Importance of Deep learning
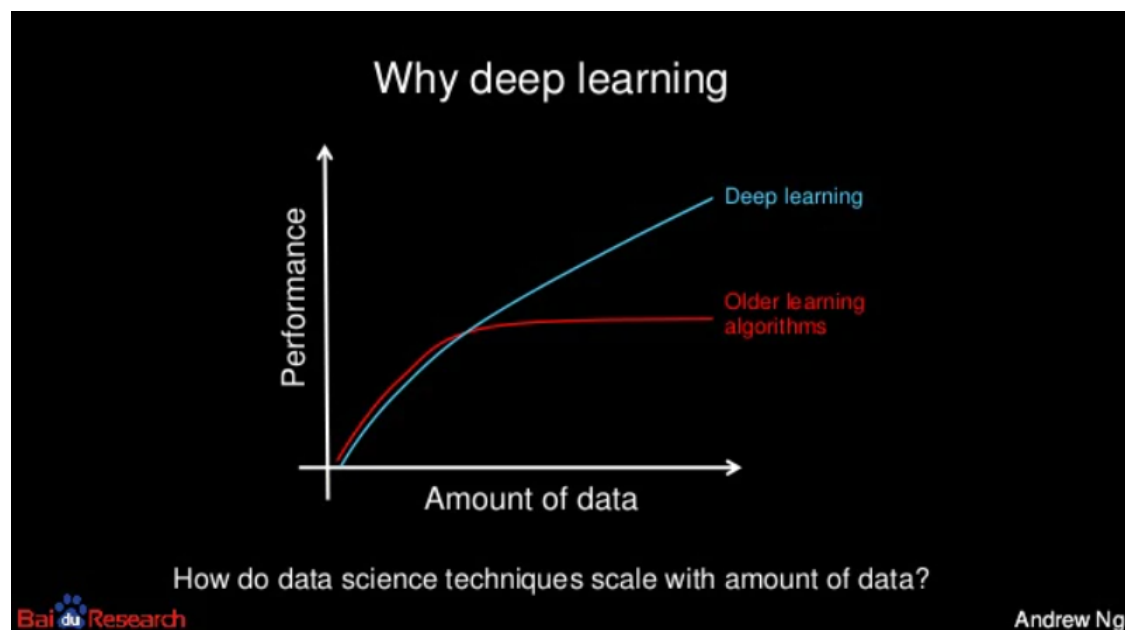
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1 Why Deep Learning is Important?

image source

- Computers have long had techniques for recognizing features inside of images. The results weren't always great. **Computer vision** has been a main beneficiary of deep learning. Computer vision using deep learning now rivals humans on many image recognition tasks.

- **Facebook** has had great success with **identifying faces** in photographs by using deep learning. It's not just a marginal improvement, but a game changer: "Asked whether two unfamiliar photos of faces show the same person, a human being will get it right 97.53 percent of the time. New software developed by researchers at Facebook can score 97.25 percent on the same challenge, regardless of variations in lighting or whether the person in the picture is directly facing the camera."

- **Speech recognition** is a another area that's felt deep learning's impact. Spoken languages are so vast and ambiguous. Baidu – one of the leading search engines of China – has developed a voice recognition system that is faster and more accurate than humans at producing text on a mobile phone. In both English and Mandarin.

- What is particularly fascinating, is that generalizing the two languages didn't require much additional design effort: "Historically, people viewed Chinese and English as two vastly dif-

ferent languages, and so there was a need to design very different features," Andrew Ng says, chief scientist at Baidu. "The learning algorithms are now so general that you can just learn."

- **Google** is now using deep learning to **manage the energy** at the company's data centers. They've cut their energy needs for cooling by 40%. That translates to about a 15% improvement in power usage efficiency for the company and hundreds of millions of dollars in savings.