

What you need to know about AI in 2020



By [Avsham Bachoo](#)

17 Jan 2020

Artificial Intelligence (AI) is the ability of computers to learn, gain experience and make decisions, just like humans. Learning to read is a useful analogy: when you begin, you first learn the alphabet. You then make patterns with letters of the alphabet to form words, and then sentences.



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Similarly, AI exploits common relationships in data, using algorithms. When AI systems are built, it involves collecting as much data as possible from human behaviour in the real world. Data is any information from facts, figures, numbers or models.

Similar to making inferences, AI works by looking for patterns in data and then reusing the patterns in other data sets. It is used in a variety of applications from self-driving cars, robotics, IoT, Google home and Alexia, and even in your email 'out of office' settings.

AI will both positively and negatively affect the job landscape, and policymakers will have to step up engagement

Transportation and healthcare are the two industries most frequently cited when it comes to AI, but they are far from the only ones.

In general, AI will generate substantial economic and social benefits. That said, it is likely to bring both positive and negative changes to human employment, and will affect demographics differently; we still don't fully understand how much the job landscape will be adversely affected.

As Brookings Institute recently noted, ATMs eliminated the jobs of bank tellers, but bank employment is up because the savings were used to open new branches that required more customer service representatives.

Fearmongering about AI is likely overstated, as we have learned from the lessons of earlier tech revolutions, such as the printing press or the telegraph line.

Nonetheless, we can expect to see policymakers globally grappling with how to reap the benefits of AI at the same time as setting precedents for responsible use, and preparing society for any problematic repercussions. 'Redeployment' rather than 'unemployment' is what we should be thinking about.

Debates over AI ethics will grow more fierce

The spread of AI is commonly referred to as the newest industrial revolution. It has plenty of positive potential - for example, identifying images of missing children even as they age. But as AI continues to rapidly infiltrate different facets of our daily lives, we are allowing this technology to make various types of sensitive decisions, for example, in recruitment/assessing a person's suitability for a job, criminal justice and credit approval. This has stirred a fierce global debate on AI bias, and we can expect the debate to heighten in the year ahead.

AI will continue to replicate bias and prejudice

Not a week passes without an AI ethical misstep by big tech companies.

For example, Amazon was recently called out when its AI recruiting tool showed bias against women, whilst Google Photos showed bias against certain ethnic groups, and a ProPublica investigation revealed implicit biases in courtroom algorithms that resulted in harsher sentences for people of colour.

Most AI systems try to emulate human behaviour. Because AI looks for patterns in data, and societal discrimination such as racism, favouritism or sexism are identified and then projected into the data sets.

For instance, if AI had to select a candidate for a CEO position, and if the sample data (typically historical data) contains very few females, then the AI system will not likely select a female, regardless of qualification or experience.

This scenario would also apply when selecting a (male) nurse if the data set contains mostly female candidates. The reality is that AI is not inherently biased. It doesn't care whether it's right or wrong; it simply makes logical decisions based on the data provided. The world is biased, hence the data is biased.

AI simply mirrors human behaviour in society and as a result, maybe inadvertently entrenches existing human prejudices

when it comes to race, gender and other factors. Listen to my interview about this on Talk Radio 702 as well. With this in mind, we need to work towards ways of guarding against bias in AI.

Impartial data models for AI still lie out of reach

How do we solve the problem of bias? There is no silver bullet. If we want AI to be unbiased, we need to create impartial data models. But this is far easier said than done. When humans make decisions, they use more than just logic. Humans have attributes such as emotions, personalities, thoughts, beliefs and free-thinking that affect decision making.

For objective AI, we have to create aspirational data models that emulate many of these human attributes, so that AI can ultimately make its own unbiased decisions.

At present, AI companies still have too little expertise in this area. In addition, further controversy arises because if we imply that AI is becoming sentient and human, it opens another debate on what ethics and rights to apply to these artificial beings.

AI progress may slow down in applications where trust and safety are important

Regardless of AI advances, people still fundamentally lack trust in AI decisions. Societal trust in AI depends on understanding how conclusions are reached, and AI is still fairly new and unfamiliar to most people. Even when it is logically explained, AI's decision-making process is usually too difficult for most people to understand.

When people don't understand something, it creates trust issues and makes them feel like they have lost control.

For example, most AI systems use neural networks - algorithms modelled around the human brain - to recognise patterns in data. However, it is complex and difficult to identify the root cause of neural network mistakes in health applications, such as overlooking cancer in an image. This reduces trust and could slow the future progress of AI.

ABOUT AVSHARN BACHOO

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