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COM316: Artificial Intelligence | Answers to Weekly Questions #3

Meeting Date & Time: 9/23/24, 5.00-6.00pm

➔ ***What other types of problems can we solve using this method? In other words, the problem probably deals with a particular situation. Can we categorize what general category of problems this method can solve?***

- Finding our way in the street without a map.
- Mars/Caves/Moon/Exoplanet Exploration
- Navigation without prior planning
- Proportional Integral Derivative Control (PID) replacement?

➔ ***Assuming that this solution does not give us a fully autonomous artificial mind, what is holding us back?***

It is the most autonomous solution we have discussed so far but…

- The robot never takes the incentive to move to a visited node. Our robot always targets the closest frontier node. If the goal somehow moved to a visited node, the robot would never find it.
- It doesn't learn from its mistakes or increase capability/efficiency over time.
- If the robot used a persistence factor, it would be constant and would not change, even if changing it would result in better performance.
    - An autonomous robot should be able to change its thinking about things or self-adjust its parameters based on feedback.

➔ ***Can we restate this problem and/or add more tools to gain more ground in our search for the artificial mind? What small change will force us to develop a solution that is one step closer to a fully autonomous artificial mind?***

- Add a moving obstacle/goal. (We have to update the visited and unvisited nodes).
- Add other players (either opposing agents or collaborative agents)
- There could be things in the grid that can be interacted with
- Add a limit to the number of moves so the agent can cover and explore as many nodes as possible in the smallest number of moves.
- Enhanced Visibility (sensor range)