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Machine Can Be Consciousness like Human

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Abstract: Consciousness is an extraordinary feature of the human brain and plays an important role in intelligence .Humans, as compared with machines, do most of all that humans can do, but there is one aspect to the machine that is lack of consciousness .Using AI algorithms, roots like “Sophia”, humanoid robots can detect a human's emotions and are capable of expressing face expressions but they can't feel the emotion. The work in this paper focuses on the state of consciousness in the human mind and the thought process of human beings is replicated by machine intelligence to make machines think like humans and the alternate state of consciousness in machines.

Keywords: *Consciousness, Human Consciousness and Robot Consciousness, Adaption of System, Reinforcement Learning, Consciousness Using Reinforcement Learning.*

I. INTRODUCTION

When we define consciousness, analyze, and we can say that, due to consciousness, we are able to think and analyze all the activities that are happening in our life and understand the aspects of right or wrong, and due to consciousness, we feel being alive. Also, when we are in deep sleep, we don't know what is happening to us. Then, at that time, we will be in such a stage in which we are not completely conscious but other body processes are in continuation. The other processes of the body we are not able to control when we are completely conscious, like heart palpitations and digestion of food and our development and thousands of cells of the body also keep on forming and destroying. Secondly, all these activities are not consciousness. “Consciousness is just a subjective experience and it is self awareness heaving inner thoughts and experience”.

According to the theory of evolution, we think that before humans were other species and before that there were reptiles, which were the first species who came out of water where reptiles have consciousness equal to human consciousness. That is not true .Famous quantum physicist “MICHIO KAKU” said that we can measure a species' consciousness in units like we measure temperature in degrees with the help of a thermometer. Similarly, we can measure consciousness in a unit “THEMOSTAT”.

As we know, that is scientific; a consciousness is a feedback loop. Through the senses of a living being, taking information from outside and understanding it through the neurons, that is called a feedback loop. Consciousness is not the same for everyone. It means that one living being observes the world and observes the world in the same way as the reality for another person in not same .For this we can understand that one consciousness is not same for other species. We can measure a feedback loop number and find the level of consciousness in it. For example, “the flower has some consciousness in it because it measures the outside temperature and humidity, it has some consciousness but less than other species”.

II. LEVEL OF CONSCIOUSNESS

There is some level of consciousness that differentiate the number of feedback loop in different species.

First level of Consciousness: Flowers to this level of consciousness. They have only twelve and more than that feedback loop because they measure their position in the day and other species come under this level of consciousness. Reptile loops have only 100 to 150 feedback loops because the back side of their brain is called a reptilian. The Reptilian brain includes the main structure found in a reptile's brain that controls the body's vital functions, such as heart rate, breathing, body temperature and balance. In this type of brain, the developed parts are the bellum and the medulla.

Second level of Consciousness: Mammals are comes under in this type of consciousness and when compare to first types of consciousness it has more level of consciousness in it, because in mammals the midbrain are also developed. Mammals along

quenching hunger they can also express feeling and live in a community and understand the ethics and respects. There are 1000 of feedback loop in this level but they can't predictions the future activities.

Limitations of First and Second level of Consciousness: They can only planned their activities during sunrise and sunset and they cannot thinking the future activities and only other then they can only do migration and hibernation according to changes in environment and limitation of first level of consciousness can't express feeling But in next level of consciousness it's the capabilities to predication of future activities and also express feeling.

Third level of Consciousness: In third level of consciousness is human consciousness when compare to other two level of consciousness the third level of consciousness super level of consciousness .human consciousness has able to predict the future activities and also express feeling because in human mind the prefrontal cortex were developed that different from other species .The part of brain that is key to reasoning, problem solving, comprehension, impulse-control, creativity and perseverance is the prefrontal cortex.

III. HUMAN CONSCIOUSNESSES AND MACHINE CONSCIOUSNESS

In terms of human consciousness, there are two things: intelligence and consciousness. In chess problems, a machine can beat a human in chess problems, because a machine has an AI system that predicts the next move through an AI algorithm. Present AI capabilities are copying the human knowledge measured by machines in the past 10 years. AI demonstrates wonderful progress like the humanoid robot "Sophia". The framework has been designed using artificial neural networks that process each and every component which is gathered from the concept of the neural cell, which are the fundamental concepts in deep learning.

Using these types of sensorial-oriented technology, they gave architecture to build the adaptive system which has a consciousness concept. This design gave a piece of fundamental iterative evidence that using AI we can develop human-like consciousness brains. The overall architecture is implemented on stage. For example, the robot Sophia is a humanoid robot that expresses expressions like sadness, worry and happiness, but Sophia cannot feel this emotion. She can only express it. Human and robot thought processes are basically tied to neurons firing a certain sequence, so they send information to each other electrical and chemical messages to communicate with each other and, ultimately, thought can also change the neurons themselves, so it's an interactive system where we have, the neurons which is the hardware producing the thoughts, which is the software can change but hardware cannot change at time manufacturing the robot but in human brain produce thoughts can change mind but change in thoughts brain also change in accordingly.

The human mind has the ability to change thought, it can also change minds accordingly, but machines cannot do this thing in their system. How human and robot brains determine the next word to say next? In machines, there are some keywords under which they trigger certain sentences which are determined by the rules that are coded on a machine on the word machine are used into the pre-written and some sometime generated through neural network it's usually unconsciousness mind. In the human mind, we have a store of many words and in machines the words are built .In the human mind, words are in memory over many years of interacting with others. Whenever we are talking at some time, we are also speaking and using consciousness thoughts and then say a word .How human and robot-recognized face expressions in the human brain recognize face expressions is happening unconsciously in our brain and occurs over many years, lots of input in the face over a time and developing information our specialized brain area called the FUSIFORM face area but in machine there are facial motors that are generated hundred of face expression.

IV. ADAPTATION OF SYSTEM

It refers to the change in subject behavior to a given situation brought by repeated experiences in that situation, provided that the behavior changes cannot be explained on the basis of native response tendencies, matriculation Temporary State of the Subject. The leaning agent can be thought of as containing a performance element that decides what actions to take and a learning element that modifies the performance element so that it makes better decisions. Learning is generally assumed to be synonymous with adaptation. It is often viewed as an estimation or successive approximation of the unknown parameter of a mathematical structure. An "adaptive system" is defined as system criterion based on the fact of change in the environment or its own internal structure.

A learning system is an adaptive system that responds acceptably with a time interval following a changes in its environment and a self-repair system is one of the respond acceptably with sometime of interval of following changes and it is internal structure. Finally, a "self-organizing system" is an adaptive or learning system in which the initial state is unknown, random or unimportant. Various methods of adaptive control have been implemented for the control of man –machine.

The human brain senses and acts accordingly in the world, and humans behave in any situation using consciousness. Consciousness in humans helps distinguish between good and bad outcomes. Consciousness is the most amazing feature of the human brain and it also plays a very important role in intelligence.

For example, when we are kids, we are not able to differentiate between fruits like Apple and cherries because we don't have complete data about Apple and cherries and how they look. But as we grow up, apples learn how apples look and how cherries look, and apples are red in colour and cherries are smaller in size. Similarly, if we do not train the machine about the data are giving unable data to machine, machine would not able to differentiate between the data .But if giving the thousand of unlabeled data for processing to, machine can learn like human own their own by using different machine learning algorithm.

V. REINFORCEMENT LEARNING

Reinforcement learning is the study of how artificial systems can learn to optimize their behavior in the face of rewards and punishments. Reinforcement learning algorithms have been developed that are closely related to the method of dynamic programming, which is the general approach to optimal control, and the phenomena have been developed and observed in psychological studies of animal behavior, and in neurobiological investigation of neuromodulation and addiction .

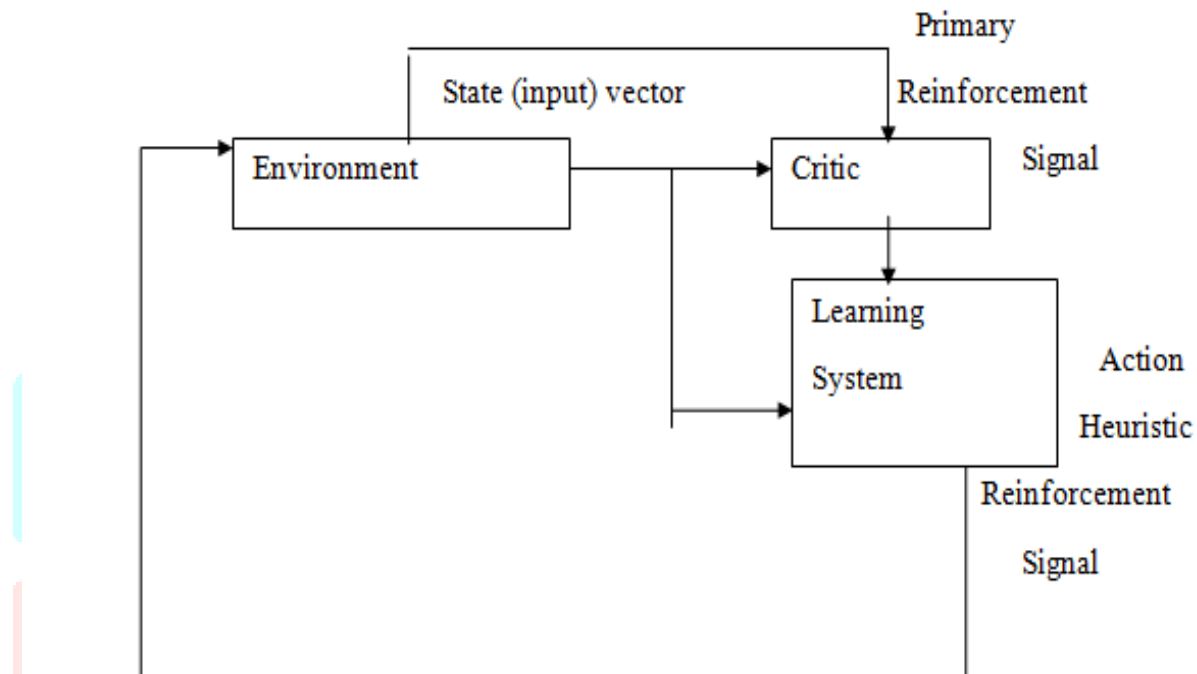


Fig 1.1 block diagram of reinforcement learning

The task of reinforcement learning is to use observed rewards to learn an optimal policy for the environment. An optimal policy is a policy that maximizes the expected total rewards. Without some feedback about what is bad and what is good, the agent will have no grounds for deciding which move to make.

The agents need to know that something good has happened when it wins and that something bad has happened when it loses. This kind of feedback is called a reward or reinforcement. In Robotics, where the tasks to be performed are frequently complex enough to defy encoding as program and no training data is available .The robotics task consists of finding out, through trial and error ,which actions are good in a certain way and which are not .

V. EXPLORING CONSCIOUSNESS REINFORCEMENT LEARNING

This is the problem when machines don't have consciousness and human emotions, social behaviour culture which sometimes leads to killing a person, that robot don't know ethics and values of society. [2]For example there is movie acted by "Rajinikanth". In the movie, Rajinikanth is a hero and is a humanoid robot named "chitti". Chitti were thinking capability like human with the help of loaded data and trained data .But "chitti " is not self ware .

[1](Koch 2004) Crick and Koch believe that the purpose of consciousness is to provide a summary of the state of the world for the brain's planning functions. The actual thoughts occur in our mind and out of our mouths with our consciousness as mere observer rather than creator. In consciousness we are not able to take decisions about any problem or solve the problem, it's only observed. There was some experiment on humans in which humans made mistakes on the basis of their decisions. Unconsciousness brain processes to understand the language and making senses from it interpreted logics and solve any problem.

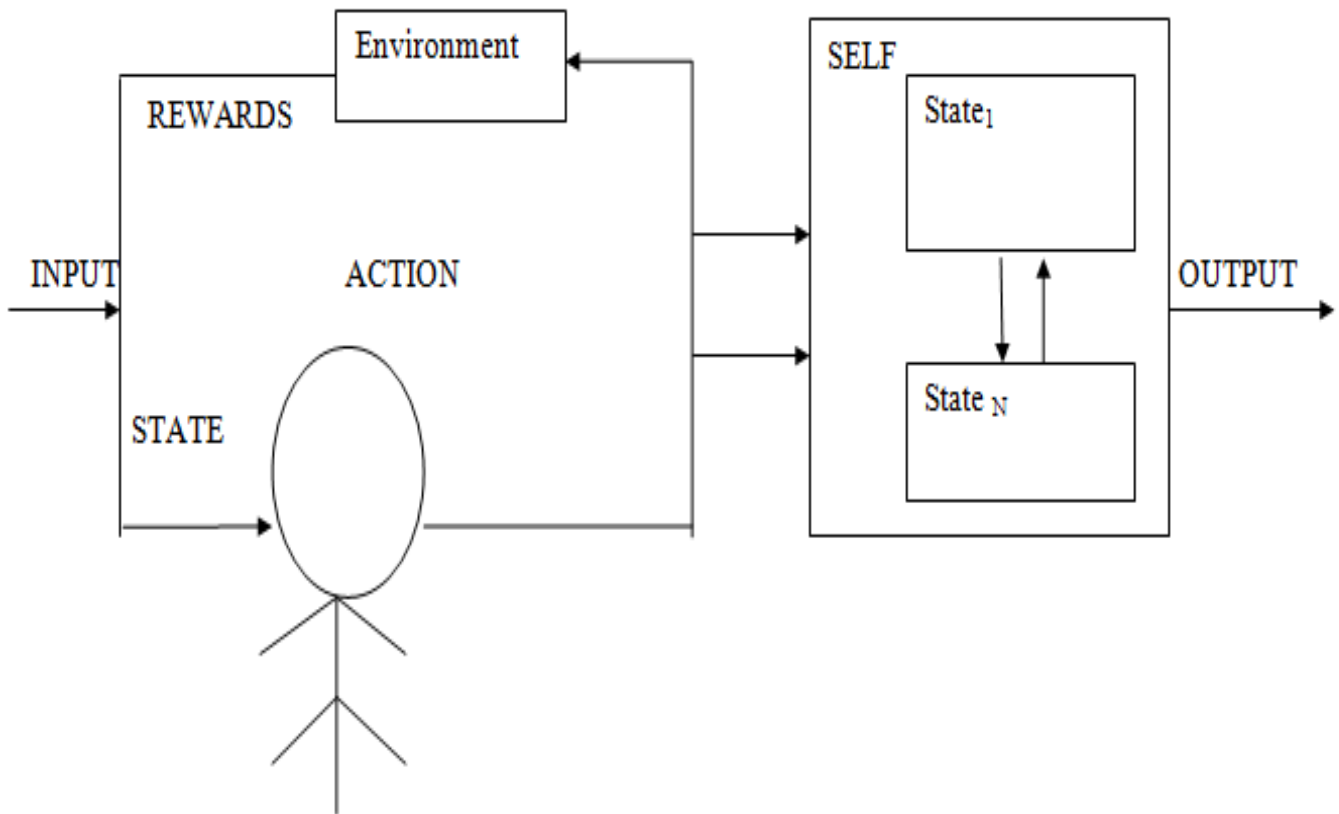


Fig 1.2 Model machine has consciousness using reinforcement learning algorithm.

In the model, agents learn from the environment and learn rewards. On the basis of this, reward agents take action and store memory for use in future. The same, humans store information after learning from the environment and using information for the future. In the same way, machine learning from the environment and getting rewards with the help of machines are able to differentiate between good or bad.

Similarly, when a machine learns from the external behaviour in the world using a machine learning algorithm. For example, self-driving is the best example of learning from the environment. We train machines in some emotional situations. So, machines can learn from situations. When we teach a machine with positive thoughts, it works according to how it is trained similarly. When we ask machines to kill, for example, a human gets injured and feels pain and when humans are separated from their loved ones, it feels sad in the same way machines can be trained. When we put machines in these types of situations, machines can learn how to react when this thing happens to me.

Take another example when we ask robot to kill a human. The machine does this as a task without worrying about himself that human also harm, destroyed his body, if machine is trained in such situation with reinforcement learning machine if someone harm him first save himself. Like humans need machines for their comfort, and machines also need humans to learn a consciousness state Machines learn good and bad from learning and store in memory used this experience in future action like human use their consciousness

VI. CONCLUSION

In the human mind, feedback loops are formed in the mind according to observation of the environment. We can create an alternate model of that using a reinforcement learning algorithm for humanoid robots. Robot minds can have consciousness through the learning process of a machine. The humanoid robot is capable of thinking according to the situation with the help of what is observed in the environment. Similarly, humans solve any problem with the help of memory and experience. In the same way, the machine is also capable of thinking like a human, while the machine has a memory and experiences the learning process. For example, take Sophia stores, for example. It takes input and stores that data and recalls that memory to express its feelings.

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