

**Artificial Intelligence for Robotics
Week 5**

Assignment

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1. Describe an example state space or problem in which iterative deepening search performs much worse than depth-first search.

IDDFS would perform worse than DFS when the branching factor of the state space is very less, for example if the branching factor of the tree is always 1, then in DFS the number of states visited are $O(n)$ whereas the IDDFS will visit $O(n(n+1)^2/2)$ states, which is $O(n^2)$.