

**AI NN**  
**ASSIGNMENT – 1**

Sikta Sharma – 18111051

7<sup>th</sup> Semester, Biomedical Engineering

NIT Raipur

The philosophy of artificial intelligence is a discipline of the philosophy of technology that studies artificial intelligence and its significance for knowledge and understanding of intelligence, ethics, consciousness, epistemology, and free will. Additionally, the technology is involved with the production of artificial animals or artificial humans (or, at least, artificial beings) therefore the field is of significant interest to theorists. These elements contributed to the formation of the philosophy of artificial intelligence. Some experts think that the AI community's rejection of philosophy is harmful.

The philosophy of artificial intelligence seeks to answer such problems as follows:

- Can a machine operate intelligently? Can it tackle any difficulty that a person would solve by thinking?
- Are human intellect and artificial intelligence the same? Is the human brain simply a computer?
- Can a computer have a mind, mental states, and awareness in the same sense that a human being can? Can it feel how things are?

Challenges like these reflect the diverse concerns of AI researchers, cognitive scientists and philosophers accordingly. The scientific solutions to these issues rely on the concept of "intelligence" and "consciousness" and exactly which "machines" are under consideration

**Can a machine display general intelligence?**

Intelligence has been described in various ways: the ability for logic, understanding, self-awareness, learning, emotional knowledge, reasoning, planning, creativity, critical thinking, and problem-solving. More generally, it may be characterised as the ability to detect or infer information, and to store it as knowledge to be used towards adaptive actions within an environment or context.

Intelligence is most commonly studied in humans but has also been observed in both non-human animals and in plants despite disagreement as to whether some of these forms of life display intelligence. Intelligence in computers or other devices is termed artificial intelligence.

Hubert Dreyfus defines this argument as stating that "if the neurological system obeys the rules of physics and chemistry, as we have every reason to think it does, then we ought to be able to duplicate the behaviour of the nervous system with some physical apparatus". This

idea, initially proposed as early as 1943 and eloquently articulated by Hans Moravec in 1988, is currently linked with futurist Ray Kurzweil, who believes that computer power will be adequate for a complete brain simulation by the year 2029. A non-real-time simulation of a thalamocortical model that has the size of the human brain (1011 neurons) was accomplished in 2005 and it took 50 days to simulate 1 second of brain dynamics on a cluster of 27 processors.

### **Can a machine have a mind, consciousness, and mental states?**

The words "mind" and "consciousness" are employed by various societies in different ways. For philosophers, neuroscientists and cognitive scientists, the words are used in a way that is both more precise and more mundane: they refer to the familiar, everyday experience of having a "thought in your head", like a perception, a dream, an intention or a plan, and to the way we know something, or mean something or understand something. "It's not hard to offer a commonplace definition of consciousness" notes philosopher John Searle. What is intriguing and fascinating is not so much what it is but how it is: how can a lump of fatty tissue and electricity give rise to this experience of perceiving, meaning or thinking?

John Searle wants us to explore a thought experiment: imagine we have created a computer programme that passes the Turing test and exhibits universal intelligent action. Suppose, especially that the software can communicate in fluent Chinese. Write the software on 3x5 cards and deliver them to an average individual who does not speak Chinese. Lock the individual within a room and make him follow the directions on the cards. He would copy out Chinese characters and pass them in and out of the room through a slot. From the outside, it will look that the Chinese room contains a fully intellectual individual who speaks Chinese.

The question is this: is there anyone (or anything) in the room that knows Chinese? That is, is there something that possesses the mental condition of comprehending, or which has conscious knowledge of what is being spoken in Chinese? The dude is definitely not aware. The room cannot be conscious. The cards surely aren't aware. Searle concludes that the Chinese room, or any other physical symbol system, cannot have a mind. [55]

Searle goes on to claim that genuine mental states and awareness require (yet to be explained) "actual physical-chemical characteristics of actual human brains."

He thinks there are specific "causal characteristics" of brains and neurons that gives rise to minds: in his words "brains cause minds."