Intel IT Business Review

Deep Insights: The next big (data) thing

It doesn't matter how big your database is. It doesn't matter how advanced your analytics software may be. And it doesn't matter how much processing power you apply. The most valuable insight is still scattered across various, disconnected sources – both technological and human.

While the industry continues its feverish hype and frantic development of big data technologies, Intel IT is busy anticipating the next big (data) thing. As far as Intel IT leaders are concerned, analyzing massive quantities of data is not the endgame. It's just the beginning.

"Big data is still in its infancy," says John David Miller, Principal Engineer for Intel IT. "Analytics are just the first step. The next step is connecting more dots, harnessing human knowledge, and making accurate predictions."

Intel IT's Deep Insights research is exploring and building on that premise. It aims to take big data to the next level, adding elements of crowdsourcing, data visualization, and machine learning to deliver greater insights, more accurate predictions, and untold value.

Connecting the dots

The answers for many strategic, high-value problems are complex and open-ended. They are rarely found in any one data source, no matter how big.

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Ed Goldman
CTO of Intel IT
GM of Strategy, Architecture, and Innovation

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Rather, they are synthesized by learning from and building off of multiple sources—including what one already knows—and weaving them together with new ideas, the context of the problem at hand, and the people trying to solve the problem.

"Where we think big data gets really exciting is the ability to bring in multiple data systems and human knowledge to answer these complex, open-ended questions," says Miller. "Things like personalization, context awareness, and collaboration can help users connect the dots in new, unexpected ways. This leads to a more strategic view of all this information, unforeseen connections with different data and people, and the ability to share insights and knowledge with others."

Extracting and harnessing human knowledge—via crowdsourcing—is one pillar of the Deep Insights research. Another involves data visualization, allowing people to quickly and easily see the golden nuggets of value amidst the rubble of data.

"We've long used pie charts and bar graphs to show data in different ways," says Ed Goldman, CTO of Intel IT and GM of Strategy, Architecture, and Innovation. "But the volume and complexity of modern information have outgrown simple pie charts.

The third pillar involves automation and machine learning, enabling computers to glean new insights from an increasing number of data sets and make better, more informed predictions. Using advanced algorithms and analytics, computers may soon be able to take what we know, remove human bias, and anticipate that which we have yet to learn.

"We want to make machines smarter to make humans smarter," says Miller. "This will help people know more, forget less, and unearth deeper insights through their own personalized, dynamic, big picture web of knowledge and assistive applications."

"Predictive analytics lead to prescriptive pathways which lead to better predictions," adds Goldman. "With greater knowledge, visualization, and automation, we're hoping to extract more value and insight—above and beyond the current promise of big data."

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