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COM316: Artificial Intelligence | Answers to Weekly Questions #6
Meeting Date & Time: 10/21/24, 5:30-6:30PM

➔ ***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?***

- Video games can be solved with rules, given that the rules and facts can be represented in discrete ways. An agent that solves video games with rules are rule-based expert system. Some examples are X-Pilot, Pac-Man, Super Mario, Minesweeper, and Flappy Bird.
- Sorting / Quality control / Assembly systems in the factories that execute an action depending on the product's condition and shape. For example, a quality control system can check if there are any defects in a product and if so, it can sort it out from the production line.
- Control system for a robot. For example, it can be used to tell robots where to go through which path but production systems have limitations when it comes to sensitive controls such as motors.
- Medical diagnosis systems, where the system can ask a series of questions based on symptoms to help the diagnosis process. This method can help determine potential diseases by following a set of if-then rules, like matching a symptom with a specific diagnosis.
- Minefield analysis.
- Autonomous drone control **for hobbyist not for murdering ppl
- Any problem that an expert in that domain could create a rule set for how to act in the domain
- Detecting traffic lights for self-driving cars. Traffic light has clear rules that the production system can be used to determine which path to take in a crossroad.

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

- Behaving/making decisions that don't exist within the production system
- New situations or facts could appear in our environment without us having a way of thinking about them
- Subjective observations or information cannot be stored in our rule base without creating an imperfect rule system

- This system does not allow for fuzzy inferences easily, i.e. working with a range of values.
- Computational efficiency is also an issue as the system scales up. As the number of rules and facts increases, the system can become inefficient, requiring more time to match conditions and actions.

➔ ***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?***

- This system still lacks the ability to learn or evolve over time. If the rules could change and grow with an adapting environment it would be closer to the human brain.
- Modifying it in a way where it can execute multiple actions from one state
- We could have a more continuous search environment, such as different tiles having a different movement cost (not just integer/constant differences in cost)