

Emotional Intelligence; A Flaw In Robots

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Abstract: Cognitive neuroscientists and psychological researches are progressively showing how emotions play a crucial role in cognitive processes. Gradually, this knowledge is being used in artificial intelligence and artificial life areas in simulation and cognitive processes modeling. However, theoretical aspects of emotions to be employed in computational systems projects are barely discussed and touched emotional intelligence. The mystery of emotional intelligence has enthralled human beings over the years on the every dimension of life. Can human beings create machines that can be emotionally intelligent? This paper tries to present an informal overview of the robotic intelligence and how they are lagging behind in emotional intelligence.

Key words; Emotional intelligence, Artificial intelligence, Cognition, Neuroscience, Human Behavior, Machine,

(1) Introduction

(1.1) EI

Emotional intelligence endures “the ability to understand and manage social relations and the ability to behave wisely with others”. More over it can be referred to the abilities of dealing with emotions including the ability to have appropriate responses to show emotions and expressions. It is one of the forms of social intelligence, which includes the ability to recognize and discriminate between one’s own and others’ feelings and to utilize them in intellectual, emotional and physical behavior.

(1.2) AI

Artificial Intelligence (AI) is the disciplines which attempts to understand intelligent entities. It tries to build human-like intelligent entities. Computers with human-level intelligence would definitely have a tremendous influence on our daily lives, maybe not exactly as depicted by many science fiction movies, but in similar and many other ways. AI is a multidisciplinary field and apart from Computer Science, it takes concepts from Mathematics, Logic, Probability Theory, Statistics, Control Systems, Information Theory, Philosophy, Psychology, Neurobiology and many other disciplines.

(2) Objectives

In this paper, we will have a non-technical view of the subject and try to analyze from psychological and philosophical point of view to postulate the notions the possibility of machines with human-like intelligence are lacking emotional intelligence.

(3) Literature Review

It is admissible fact that computer science or Artificial intelligence has reached on its stunning stages. They have surpassed the human abilities in context of efficiency and processing. These machines no doubt reduced the manpower to a greater extent. But above all these feats these machines do not have the human touch, i.e. emotions. Emotions are the detrimental factors which differentiates the human beings from the machines. In the recent past, neuroscience and psychology research findings about emotions are increasingly attracting the attention of many researchers in Computer Science and

Artificial Intelligence (AI) areas “[3],[13],[14],[8]”. These areas are especially interested on new scientific beliefs that emotions play an essential role in human cognitive processes and about its importance for problem solving competence and decision-making. Even if, since 1872 Darwin’s [6] evolutionary theories indicated that emotions are evolved phenomena with important survival functions that have helped us solve certain challenges during our evolution, only recently emotion association with irrationality idea and non-logical behavior in human beings was reviewed “[12], [15],[2], [10],[1],[5],[11]”. AI and Artificial Life (Alife) areas, interested in cognitive processes modeling and simulation, clearly see that emotion is a crucial element to model perception, learning, decision process, memory, behavior. The discourse started in early twenties when [9] propounded two theorems of incompleteness and claimed the inevitable and inherent limitations of artificial intelligence. One such limitation that shocked the world was discovered by the famous logician in 1931 in his two *Incompleteness Theorems* [1]. In the past, for many years the main belief was emotions are an undesirable product of the human rational mind, and thus the less emotional a person was, the more intelligent and reasonable he would be. One of the first researchers who went against this belief was [4] who proposed that the rationality was closely connected with emotions. Damasio presented his main investigations in his book “Descartes_ Error, Emotion, Reason and the Human Brain” Human being is emotional and emotions thus influence our everyday behavior and as a consequence emotions affect our work. Goleman [10] in his book “Working with Emotional Intelligence” quoted several psychological studies carried out by big companies to their employees to show the importance of a person’s emotional quotient (EQ). The IQ of a person can be used to determine a person’s cognitive capabilities for a given job but the EQ is also required to predict whether this person will succeed or fail in that job. Different studies showed that the IQ alone cannot explain the efficiency of a person in 25% of the cases, more detailed analysis showed a relation even worse 10%. Therefore abilities measured in terms of IQ, accuracy, efficiency, power and speed is not of sole importance. Emotional intelligence has its place as well, and all AI agents are devoid of emotionally intelligent skills. Emotional intelligence is the precious gift from God given to

us, we the human beings are the most sophisticated creatures ever present on earth. Although there is a lot of advancement in science and technology. But no one can create the creature which can completely mimic the human behavior. Goleman [10] proposed an emotional competence frame that contains all the important features that affect a person's professional life and they enhance the efficiency of manpower and those competencies have been divided into certain categories like (1) *self awareness*; being aware of one's own feelings and emotions. An AI agent can't get an insight into the feelings, intuitions, limitations and resources. They can't recognize ones emotions and their effects on others. (2) *Accurate self-assessment* is another blot in AI agents as they can't solve their own problem if they face one; they merely follow a pre installed program in lines of Binary Languages, Logic, and ALP (Abductive Logical Program, a program that follows only heuristic strategies of problem solving and follows deductive reasoning in a pre fixed manner). (3) *Empathy*, a milestone in emotional intelligence, it refers to sensing others feelings, and taking an active interest in their concerns. AI agents lack the ability to understand the feelings, pain and emotions of others. they cannot gauge emotional makeup and emotional reactions. They lack the essence of beauty of mankind i.e. (4) *conscience*, they cannot feel others pains, they can't have sense of guilt and shame. For example if an AI agent is performing any surgery, and if anything untoward happens during the surgery process an AI agent cannot take the alternate actions because he follows a preplanned program but if the same thing happens to virtual human doctor he or she can take a lot of alternate actions. Because he is in a position to create, manipulate and take control over situation. There are so many workers on AI and they are claiming that they can create an emotional AI agent. They can create by programming AI agents to show predefined facial expressions devoid of emotions, but they cannot make them emotionally intelligent. That AI agent can't be proficient enough in managing relationships and building networks, and an ability to find common ground and build rapport with fellow agents. There is indispensable role of emotions in human rational thinking. Nowadays, there is some work done in this area that shows that emotions and feelings may influence in human decision-making and overall human behavior in everyday life as well as in the professional domain.

(4) CONCLUSION

Finally there is a formal proof of the concept I have introduced in this paper, through the realization and justification of some psychological phenomenon that AI can never so far possess emotional intelligence. And in no sense we can label artificial agent more close to natural agent with respect emotions and feelings, though they are to more far away from human intelligence in terms of what is measurable through power and speed tests. Emotional intelligence is an entity which is instilled in human beings not installed and in case of AI we can only install programs.

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