



COGNITIVE SCIENCE AND ITS APPLICATIONS

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ABSTRACT

Cognizing how human think is a venture which is being challenged since a long duration of time, not only in unceremonious things but also in delineating and scientific activities. Few focus on biological strategy while others on their behavior. Few think and concentrate on language while some on their tradition. Some analyze and understand it as scientific study, applied science with which one can improvise the quality and standards of modern culture. Existence of Cognitive Science was done by the Linguists and Psychologists as they analyzed that the presumptions and prognostication of the theories were splattering outside their stream, because Neuroscience contributes a neural substrate, cognition that foreclosed the necessity of the predicate, as Mathematics and Computer Science provided the tools to test the assumptions made earlier.

Artificial Intelligence is also a stream where the research is moving and exploring to develop programs which are intelligent. The Cognitive Science and Computational Intelligence growingly betrays a variation between an objective for the Artificial Intelligence software's or applications. Online Social Networks, psychological and even in the aerospace the cognitive science is playing a vital role. Even the objective of analyzing and understanding the intelligent application and its functions is lacking as the connectivity between Cognitive Science and Computational Intelligence is lost.

INTRODUCTION

The objective here is to provide a work which is constitutionally integrative with environment which need to pursue for analyzing the cognitive and psychological processes at each instance of a level. These seeks to amalgamate the factual diligence for bio-medical and the psychological sciences with the ceremonial diligence of the mathematical and computational sciences.

Cognitive Science emanate as contemporary compassionate about the constraints over the proficiency of vehicle was coordinated with analogous linguistic constraints on syntaxes. Ceremonial outcomes in the languages which human can learn leading to the challenging approaches of language and the procurement of language with ramification continuing over the way for Psychology. Ceremonial outcomes regarding the ability of learning the concepts of neural networks drive for another complication, as the Artificial Neural Networks are becoming a not particularly bioplausible tool of Computational Intelligence, and Biological Neural Networks continuing to be a source of novel architectures and techniques that spawned both useful insights in Neuroscience and specialized tools for Robotics[1]

Internet is an exceptional source of knowledge and data. Internet is also known as Web-of-deception. The usage of communication channels of the Web to generate fake data has become very

often. By the means of social networks, each user has become a publisher with no verification for exact accuracy of data. The data is published and presented with no certification or verification on to the network. In [1], the threats in the usage of Web are like intentional deception, intentional misinformation, and fake information that may divert one from the actual information they already aware of. Verifying and checking the information on the Web is a challenging task.

LITERATURE SURVEY

It is indispensable to comprehend the concomitant concepts of data, mis-information, dis-information and advocacy of information. The interpretation of information is lucid by its nature for users. The information can take various forms depending on the situation that is to be known by the user. We are much inquisitive about the use of online social networks for spreading the peculiar kind of information for altering the etiquette or reaction of people. According to the internet, manipulation of data for affecting the concordance nature of data, the way in which this is explicate by users is generally known as semantic attacks. Semantic attacks in online social networks may be the consequence of generation of the data in different forms. This may lead to the mis-information and dis-information. The dissimilitude among information, mis-information and dis-information is tough to known. These three are concomitant to fact, and to approach at a ubiquitous acceptance of the fact is almost intractable.

As per the Oxford dictionary the information is defined as 'facts provided or learned about something or someone'. The alternative forms of information are also explained by Oxford dictionary as Mis-information is fake or imprecise information, predominantly that which is intentionally intended to hoodwink. Dis-information is fake information which is preconceived to hoodwink, predominantly propaganda furnished by government organization to an opponent power. Propaganda is explicated as information, predominantly of a

prejudiced or confusing nature, used to popularize a political cause.

The basis for the source of data or knowledge for an enormous people are Online Social Networks. As the use of these online social networks increases, the misemploy of the media to escalate wrong information also increases with the double impact. This information may relate to many things like studies that often have few major objectives like politics, health, technology and finances [2]. The data dilution in online social networks because of mis-information or dis-information may obtain various patterns of models. The identification of mis-information in huge volumes is a demanding task.

The Machine learning and Natural Language Processing, methodologies present to find this mis-information to some extent. But, existence of semantic nature of data, the precision of automated methods are confined. This paper proposes a methodology to identify mis-information data by using the concepts of cognitive psychology. Every single person has the capability to take a decision by understanding the prompting of deception or mis-information they get through the online social network. Understanding the online social network information by following the appropriate methods to diagnose the prompt of wrong data that helps everyone to understand patterns of mis-information. This helps the internet user to make factual decisions regarding the authentication of the data provided. A framework that controls the spreading of the incorrect, false and fake information is pretty much better than taking the measures after the incorrect data is spread over the network. [2]

In relation to cognition, learning involves the internal (psychological) and external (physical) domains. Learning therefore involves processing of information as a way of interaction between these two domains. Cognitivism, constructivism and related theories such as the cognitive theory of multimedia learning address i) the input of information from the external world into the cognitive structures, ii) the cognitive processing

of this information, and iii) the externalization of information from the mind to the world/environment. Based on this line of thinking therefore the author believes that the cognitive process of visualization can be divided into three non-linear overlapping stages; namely, Internalization of Visual Models (IVM), Conceptualization of Visual Models (CVM) and Externalization of Visual Models (EVM) [3]

Because of the extremely frequent and diverse usability as well as intricate complexity, systems and their properties attract a wide range of interests and intensive studies. This section presents the abstract system theory for the formal structures and properties of abstract systems. It reveals that real-world systems may be rigorously treated as a generic mathematical structure known as the hyperstructure beyond conventional mathematical entities. On the basis of this view, the concept of abstract systems, the denotational mathematical model of abstract systems, and the classification of concrete systems according to the formal system model are introduced [4]

This cognitive style characterizes the ability of the subject to tune out the periphery of the field of perception. The field dependent people are guided by the external visible field of perception, and experience difficulties overcoming its influence. They need a lot of time to notice a necessary detail in a complex image. Field independent people, in contrast, tend to control the influence of visual impressions by relying on some internal criteria. They can easily overcome the influence of a visible field, and quickly find a detail in a complex image. In a more general formulation, this style characterizes subject's orientation of perception and thinking either to the external factors (tendency to be field dependent) or internal factors (tendency to be field independent) [5]

Current research has demonstrated that cognitive overload can be an important aspect of usability [1, 2]. It seems likely that mobile devices may be particularly sensitive to the effects of cognitive overload, due to their likely deployment in

multiple task settings and limitations of size. This aspect of usability is often overlooked in existing usability models, which are outlined in the next section, as these models are designed for applications which are seldom used in a mobile context[6]. A literature review, outlined in the following section, was conducted as validation of the PACMAD model. This literature review examined which attributes of usability, as defined in the PACMAD usability model, were used during the evaluation of mobile applications presented in a range of papers published between 2008 and 2010. Previous work by Kjeldskov & Graham [7] has looked at the research methods used in mobile HCI, but did not examine the particular attributes of usability incorporated in the PACMAD model. We also present the results of the literature review.

CONCLUSION

Cognitive science is useful not just for technologies involving teaching and learning but also for the development of all new technologies. Unlike the individual disciplines psychology, linguistics, computer science and the like cognitive science teaches practitioners to view problems from multiple perspectives and look for new and innovative ways to solve them.

Cognitive Science is applied in many streams like medical, scientific, research, automobiles even in teaching methodologies to enhance the current technologies.

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