f-cost* (g+h) instead of depth. With this we keep the linear space complexity of iterative deepening search while increasing its optimality thanks to A*.

2 Summing Up Problem Representation & Search

Search in machine learning: machine learning can be seen as search in the space of possible hypotheses/theories/models that *fit best* the available data.