

AI engineer Facebook talks about deep learning, new programming languages ??and hardware for artificial intelligence

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Deep learning in the future may require a new, flexible and easy-to-work programming language than Python, which is the remark of Yann LeCun, Facebook's AI research director, one of the leading experts in the field of artificial intelligence at the present time. Why is this expert predicting that?

'It is not yet clear whether a new programming language must necessarily be created, however, this is necessary to change the mindset of a large number of researchers and researchers. Information technology professors who are very conservative in issues related to artificial intelligence. In fact, there have been a number of projects in Google, Facebook and many other technology companies in designing a new programming language, compiled in a way that can be more effective for deep development. learning, but I'm not sure if the community will follow it, because people just want to use Python, 'said Yann LeCun.



1. Artificial intelligence was able to write an article just from some information

Developing a new programming language is it a reasonable approach?

According to the recent Octoverse report of GitHub, Python is currently the most commonly used language because developers are working on machine learning projects, and the language also contributes to the image. build up PyTorch framework of Facebook, and TensorFlow of Google

Mr. Yann LeCun presented an article at International Solid-State Circuits Conference (ISSCC) that took place on February 19 in San Francisco, learning about the latest trends in machine learning development. In it, the first part of the article tells the lessons that Yann LeCun learned from Bell Labs, including his observations of how AI researchers and computer scientists often have coins. The direction associated with the hardware and software tools together.

1. Is artificial intelligence part of Computer Science?

Hardware issues

Artificial intelligence is more than 50 years old, over half a century of formation and development, but the current increase in importance and the practical application of this technology in recent times have been The direction is closely linked with the growth in computing power, provided by computer chips and related hardware components.

Yann LeCun has worked for a long time at Bell Labs, since the 1980s, as well as being responsible for ConvNet's AI development (CNN), and he came to the conclusion that better hardware will contribute to creating Better algorithms, better performance.



In the early 2000s, after leaving Bell Labs and joining New York University, Yann LeCun worked with many other bright stars in the AI field, such as Yoshua Bengio and Geoffrey Hinton, conducting research to revive the relationship. mind about neural networks and promoting the popularity of deep learning.

In recent years, advances in hardware - such as Field-Programmable Gate Arrays - FPGAs (a special integrated circuit or a chip can be programmed within its scope after being manufactured) , the Tensor processor chips (TPU) from Google, and the graphics processing chip (GPU) - have played a big role in the growth of the AI industry.

"These types of hardware have a great impact on the research that people are doing, and therefore, the direction of AI in the next decade will be greatly affected by the development of hardware. . Of course computer science researchers do not want to be bound by the limits of hardware, but the reality is that '.

In addition, Mr. Yann LeCun also emphasized that some AI-related hardware manufacturers should consider and make recommendations about the type of architecture needed in the near future, possibly in the next few years, in advance. Increasing scale of deep learning systems. Besides the need for hardware to be designed specifically for deep learning, it can be handled on a large scale, instead of having to handle many training samples to run a network of nodes. The capital is currently the standard.

'For example, if you only run a single image, you won't be able to exploit all the computing power available in the GPU. Basically, you will waste resources, so developers should also think about some of the more effective neural network training methods.'



1. [Infographic] Future work when artificial intelligence gradually replaces people

In the article, Mr. Yann LeCun also reiterated his belief that supervised self-study will play a key role in promoting the development of modern AI. He believes that future deep learning systems will largely be trained with supervised self-study, and modern hardware with higher performance will be essential to support self-directed learning. so close.

Last month, Mr. Yann LeCun also held a discussion on the importance of self-monitoring learning as part of the prediction of the AI trend in 2019. Hardware can handle the Self-monitoring learning will be important for Facebook, as well as autopilot, robotics and many other forms of technology.

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