

History of AI and A Survey of Contemporary Applications

1) Prior to this course, what was your understanding of AI, its history, and its role in modern society?

Seeing how much of an impact AI has had on our everyday lives all throughout these years, I had always thought of AI as a double-edged sword. Automation and maximum efficiency were always the concepts I had associated with it as a whole, but I knew that these progressions would also lead to previous practices getting put aside and disregarded entirely. The evolution of AI over the years has surely been one that has changed the landscape of our world. I don't think we would be able to live without the many things it has been providing for us, but I worry that an overreliance on these as a whole can lead to a lot of mishaps and misunderstandings about the world around us. AI, for me, just like all other things, has to be utilized in moderation, for it can be manipulated in a way that can really allow for many people to be fooled and taken advantage of.

2) Name one character, be it in fiction, myth, or history that you can argue is artificially intelligent.

One popular character who is very much artificially intelligent would have to be JARVIS from the Marvel Universe. J.A.R.V.I.S is Tony Stark's own personal AI assistant that is able to automatically handle and automate all of Stark's needs and requests. It is capable of single handedly managing and controlling Stark's Iron Man systems in its own right and provides him with the information he needs right when it is necessary and imperative to the current situation. Because of this, I think I can argue that J.A.R.V.I.S is the perfect example of the capabilities of AI, it is able to actively simulate/imitate human behaviour for Stark as his personal assistant, even surpassing the capabilities of any other human assistants due to how technologically advanced it is as an AI.

3) Discuss a subfield of AI that interests you. Briefly explain its concept and latest advancements.

The subfield that has really caught my attention would have to be Machine Learning. This is basically the brute force way of finding the best solution possible by utilizing tools to understand and solve the problems over and over again until we find the solution that best meets the set criteria and standards. One example of this that has really intrigued me would have to be OpenAI Five, a Dota 2 AI that was created with the goal of defeating a professional team. This was accomplished through allowing the AI to play 10,000 years worth of games against itself, up until it was able to deduce and identify the best possible ways to defeat any other 5 man team. Back in 2019, they were finally able to accomplish this goal, as they were able to beat OG Esports, the reigning world champions of Dota 2, in a best of 3 series that showed that the AI was able to utilize Machine Learning to perform and play Dota 2 to the standard that was originally set by OpenAI.

4) Describe what you expect to learn about Artificial Intelligence in this course.

Given the topics we have covered so far, I hope to be able to delve deeper into utilizing various methods and tools to be able to understand AI in a more technical and academic manner. I expect to be able to allow myself to understand how AI has and is being used in today's world. Knowing what goes on behind the scenes is also very important as I know that this would aid in helping me in making better and conscious decisions when it comes to utilizing AI for my everyday needs. Lastly, I also would like to learn about programming basic AI concepts as I am very interested in actually finding out what is needed and what it takes to be able to create basic agents for myself.

Introduction to Agents and Logic

5) Identify an application of AI you commonly use. Describe the application as an agent; define its environment, its percepts, decision steps, and goal states.

One application I have used for my daily needs that has been especially helpful would have to be Google Home. The environment for this AI consists of all the other external devices and applications connected to it as well as my own voice as these all dictate how Google Home will be able to recognize commands to control all the other applications. The percepts in this case

would be my voice and any timed events I have set on the application, both of which let Google Home act upon these prompts when I need it to. The decision steps for this would then be Google Home using its technology to convert these commands into other executable commands that other software can recognize in order for them to act accordingly. Finally, the goal states would then be the other applications and devices executing the commands based on whatever messages and commands Google Home sends them.

6) In your opinion so far, is any system (agent) that is capable of rational logic considered an artificially intelligent system/agent?

I think that agents that are only capable of rational logic cannot be considered artificially intelligent yet. This is because even though rational logic allows for them to make well knowledgeable decisions with regards to the overall process, they react accordingly whenever something happens inside their environment. As AI is defined as anything that imitates or simulates human behavior, having only rational logic is not enough for an agent to be considered an AI in itself. These types of agents are only focused on achieving their originally intended purpose and seek to maximize their performance towards this goal, unaware that their environment may play a huge role in what are the actual best decisions to make.

Sources:

<https://openai.com/projects/five/>

<https://support.google.com/chromecast/answer/7071794>