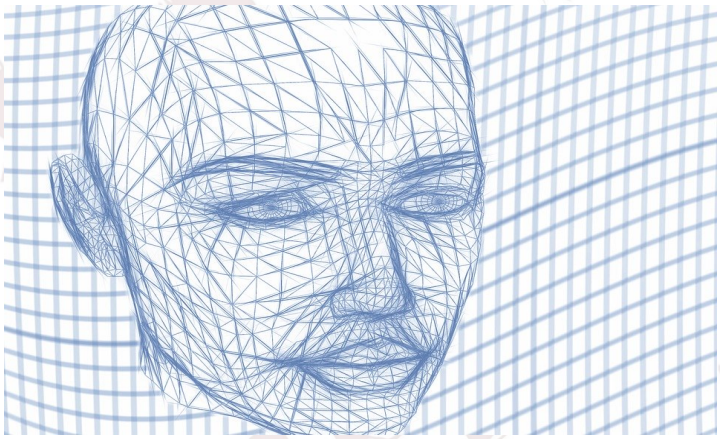
Artificial intelligence: the new normal

In the Covid-19 reality where even simple tasks are becoming increasingly digitized, we are made aware of the necessity of a 'digital existence'. In the 'dystopian future' that we are living in, this comes as no surprise.

Let us however imagine an alternate scenario at the very beginning of the Covid-19 crisis; imagine being able to map, track and predict the spread of Covid-19. Could we have prevented this disastrous pandemic? An advanced AI system will be able to do just that: process large amounts of complex, varied data sets to make accurate and fast predictions. All the nodes where the data points interact with each other would be scrutinized and an 'intelligent' model of action would be proposed depending upon our required outcome. This is not just true for spread of infectious diseases; complex data sets include locust attacks, global warming and weather patterns, analysis of biodiversity in systems and surprisingly enough: our thoughts.

Development and applications of AI systems are gaining momentum. It would be worth to note that neuroscience and ecology are the two fields that are perhaps benefitting the most from this.

In the human brain; billions of neurons interact by two major ways: binary firing and re-arrangement. As you are reading this article, your neurons are rapidly generating electric potentials and changing their network to result in what would be entirely unique to you. AI essentially allows us to 'hack' the neural networking. By 'loading' intelligent reasoning and cognises into artificial neural networks, neuroscientists will be able to tackle most of the medical cases involving poor functioning of our neural system. Whether it is neuro-motor diseases or mental health issues; AI developed neural networks might be our panacea. While this opens unexplored avenues of questionable practices such as mind control, controlling dreams and imagination among others, we cannot deny the eventual dependence of humans on AI rather than physical alternatives like medicine.



AI in ecology is also much-talked about. While neuroscientists are trying to understand the reason why we dream, why we are capable of imagination, etc... Ecologists are resorting to AI to look for sustainable conservation models that can provide solutions to Global Warming, Biodiversity waning, alternate farming practices and development models.

Take the emerging branch of 'Climate Informatics' ,for instance, where AI is employed in analysing complex weather patterns without biases in model generation that would drastically improve the accuracy in data science practises. Equipped with AI systems, your laptop could be your 'supercomputer'; rendering research affordable and accessible to such an extent will accelerate development in the field exponentially. Apart from making accurate predictions based on complex, 'real' models, AI can also identify tipping points/extreme events to scales unfathomed previously. This comes in handy when we seek to combat loss due to natural disasters. Not only will we be able to predict the event but also be provided with 'quick and smart models' to handle the crisis with maximum efficiency. This idea penetrates even into conservation strategies where AI can help identify trends in 'disappearance' of

various species taking into consideration all the factors relevant and suggest methods to conserve them. These predictions can be made way before the actual event to improve our responses.

The use of AI in automated vehicles is also of paramount importance to the environment. By reviewing traffic patterns, enabling fuel optimisation, monitoring exhaust releases and coordinating with other intelligent systems, an 'intelligent vehicle' can bring down the pollution by a significant rate. The idea can be extended to 'smart cities' where automated systems coordinate with each other to monitor parameters such as electricity usage, water usage/waste ratios, traffic and vehicle exhaust levels, amount of green cover, etc and find trends in the lifestyles, culture, age, gender, etc of populations to optimise pollution mitigation measures by making it more customised to the population and thus more feasible.

AI when incorporated into our satellites for 'geo-mapping' can track various pollution trends, deforestation, poaching, carbon footprints, industrial activity among other things to suggest an environmentally and economically feasible course of action for the future. Much like the smart cities, this can be tailored according to countries, development indices, biodiversity and topological features.

Of course, it would be worth to note that AI systems can learn from experience and from each other; it wouldn't be a surprise if there are unexplored utility values of AI systems that come from the system's own suggestions.

If these prospects seem ostentatious and flamboyant, we must remember that two months ago, no one had even imagined of the possibility of a pan-India digitized leaning....yet, look where we are now!

Some interesting questions to ponder upon when it comes to the applications of AI: Can we 'induce' morality in humans to conserve the environment? Can we analyse criminal behaviour and terminate its underlying cause? Can we substitute anti-depressants with neural re-wiring? Can we have successful and quick de-addiction sessions to eradicate alcoholism, smoking, etc? Can we solve the big conversation around consciousness? Will we understand the purpose of existence?

While some of these questions are being answered right now, there is lot of room to work on the others with the advent of AI as a 'new normal'. With governments and global communities abandoning the 'arms race' and 'space race' for the new 'Digital Race' headed by the development of AI, we might get intertwined with the many moral, social and economic discussions around this new field of study. Nevertheless, AI is the new poster boy of the scientific community and shall soon revolutionize not just life on Earth but the very definition of life.

Source: https://www.nature.com/articles/d41586-019-02212-4
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