The AI Evolution

Sometimes it feels like artificial intelligence (AI) appeared in the mainstream overnight. But in reality, the journey to today’s AI has been longer than we realize. AI systems have actually been around since the 1950’s - from computers playing chess, to the Turing Test, to IBM Watson on “Jeopardy” in 2011.

Now, due to advances in cloud computing and massive computer processing power, artificial intelligence has rapidly evolved, giving way to AI subsets like machine learning and deep learning.

What does this AI evolution mean for marketers? Read on to find out more.

A Growing Network of AI Capabilities

As AI has evolved, several subsets have arisen creating new possibilities for marketers and businesses. Terms like artificial intelligence, machine learning, and deep learning are often used interchangeably - as if they all mean the same thing. In reality, there are important nuances that differentiate each of these important areas of technology.

**Artificial Intelligence:** The broadest term, AI is technology designed to leverage and enhance the strengths of human and machine intelligence. AI engines have the ability to understand structured and unstructured data like text, images, audio, and video. They can reason, making sense of something based on previous knowledge. They learn, and have the ability to get smarter over time through human interaction. And they interact via natural language processing, engaging in dialogue with people and systems.

**Machine Learning:** A subset of artificial intelligence, machine learning uses algorithms to parse large amounts of data, detect patterns, and makes decisions based on these patterns. A machine learning computer model gets better over time by learning from its mistakes and experiences and being exposed to new data, increasing its intelligence. Music streaming services like Pandora and Spotify use these types of algorithms to learn about your music preferences, and then make predictions about what other music you might enjoy.

**Deep Learning:** Deep learning evolved out of machine learning. It structures algorithms in multiple layers to build and train neural networks, which are simulations of the human brain that can make intelligent decisions on their own. Each layer of a network can find patterns in the output of the layer above it, helping deep networks excel at sorting and classifying data, as well as identify anomalies in data patterns. The more layers in the neural network, the more complexity it can capture.

AI Developments Power Innovation

These are exciting times for marketers. Artificial intelligence is being leveraged across industries to help human make the most out of large data sets, make tasks more efficient, and make consumer interactions more exciting.

One example of machine learning in action is AURA, a room service robot attendant at the M Social Hotel in Singapore. Using machine learning algorithms and advances in robotics it is designed to bring convenience and delight to guests, while helping staff focus on improving guest experiences. AURA delivers towels and bottled water, communicates with guests, and even knows how to operate the hotel elevator.

Popular review website Yelp is also serving up an extra helping of machine learning based capabilities. Images are an important part of Yelp reviews. While classifying user-generated photos is relatively easy for employees, it can be very time consuming. By leveraging artificial intelligence, machine learning algorithms are helping human employees categorize and label images tens of millions of photos more efficiently.

IBM Watson Advertising is leveraging deep learning to provide a competitive edge for advertisers. Bidding Optimization uses deep learning with neural networks to optimize impressions in real-time, helping advertisers reduce time spent in manual optimization, increase profitability, and lower cost-per-action. One leading auto brand looking to improve ROI on test drive signups was able to increase leads by 2x.

A Look Into the Future

Many people consider edge computing to be the next AI-related technology trend worth watching. In its simplest terms, edge computing is the concept of every artificially intelligent object using vast amounts of processing power - equivalent to hundreds or thousands of PCs. In other words, each device becomes its own mini data center.

Smart devices of the future like self-driving cars, drones, and medical equipment will have too much data to send to the cloud to be processed. Edge computing will allow these types of devices to handle their own processing and storage by moving data storage, processing, and analytics to the “edge” device, sending only the most important data to the cloud to be analyzed.

While the story of artificial intelligence is still unfolding, it is evolving quickly and is set to make a meaningful impact on marketers and businesses. Are you ready for your next chapter?