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Artificial Intelligence: The Next Big Technology Trend

By PV Kannan, CEO of [24]7 Inc.

This year we've seen a spate of Artificial Intelligence (AI) announcements from Facebook, Google, IBM, Microsoft, Oracle, and Salesforce along with scores of smaller companies. These announcements validate the larger trend of AI being applied to a wide variety of enterprise and consumer tasks.

Some industry leaders have likened AI to early electricity. When electricity was first incorporated into appliances they were referred to by names such as "the electric toaster," or "the electric oven." Now they're just toasters and ovens. Soon we'll have the same sense of expectation that AI is just a core part of our computing experience.

Fueled by technology advancements (e.g. big data processing power, advanced machine learning, predictive analytics, and natural language processing) and by the marketing engines of tech heavyweights, the media are latching onto AI as the next big technology trend. It seems like 2016 is the year that AI technology finally arrived. But has it?

Today's AI is less like early electricity and more like early hybrid car technology. All the major automakers (Ford, GM, Toyota, Honda, etc.) rushed to introduce the technology into their vehicles, with varying levels of success. For some, like Toyota, it was smooth extension of their previous offerings. For others, it was an awkward, clunky experience.

Earlier this year, I was invited to write an article for Techonomy about the fact that today's AI solutions are still critically dependent on humans. The good news is that with this rising interest, more companies have demonstrated a willingness to invest in this technology. The bad news is that the hype around AI has led to misguided expectations about what's actually possible, especially in the realm of customer engagement.

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How AI Works

AI enables computers to mimic human learning, understand the user, and perform tasks that normally require human intelligence (e.g. visual perception, speech recognition, decision-making, and translation between languages). AI is great for things such as deciding whether to increase the credit limit on a card, where the steps are clear and the text of the interaction can be culled from actual human conversations that took place previously with call center operators.

Companies have histories of these interactions and can cherry pick the ones that had very high customer satisfaction scores. That way, the system keeps getting better based on interactions. Every time something in an automated conversation goes wrong, it gets routed to a human who teaches the system a little bit more, effectively making it smarter. That's how learning happens over time.

Unlike with personal virtual assistants such as Google, Siri, Echo, or Cortana, where there isn't a big downside if the system misunderstands a consumer's query or returns the wrong answer, it's critical for businesses to get this right. No business can afford the customer churn that comes from providing inaccurate information and a broken experience to consumers. In the realm of customer service, every interaction matters and any investments in these types of technologies will falter if the user experience comes up short.

How Machine Learning Works

Machine learning is a type of AI in which computers can learn without being explicitly programmed. It focuses on the development of programs that can teach themselves to grow and change when exposed to new data. It often comes into play when there's a need to process huge amounts of data that are beyond the scope of humans to process on their own. The best part is that the data can then be used to learn about human patterns and behavior.

There are two main human-assisted machine learning techniques: supervised and semi-supervised.

1   **Supervised Learning**, the most common technique, uses collaborative tagging by humans so that models can identify consumer intent. With semi-supervised learning, some data is processed by the system and some is manually tagged. Supervised or semi-supervised techniques perform well for the majority of enterprise applications with complex business requirements.

2   **Unsupervised Learning**, by contrast, is much harder. It is best thought of as a continuum between (a) the entire system being one gigantic, autonomous, self-learning machine and (b) solving certain problems within a much larger system that also involves humans and supervised learning techniques. For many enterprise solutions we are very close to (b). For personal assistants like Siri, we are a little closer to (a), but even in such applications, truly autonomous AI is still quite far away.

What Businesses Should Look for When Adopting AI

In most near-to-mid-term scenarios, businesses will be best served by supervised or semi-supervised machine learning. The true value in AI will be in accomplishing the tasks that your business and its customers (whether consumers or other businesses) set out to do. As such, I suggest businesses look for three things:

Accomplish tasks quickly: For informational tasks (e.g. answering the question, "What's the highest rated smartphone?"), a machine could automatically assemble answers from agent responses, social media sentiment, online reviews, and other knowledge sources. For transactional tasks (e.g. a consumer making a purchase), it is difficult for a machine to generate logic through autonomous learning, and therefore machines are much more reliant on humans.

Do things that humans can't do: Companies possess great amounts of data that they haven't tapped into because it would be far too labor intensive for a human to do it. By quickly mining and processing this data, a machine can not only personalize user experiences, but also predict what a person wants to do and proactively provide information. From a consumer standpoint, that's an extremely powerful moment.

Bring out the best in your people: We all dream of a world in which we're freed up from menial tasks and can focus on creativity. In the next several years, we'll see a shift that will lead companies to greater profit, and employees to greater productivity. In the contact center industry for example, we'll see a shift from having an agent actively chatting with consumers, to having someone who designs and oversees the customer experience. Individual conversations will be handled almost exclusively by chat bots and AI.

Despite the current limitations of AI, the investments we're seeing from major technology companies, and most recently with Salesforce, point to the true potential of AI as a valuable counterpart to human intelligence. These investments mean that the technology is only poised to get better, and make the end user experience that much more personalized, intelligent, and efficient.

Let [24]7 help your organization achieve extraordinary results. Contact us today.

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