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CS 380 : Assignment 1

1.A: Watson

Other than Jeopardy, do you see other application domains for Watson?

I can see Watson being used as a personal assistant. We would obviously have to tweak the information it uses a bit and the way it replies but I can see it happening. Similar to Siri but more intuitive and easy to program.
Since Watson is able to understand what is the subject, verb, proposition, object of the proposition we can possibly tweak the system to be programmable by using English. Teaching it by English prose similar how we teach a child.

Chess is considered a game for intellectuals, while Jeopardy is a game for the masses. Why do you think then that it's harder to create an AI system that plays Jeopardy than to create a system that plays Chess?

It would be harder to create an A.I. for Jeopardy than Chess because Jeopardy uses what humans call common sense while Chess draws on more of the computational power of the human brain. Therefore since computers are capable to handle numbers and computation faster and more efficiently than humans it would be easier to create an A.I. for Chess than and A.I for Jeopardy which involves using more common sense and context than numbers or calculations.

You sure have seen this XKCD entry http://xkcd.com/1002/. Is there any game there that you consider out of place?

I can understand why each game is placed where it is at, however if I were to choose one I would say that it would probably be Snakes and Ladders. Although I most of the game is based on chance and less on any skill.

1.B: Chinese Room

In your own words, summarize the Chinese room argument.

Searle is a dualist, and in this article he proposes an argument against functionalism. In the summary of the article, which was published in Scientific American and other publications, Searle describes an experiment, which actually gives it the argument it's name. The Chinese room argument goes something like this, suppose there is a person who does not speak, write, or understand Chinese symbols however they can make out the different symbols and he or she is tasked with "reading" these symbols and drawing down another set of symbols. Also suppose this person was given a set of rules which

describes which symbols come after another, and how to respond to any given set of symbols. So for an example say this person was in a room and someone outside the room gave them a piece of paper saying "How are you?" using these Chinese symbols and that person looked at the symbols and using the rules drew down a response that says "Fine, thank you" without actually knowing what was said and what they responded with, they just know that is this the right response. The person inside the room would represent a computer and the rules or instructions would represent a computer algorithm. The person or computer does not actually know what the conversation actually consisted of, therefore we can not say that the person or computer actually 'knows' Chinese. Then he goes on to explain what he thinks it means to understand a language, e.g. knowing the syntax and semantics of that language. He also talks about the software and hardware solutions to the problem. The solution may not just include a software solution but also a hardware one, there is more to the picture than just finding a relationship with the input and output e.g. what constitutions a function.

1.C: Problem Definition

Small Towers of Hanoi

Performance Measure: -1 point for every move made.
Environment: The rods R1, R2, R3 and the disks
Actions: Move a disk to another rod, checking each rod for the topmost disk and making sure that it is larger than the disk your about to put on it.
Sensors: Size of each disks (D1, D2, D3), and where the rods are.

PACMAN

Performance Measure: 1 point for every pellet.
Environment: The grid of the map, walls, pellets.
Actions: Move up, right, down, left.
Sensors: Look for pellets.