Developing artificial emotional intelligence

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Can artificial intelligence (AI) have emotional intelligence? Research published in the *International Journal of Engineering Systems Modelling and Simulation*, plots the roadmap.

AI is something of a buzzword in computer science and beyond, but the concepts have a long history dating back to the 1950s if not earlier. The definition of AI has evolved over that time, however. Originally, AI encompassed the notion of creating a system, a machine that would

mimic the naturally [intelligence](), the cognitive skills of animals. However, the idea of "intelligent agents" that can process exogenous information (input from sensors) and use the output from that processing to fulfill particular goals is now considered a more precise way to view AI. Nevertheless, the current state-of-the art sees the kind of processing that AI might do as [problem solving]() or the machine learning paradigm that is inclined more towards biomimicry of cognition.

AI is already having an impact on areas of human endeavor as diverse as medicine and healthcare, transport, education, agriculture, finance, marketing, even entertainment, and, of course, robotics and computing itself.

Sharmistha Dey of the Department of Computational Sciences at Brainware University in Barasat, Kolkata, and Chinmay Chakraborty of the Department of Electronics and Communication Engineering at Birla Institute of Technology in Mesra, Jharkhand, India, suggest that AI is changing the world, allowing us to develop intelligent solutions that are capable of autonomous decision-making and self-diagnosis. They point out that the inclusion [emotional intelligence]() in the development of AI is perhaps at a critical stage as it could allow us to develop AI that precludes the system succumbing to the inherent biases of those who develop a given AI system and choose its initial training inputs.

"If a machine can think or feel like a human, it can be converted into a better decision-making system," the team writes. Importantly, an AI system needs to have an inbuilt emotion detector that it might understand the emotional context of its inputs, but likewise needs a way to represent the emotional context of any solution it offers to a given problem or situation. Deep learning algorithms that go beyond the standard approaches to machine learning will take AI to the next destination on the roadmap. More data and moment-by-moment processing will help create the context and allow AI to evolve to our benefit.

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