https://theconversation.com/why-a-computer-will-never-be-truly-conscious-120644

This article talks about why a machine will never be conscious and I disagree with the fundamental argument of the article.

The central argument of the article is that the brain integrates and compresses multiple components of data from an experience, such as sight, sound, smell, etc. and that is something that cannot be handled in the ways that computers store and process data. I think this argument is flawed because, even though we currently do not have the sense of smell, senses like sight and sound are something machines can perceive, and understand the semantics better than humans in some cases (like GPT-3). I believe that consciousness is not something that is biological, but instead it is something functional. It is the ability to know about one's inner working and have knowledge about one's surroundings. These together make a being (biological or not) conscious.

Researchers at Columbia University built a robot arm [1] that can "imagine itself" and the research paper published supports the possibility, and frankly inevitability, of self aware machines. Furthermore, human intelligence and consciousness outside of introspection and self awareness, in my belief, comes from our ability to adapt to a variety of novel situations and infer information and make connections between different stimuli we observe. A recent paper by Dileep George talks about Recursive Cortical Networks [2] as a type of deep learning architecture that is modeled after the visual cortex of the brain. At a high level, this architecture is different from generic neural networks as it can infer information. This was demonstrated by its performance on CAPTCHA's (the characters you enter on a website to try to convince them you're not a robot). This was a real breakthrough since it inferred information about the missing parts of characters in the CAPTCHA and filled in the missing pieces itself (they found this out by seeing the output of the network at various different layers). This not only demonstrated inference, but also showed creativity (which is also something that AlphaGO showed for the very first time).

Machines have also shown the ability to adapt as shown by DeepMind's AI that beat 49 Atari video games [3]. It learnt to play each video game itself without being given any external directives on the game objectives, rules or controls. It just learned to play the game by playing the game. This happened in 2015….

I do strongly believe that machines can, and will inevitably, gain consciousness and even surpass human level intelligence. But then again, I am just a 21 year old kid, what do I know?

1. https://www.engineering.columbia.edu/press-releases/lipson-self-aware-machines
2. https://www.biorxiv.org/content/biorxiv/early/2018/07/30/380048.full.pdf
3. https://www.theverge.com/2015/2/25/8108399/google-ai-deepmind-video-games