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Analysis of the Relation between Artificial Intelligence and the Internet from the Perspective of Brain Science

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Abstract

Artificial intelligence (AI) like deep learning, cloud AI computation has been advancing at a rapid pace since 2014. There is no doubt that the prosperity of AI is inseparable with the development of the Internet. However, there has been little attention to the link between AI and the internet. This paper explores them with brain insights mainly from four views:1) How is the general relation between artificial intelligence and Internet of Things, cloud computing, big data and Industrial Internet from the perspective of brain science. 2) Construction of a new AI system model with the Internet and brain science.

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Keywords: Internet's virtual brain ,Big SNS, AI model of the Internet-like brain;

1. How is the general relation between artificial intelligence and Internet of Things, cloud computing, big data and Industrial Internet from the perspective of brain science

A mass of new applications and features of the Internet have emerged in the past 20 years. For example, a printer or copying machine is remotely controlled; doctors perform operations through the remote network; Chinese water conservancy authorities place sensors in the soil, rivers and air so that the temperature, humidity, wind speed could be transmitted to the information processing center timely through the Internet, thus a report is formed, providing reference for decision-making in flood and drought control; Google launched the "Street View" service, with which, multi-lens cameras may be installed in a city so that the Internet users can enjoy the real-time scenes in Denver, Las Vegas, Miami, New York and San Francisco and other cities. It is not difficult to find that the structure of Internet is getting more and more similar to the brain structure.

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These new Internet phenomena can be taken as the buddings of the motor nervous system, the somatosensory nervous system and the visual nervous system respectively. Based on the above new phenomena of the Internet, we published an article entitled *Findings and Analysis on the Law of the Internet Evolution* in September 2008, which analyzed the mature structure of the Internet from the perspective of neurology and abstracted it as an organizational structure that is highly similar to the human brain, namely the Internet virtual brain. It mainly focuses on finding and locating the position of the Internet's virtual hearing, visual, sensory, motor nervous systems and virtual central nervous system, etc. The brain-like structure chart of the Internet [1] is given in Fig.1.

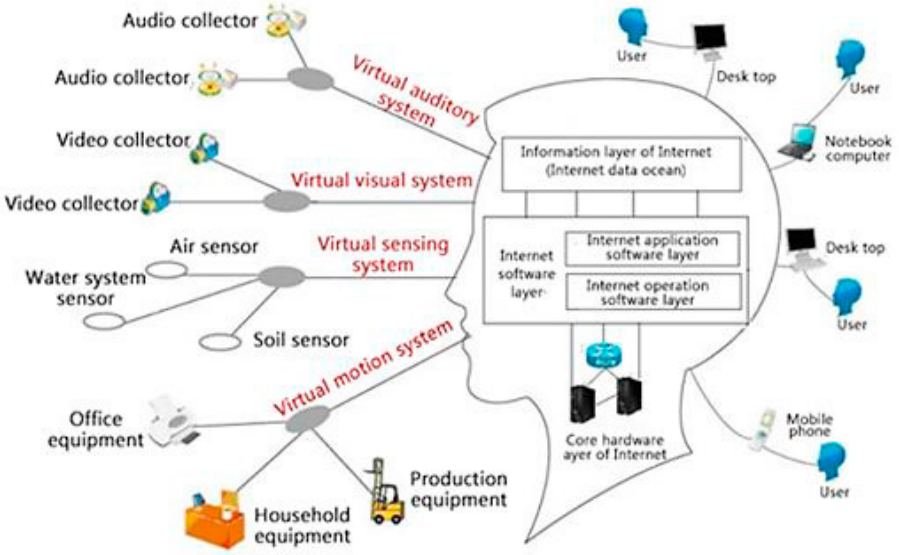

Fig. 1. Structure Diagram of the Internet Virtual Brain

From this figure, we could reanalyze the Internet of Things, cloud computing, big data, artificial intelligence (deep learning), Industry 4.0, Industrial Internet, unmanned aerial vehicles, intelligent driving and virtual reality, the following conclusions may be drawn.

1.1. Internet of Things is the budding of the sensory nervous system of the Internet brain

In November 2005, the International Telecommunication Union (ITU) released a report entitled *ITU Internet Reports 2005: The Internet of Things*, which formally proposed the item "Internet of Things (IOT)". The report did not define the Internet of Things exactly. But from a functional point of view, the ITU believes, that "all objects in the world can actively exchange information through the Internet, to achieve any interconnection between objects, omnipresent networks and omnipresent computing anytime and anywhere"; From a technical point of view, the ITU also believes that "the Internet of Things involves radio frequency identification technology (RFID)[2], sensor technology, nanotechnology and intelligent technology, etc."

Internet of Things highlights the concept of sensor perception, and it has the functions of network line transmission, information storage & processing, and industrial application interface, etc. Meanwhile, it often shares server, network lines and application interface with the Internet, which may be considered as the budding of the sensory nervous system of the Internet brain.