

## **Commentary: Emerging artificial intelligence can transform how we live and work**

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It's been a little more than 20 years since IBM's Deep Blue computer beat chess champion Garry Kasparov in a six-game match. Since that time, artificial intelligence — also known as machine intelligence — has achieved an unimaginable level of breadth, depth and speed. To say it is revolutionizing our daily lives is an understatement. Alexa, Siri, AlphaGo; Amazon's suggestions of books of the same genre based on algorithms of previous reading preferences; the detection of malware; machines that signal to a central data bank when materials fatigue puts an engine at risk — these are just some of the breakthroughs in artificial intelligence.

While artificial intelligence is getting better — smarter at increasingly complex and cognitively demanding tasks — there are still many areas where humans excel and that includes creative tasks or those that require physical dexterity, but these are rapidly shrinking, given the comparative advantages of AI over the human mind. With AI, machines learn from examples rather than being explicitly programmed for a particular outcome.

The wonder of AI is that it has the advantage of vast memory or instant access to very large databases of information, and the ability to process them almost instantly. These databases also do not suffer from lapses, and performance does not decline over time.



*Altuğ Ülkümen, left, and Jerry Haar*

Take the example of a radiologist, a medical doctor with a specialist degree in radiology (requiring approximately eight years of study) who is capable of analyzing one image of a patient at a time. Now pitted against an AI system that can scan many more images and with a much higher degree of accuracy (fewer false positives or negatives) over the same period of time, we have a new problem: It is now the white-collar jobs that include cognitively demanding tasks that are being threatened or displaced.