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Can artificial intelligence take over corporate compliance?

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Advances in artificial intelligence (AI) have given us products like Siri, Alexa, Netflix movie recommendations, self-driving cars, and much more. Multiple studies tell us that AI is going to take over and control our lives. What does this mean to compliance professionals? Can AI take over corporate compliance?

What is AI?

AI is defined as the theory and development of computer systems able to perform tasks normally requiring human intelligence.Even though the idea of AI has been around since the 1950s, it wasn't until the late 2000s that useful AI applications were developed. Affordable high-performance computing power, availability of large amounts of data, and intelligent algorithms were some of the reasons that enabled the recent development of AI applications.

When people mention AI today, they are not referring to a specific technology but to several techniques that mimic human behavior, such as natural language processing (NLP), machine learning (ML), and deep learning (DL).

NLP enables computer systems to understand and communicate in natural human language. Voice-based systems like Alexa, Siri, and Google Translate are examples of NLP systems we use today.

ML algorithms automatically identify patterns in data and use them to make predictions. When you make an impulse purchase online and you get a call or text from your credit card company asking you to confirm that you made the purchase, it is because an ML algorithm identified that purchase to be outside your normal purchasing patterns.

DL techniques, such as neural networks, are used for pattern recognition and prediction with large unstructured data. Unstructured data is data that is not organized in a predefined manner such as emails, presentations, photos, and audio files. Medical image diagnosis and drug discovery applications use DL techniques.

Though AI applications can combine several AI techniques, ML, with its ability to learn and improve specific tasks, lends itself more toward compliance applications.

How does an ML application work?

ML tasks are generally categorized as either structured learning or unstructured learning. In structured learning, ML algorithms are trained to identify the desired output through training data that includes examples of inputs and desired outputs. In unstructured learning, the algorithms are not provided with a desired output and are left to identify patterns in the input data. Sometimes unstructured learning is used to identify what variables or data

fields are important (statistically significant) in the input data presented. These important variables are then used in the structured learning algorithms to improve the accuracy of predictions.

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