

Man's Evolved Avatar

Cyborgs may be able to ward off the existential threat from Artificial Intelligence

SHEETAL SHAH

*Chairperson, Fellow Programme in Management at
SP Jain Institute of Management and Research, Mumbai.*

In the movie *Avengers: Age of Ultron*, the Iron Man and Bruce Banner — a genius scientist when he wasn't playing Hulk—built an artificial intelligence system named 'Ultron' to help protect the earth. But Ultron—the peace-keeping programme embedded in a synthetic body—turned hostile, making it his mission to eradicate humans from the face of the earth. As earth's fate hung in the balance, the mightiest of Avengers had to come together to save the planet from complete annihilation.

Does this, another Marvel Comic story turned into a sci-fi Hollywood film, have, a semblance of realism? Perhaps yes.

A couple of years ago a unique experimental self-driving car was released on New Jersey roads, that was not coded or programmed by engineers. The car sensors were connected to a huge network of artificial neurons that processed data and delivered commands to the brake, steering wheel and other sub-systems. This car, developed by the chip maker NVidia, did not need any human intervention. It taught itself by watching other humans drive their cars.

With this technology referred to as deep learning, artificial intelligence is advancing to a level where systems become so intelligent that they surpass human capabilities and comprehension. And if this happens, as physicist Stephen Hawking has anticipated, "a super-intelligent AI will be extremely good at accomplishing its goals, and if those goals aren't aligned with ours, we're in trouble."

Elon Musk seems to agree. In a YouTube video on the subject he sounds an alarm bell: "if AI becomes smarter than a person, what do we do and what jobs will we have?" Will AI take over our world? How worried should the human race be? As per the World Economic Forum report published in 2016, about five million jobs will be lost to robots and automation by 2020.

These predictions may come to pass. But let's look at the man-machine debate more objectively. It's true that super-computers such as Watson can process data, recognise patterns and thereby learn by itself at a faster rate than a human brain. But such machine learning capabilities which are integral to AI require massive amounts of data.

Who creates this data? Most often than not, especially in greenfield areas, humans are the original creators. If there is no data, there is no AI. How does AI learn? It teaches itself by repetition, logical progression and sequencing that enables it to decipher higher level patterns at lightning speeds for problem solving and decision making. By that token, AI has phenomenal power to substitute repetitive tasks that require sequential logic.

A recent survey of how AI is likely to transform the workplace confirms this proposition. Decision makers in India indicated some of the jobs that could be outsourced to AI powered digital assistants: writing and responding to emails, entering timesheets, scheduling calendars and some routine accounting, billing and HR tasks.

Though AI can process billions of data points to arrive at an efficient decision in a blink of an eye, the contextual, emotional and intuitive aspects of the decision making still remains the prerogative of the human race. In fields that need creativity and out-of-the box thinking, human judgment will be hard to replace.

The perspective offered so far pitches man and machine in two different camps, with the debate focussing on who will reign supreme. But recent developments in the field suggest it doesn't have to be that way. There can be a third side. The merging of man-machine to create a powerful combined force.

Elon Musk has already founded a company called Neuralink, which is in the process of discovering an developing devices that can connect to the brain. Ray Kurzweil, a futurist and Google's AI guru, believes the world is experiencing one of the most peaceful times in history since World War II. While hunger rates are lower than what they were in the past, technology has lifted millions out of poverty and made it possible for three billion people to have smartphones.

He thinks the human race is at an evolutionary inflection point where man and machine will become one in the near future. Instead of being in separate camps and humanity living in existential fear of whether AI will take over our world, he believes "robots will go inside our brain and

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