

About Artificial Intelligence (AI)

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【Abstract】 Artificial Intelligence (English: Artificial Intelligence, abbreviated as AI) is also known as machine intelligence, which refers to the intelligence exhibited by machines made by people.

【Key Words】 Artificial Intelligence;AI

What is Artificial intelligence?

Artificial intelligence (AI) is the simulation of human intelligence processes by machines, especially computer systems. These processes include learning (the acquisition of information and rules for using the information), reasoning (using rules to reach approximate or definite conclusions) and self-correction. Particular applications of AI include expert systems, speech recognition and machine vision.

AI can be categorized as either weak or strong. Weak AI, also known as narrow AI, is an AI system that is designed and trained for a particular task. Virtual personal assistants, such as Apple's Siri, are a form of weak AI. Strong AI, also known as artificial general intelligence, is an AI system with generalized human cognitive abilities. When presented with an unfamiliar task, a strong AI system is able to find a solution without human intervention. Because hardware, software and staffing costs for AI can be expensive, many vendors are including AI components in their standard offerings, as well as access to Artificial Intelligence as a Service (AIaaS) platforms. AI as a Service allows individuals and companies to experiment with AI for various business purposes and sample multiple platforms before making a commitment. Popular AI cloud offerings include Amazon AI services, IBM Watson Assistant, Microsoft Cognitive Services and Google AI services.

AI research is divided into by several technical issues. AI research is highly technical and specialized, deeply also divided into subfields that often fail to communicate with each other.

AI is incorporated into a variety of different types of technology

In computer science, artificial intelligence (AI), sometimes called machine intelligence, is intelligence demonstrated by machines, in contrast to the natural intelligence displayed by humans and animals. Computer science defines AI research as the study of "intelligent agents": any device that perceives its environment and takes actions that maximize its chance of successfully achieving its goals.

Worries about Artificial Intelligence

Hawking once said "The rise of artificial intelligence may be the

end of human civilization”. He said that the threat of artificial intelligence is divided into short-term and long-term. Short-term threats include autonomous driving, intelligent autonomous weapons, and privacy issues; long-term concerns are mainly the risk of out of control of artificial intelligence systems, such as artificial intelligence systems may not listen to human command.

Recently, the accident caused by artificial intelligence was that a driverless car crashed a woman who was pushing a bicycle, and the car did not slow down. Microsoft's Tay chat bot, conversational messaging system can be ridiculous, impolite, and even very unpleasant.

Concerns about artificial intelligence are roughly divided into the following points:

1. Uncontrollable "rude behavior"

2. Poor perception

Although artificial intelligence was developed by humans, the irony is that it is not like humans at all. Human visual perception is highly background, but artificial intelligence's ability to perceive images is very narrow. To this end, artificial intelligence programmers must work with domain experts—returning to the academic roots of the field—to narrow the gap between human and machine perception.

3. Black box puzzle

Many companies want to use artificial intelligence, but companies in industries such as financial services must be very careful, because the question of how artificial intelligence draws its conclusions has not been resolved. If companies fail to address the impact of good sample data bias on lending fairness, they will not be able to provide better mortgage rates. In jobs such as credit decisions, artificial intelligence is actually hindered by many regulations, and many problems remain to be resolved. So many things we do must be thoroughly backtested to ensure that inappropriate biases are not introduced.

If people don't know how artificial intelligence software detects patterns and observes the results, then the extent to which trust in the machine can be reached remains to be seen. Background, ethics, and data quality are important factors influencing the reliability of artificial intelligence values, especially in highly regulated industries. Deploying artificial intelligence in any highly regulated industry can lead to compliance issues.

4. Bondage theory

Elon Musk, an entrepreneur named Tesla and SpaceX, warned that human beings risked being independent "home cats" to create artificial intelligence with superior intelligence and abilities. Recently, Israeli historian Yuval Noah Harari also suggested that the emergence of artificial intelligence with automation as the core may create a "global useless class". In such a world, democracy is threatened because human beings don't understand themselves like machines.

5. Hackers use artificial intelligence to launch deadly attacks

A 98-page report by 25 technical and public policy researchers at Cambridge, Oxford and Yale University points out that the rapid development of artificial intelligence means that malicious users will soon use the technology for automated hacking, mimicking Humans transmit wrong information or turn commercial drones into target weapons.

Miles Brundage, a researcher at the University of Oxford's Future of Humanity Institute, told Reuters: "We recognize that artificial intelligence has many positive applications. However, it does have a gap in malicious use."

Artificial Intelligence

The main research area of artificial intelligence

1. Perceived ability

In terms of perception, it is mainly divided into vision and hearing. Although it is reasonable to have a separate field to study touch, smell and the like, except for robots, most other AI carriers (such as PCs and mobile phones) are difficult to apply.

2. Speech recognition

It refers to voice recognition. Pay attention to distinguishing speech recognition in language ability. Here is a pattern recognition problem that solves the sound you want to find from any noisy ambient sound. For example, identify the voice of your man/girlfriend from the voice of a bunch of speakers.

At present, artificial intelligence technology is still developing, we should maintain a neutral attitude to see this technology.

References

1. This content is part of the Essential Guide 2018