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A World-Self Model Closer to Knowledge Intelligence

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ABSTRACT: Symbolist, connectionist, and behaviorist approaches to artificial intelligence have come a long way in various ways, but there is still no well-defined definition of "intelligence" with sufficient community consensus (although there are over 70 different versions of "intelligent"). "Definition" of). The nature of intellect is still in the dark. In this work, we do not use these three traditional approaches, but instead seek to identify certain fundamental aspects of the nature of intelligence and develop mathematical models that represent and potentially reproduce these fundamental aspects.First, we emphasize the importance of defining the scope of the discussion and the level of detail of the study. It closely compares humans and artificial intelligence, qualitatively demonstrates the process of abstracting information, and presents it as the core of perceptual and cognIt then introduces the broader idea of "concept" by separating the idea of the "I" model from the model of the world and creating a new model called the "I-world" model (WSM). It shows the mechanisms for generating and linking concepts and the flow of how WSM receives, processes, and outputs information about all types of problems it is solving. We also review and discuss potential problems in the computational implementation of the proposed theoretical framework, and finally propose a unified common intelligence framework based on WSM.

KEYWORDS: Artificial general intelligence, concept human intelligence, information abstraction, essence of intelligence, model of the world.

I. INTRODUCTION

Over the past decade, neural network models have made great strides in various tasks such as face recognition, object tracking, machine translation, and the game of Go.. It has had a major impact on a variety of industries, including security, consumer electronics, manufacturing, finance, and customer service. These tasks are widely regarded as "intelligent" tasks, and technology and industrial fields are considered "artificial intelligence" fields. "(AI)."However, after more than 65 years of effort by many scientists in the field of artificial intelligence since it appeared at the Dartmouth Conference in 1956, there is still no precise and generally accepted definition of what "intelligence" is today. Accepted understanding of the term "intelligence". The nature of intelligence. Neural network models and CNN/RNN/Transformer/GAN/RL algorithms.It can outperform humans at many "specific" tasks, but we still know very little about how to build a reliable, flexible, self-developing human "general" intelligence. Questions about the nature of intelligence often associated with attempts to create artificial general intelligence (AI) are: It can outperform humans at many "specific" tasks, but we still know very little about how to build a reliable, flexible, self-developing human "general" intelligence.Questions about the nature of intelligence, often associated with artificial general intelligence (AGI) efforts, are not the limiting domain of AI in the AI community, as scientists approach the subject from computer vision and other areas of neuroscience. The field of artificial intelligence has been very exciting and will continue to be exciting with many big challenges. What is the nature of intelligence? How to define and measure intelligence? Why is the human mind so diverse? How are the various aspects of human intelligence related? What's missing to take modern AI to the next level? What are other possibilities for developing intelligence besides the currently used methodology?In this article, we have provided our thoughts on this topic, creating a model called the World-Self Model (WSM). It is an atom, including neurons and nerve cells. By examining the chemical reactions responsible for the regulation and functioning of brain activity, it can be studied at the molecular (i.e. group) level.

DIFFERENCES BETWEEN HUMAN AND ARTIFICIAL INTELLIGENCE

When a child first learns math, when he sees an apple, an orange, a pencil, or a car and is told it is the

number "1", he can construct a different (very different) "one" concept. visual experience. This is part of Aspect 3 intelligence. While a child is reading a math book, the vision system automatically (as part of Aspect 1 intelligence) converts the visual appearance of printed numbers into abstract concepts of numbers (e.g. the system understands and solves math problems). We are working hard to do that).Your child can try different ways to solve problems accurately and quickly in order to earn candy, which is part of their Aspect 4 intelligence.

THEWORLD-SELFMODEL(WSM):
This section presents comments on the core idea of the world-self model (WSM), the mathematical representation of the model, and possible computer implementations. JOINING "CONCEPTS": WORLD MODEL(WM) Given enough properly annotated image data, training road users to classify the four types of ANNs can efficiently classify cars, trucks, bicycles, and people into the correct categories. there is. . Further training in NLP allows him to interact with others and more.
He also uses his professional experience to create more accurate models of the real world. A physicist would know the laws of mechanics, electronics, optics and microscopic and cosmic worlds, a biologist would know life, bodies, organisms and how neurons work, a psychologist would know a lot about cognition, emotions, behavior, personality and motivation. A person's entire experience together contributes to the creation of WM.

UNIFYING DIFFERENT ASPECTS AND TYPES OFINTELLIGENCEINTOONEWSM-BASEDFRAMEWORK
In Section IV, we constructed the WSM model including Study the WSM model to help you understand the core ideas of concepts, their own specific concepts, the creation and connection of concepts, the conceptual network mechanism for handling input and output streams, and the main missing piece of intelligence in general. In this section, we will discuss how WSMs can further contribute to our position on the nature of intelligence.

ALGORITHM

THE FOLLOWING ABBREVIATIONS ARE USED IN THIS MANUSCRIPT:

AI	artificial intelligence
CNN	convolutional neural network
RNN	recurrent neural networks
GAN	generative adversarial network
RL	reinforcemen tlearning
AGI	artificial general intelligence
ANN	artificial neural network
IS	intelligence system
WM	world model
GWM	great world model
SM	self model
WSM	world-self model
WCS	whole concept space
ICS	input concept space
ACS	activated concept space

II.CONCLUSION

Scientists have been working to understand, define, model, and reconstruct intelligence for decades. They come from a variety of disciplines such as psychology, mathematics, linguistics, engineering, computer science, statistics, physics and complexity science, computer science, and more. All three approaches – symbolism, behaviorism, and connectionism – have made great strides. In this work, we do not use these three traditional approaches, but instead seek to identify some fundamental aspects of the nature of intelligence and build mathematical models to express and potentially reconstruct these fundamental aspects. Instead of examining intelligence in relation to or in specific scenarios with specific kinds of intelligence, our work is largely independent of the type of intelligence to be considered, and our efforts are directed towards understanding the nature of intelligence. Connection scheme and structure of WSM.

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