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ASSIGNMENT 1

Philosophy of
Artificial Intelligence

1 Summary

The philosophy of artificial intelligence is a collection of issues primarily con- cerned with whether or not AI is possible to build an intelligent thinking ma- chine. The most important Of the ”whether-possible” problems lie at the in- tersection of theories of the semantic Contents of thought and the nature of computation. The philosophy of artificial intelligence attempts to answer such questions: 1) Can a machine act intelligently? 2) Can it solve any problem that a person would solve by thinking? 3) Can a machine have a mind, mental states and consciousness in the same way human do? 4) Are human intelligence and machine intelligence same? Important propositions in the philosophy of AI include some of the following:

1) Turing test: The Turing Test is a method of inquiry in artificial intelli- gence (AI) for determining whether or not a computer is capable of thinking like a human being. The test is named after Alan Turing, the founder of the Tur- ing Test and an English computer scientist, cryptanalyst, mathematician and theoretical biologist. Turing proposed that a computer can be said to possess artificial intelligence if it can mimic human responses under specific conditions. The original Turing Test requires three terminals, each of which is physically separated from the other two. One terminal is operated by a computer, while the other two are operated by humans. During the test, one of the humans functions as the questioner, while the second human and the computer function as respondents. The questioner interrogates the respondents within a specific subject area, using a specified format and context. After a pre-set length of time or number of questions, the questioner is then asked to decide which respondent was human and which was a computer. The test is repeated many times. If the questioner makes the correct determination in half of the test runs or less, the computer is considered to have artificial intelligence because the questioner regards it as ”just as human” as the human respondent.

2) The Chinese room argument: The narrow conclusion of the argument is that programming a digital computer may make it appear to understand language but could not produce real understanding. Hence the “Turing Test” is inadequate. Searle argues that the thought experiment underscores the fact that computers merely use syntactic rules to manipulate symbol strings, but have no understanding of meaning or semantics. The broader conclusion of the argument is that the theory that human minds are computer-like computational or information processing systems is refuted

· **Is a self-driving car intelligent?** The Chinese Room argument goes against the notion that intelligence can be broken down into small mechanical

instructions that can be automated. A self-driving car is an example of an element of intelligence (driving a car) that can be automated. The Chinese Room argument suggests that this, however, isn't really intelligent thinking: it just looks like it. Going back to the above discussion on "suitcase words", the AI system in the car doesn't see or understand its environment, and it doesn't know how to drive safely, in the way a human being sees, understands, and knows. According to Searle this means that the intelligent behaviour of the system is fundamentally different from actually being intelligent.

· **Can machine have emotions?** According to Hans Moravec robots in general will be quite emotional about being nice people". He says robots "will
try to please you in an apparently selfless manner because it will get a thrill out of this positive reinforcement. You can interpret this as a kind of love.

· **Can a machine be self-aware?** It implies that at some point they might not need further programming they do it themselves just like a new born
infant does from the time he is born! Turing strips away all other properties of human beings and reduces the question to "Can a machine be the subject of its own thought?" Can it think about itself? Questions like these reflect the divergent interests of AI researchers, cognitive scientists and philosophers respectively. The scientific answers to these questions depend on the definition of "intelligence" and "consciousness" and exactly which "machines" are under discussion.