Deep Learning: Overview and Trends
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Abstract
Deep learning is the leading approach to many problems in computer vision, speech recognition, NLP, and other areas. In this presentation, I will give a broad overview of deep learning. I will discuss the key reasons for its success, and the important role that scalability plays. I will also describe unsupervised learning approaches to deep learning—such as the "Google cat" result, in which a neural network learned to recognize cats by watching unlabeled YouTube videos—and discuss why this might become increasingly important. Finally, I will discuss recent trends in deep learning, and some possible future applications.

Biography
Andrew Ng is Chief Scientist of Baidu; Chairman and Co-founder of Coursera; and an Associate Professor of Computer Science at Stanford University.

In 2011 he led the development of Stanford University’s main MOOC (Massive Open Online Courses) platform and also taught an online Machine Learning class to over 100,000 students, leading to the founding of Coursera. Ng’s goal is to give everyone access to a great education, for free. Today, Coursera partners with top universities to offer online courses. With over 9 million students, it is the world's largest MOOC platform.

Ng also works on machine learning, with an emphasis on deep learning. He had founded and led the “Google Brain” project, which developed massive-scale deep learning algorithms. This resulted in the “cat” result, in which a massive neural network with 1 billion parameters learned from unlabeled YouTube videos to detect cats. More recently, he is working to build up Baidu Research, which is developing applications of large scale deep learning to computer vision, speech, NLP, and other areas.

Recent awards include being named to the Time 100 list of the most influential people in the world; Fortune 40 under 40; and being named by students as one of the top 10 professors across Stanford University.