Talking About a Revolution: NLP, AI, ML, and Analytics

AI, ML, and NLP are making it far more feasible to automate many data analytics processes. It hasn't taken long for smart technologies such as Google Home and Amazon Alexa to become embedded in everyday life. In the process, millions of us have become accustomed to the idea of holding something approaching a natural conversation with a machine. Natural language processing (NLP) is one of the key enablers of this voice-controlled revolution. Going forward, we can expect NLP to play a similarly central role in transforming the way we interact with data analytics tools. Doing so will further accelerate the democratization of data analysis -- making even the most sophisticated tools as welcoming as the latest consumer gadgets. More immediately, NLP is facilitating deep, real-time insight into the stream of human consciousness that now floods social media. As a result, enterprises can readily tap into a rich data resource that opens a window into how the world is feeling right now.

Analytics for All

NLP is, of course, nothing new. In fact, it has been reshaping human/machine interaction for several decades. Essentially, it represents a defined set of rules that enable accurate interpretation of what is being said or written. Redundant words are stripped away to leave only those with meaning. For many years, this required laborious hand coding. However, the arrival of machine learning (ML) has fundamentally shifted the boundaries of what is possible. Today, NLP supports those voice-controlled assistants that have taken up residence in so many homes. A little less obviously, it is also at the heart of the equally ubiquitous search engine interfaces and chatbots that now facilitate many of our routine tasks. As such, it provides an obvious building block for making ML and AI-enabled data analytics accessible to all, which is one of the overriding missions at Altair, the company I work for

Power to the People

No-code/low-code solutions are already empowering a new generation of citizen data scientists. For some enterprises, that represents a significant financial win -- specialist data scientists are, after all, a scarce resource. However, the benefits of democratization are far more profound than that. It puts data analytics firmly in the hands of the decision makers it is designed to support. That enables more targeted, intelligent, and effective use of these tools, and delivery of the deeper, clearer insight that can provide that all-elusive competitive edge.

In terms of shifting data analytics beyond the domain of the specialist, we've already come a long way, but there's still plenty of road left to travel. Consider just a few figures. At the moment, only 12 percent of all enterprise data is used to make business decisions. Less than one-third (29 percent) of businesses are successful at connecting analytics to action. One in five enterprises believe they have lost customers due to using incomplete or inaccurate data.

From Conversational to Augmented

In the years ahead, NLP will steadily help more of us make better use of the wealth of data now available. The first step will be to move away from the requirement for relatively structured language inputs and support highly flexible, search-engine-style interfaces. Subsequently, these will mature into voice-activated virtual assistants that are integrated seamlessly into existing solutions.

This is all part of a trend that many refer to as conversational analytics -- characterized by increasingly natural interaction between users and sophisticated business tools. In 2021, Gartner believes this will grow adoption of analysis and business intelligence from 35 percent to more than 50 percent of employees

Conversational analytics is, in turn, part of an even bigger picture. First identified by Gartner in 2017, augmented analytics brings together enabling technologies such as AI, ML, and NLP to assist with data preparation and insight generation, helping people to explore and analyze data far more efficiently in analytics platforms. In particular, it automates a wide range of time-consuming and labor-intensive tasks typically undertaken by both specialist and citizen data scientists.

In short, augmented analytics is a true disrupter, promising to transform how analytics is developed, consumed,

We can already see the influence of these concepts in some of the more sophisticated data analytics tools being deployed. To take just one example, NLP is helping enterprises identify relevant sentiments on social media. As a result, critical, real-time insight is being delivered in areas such as gauging reaction to new product launches. Such capabilities also complement Altair's warranty analytics solutions. Providing the earliest possible indication of quality issues in the field enables proactive strategies that minimize financial liabilities and the damage inflicted on brand reputations.

Embracing the Human Dimension

In a world increasingly overwhelmed by data, success lies in being able to find the needle in the haystack. ML and AI are making it far more feasible to automate many of the processes that make this possible. Indeed, in some cases, that includes decision making.

However, getting the best from the latest data analytics technologies is not all about replacing human input. It must embrace it, too. Only when data analytics becomes as easy as asking for a weather forecast, or the quickest route to work, will it have truly fulfilled its potential.