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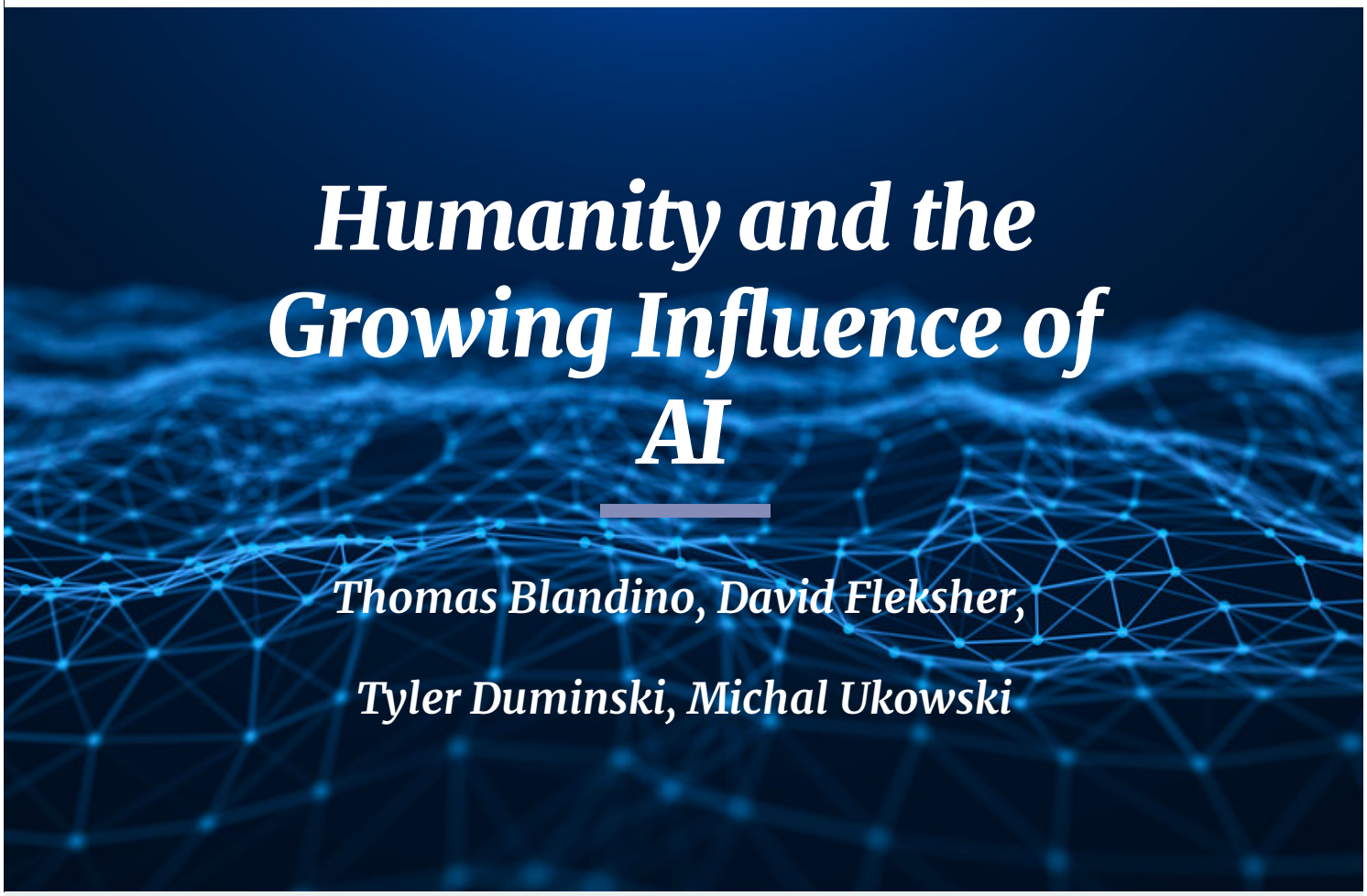

Humanity and the Growing Influence of AI

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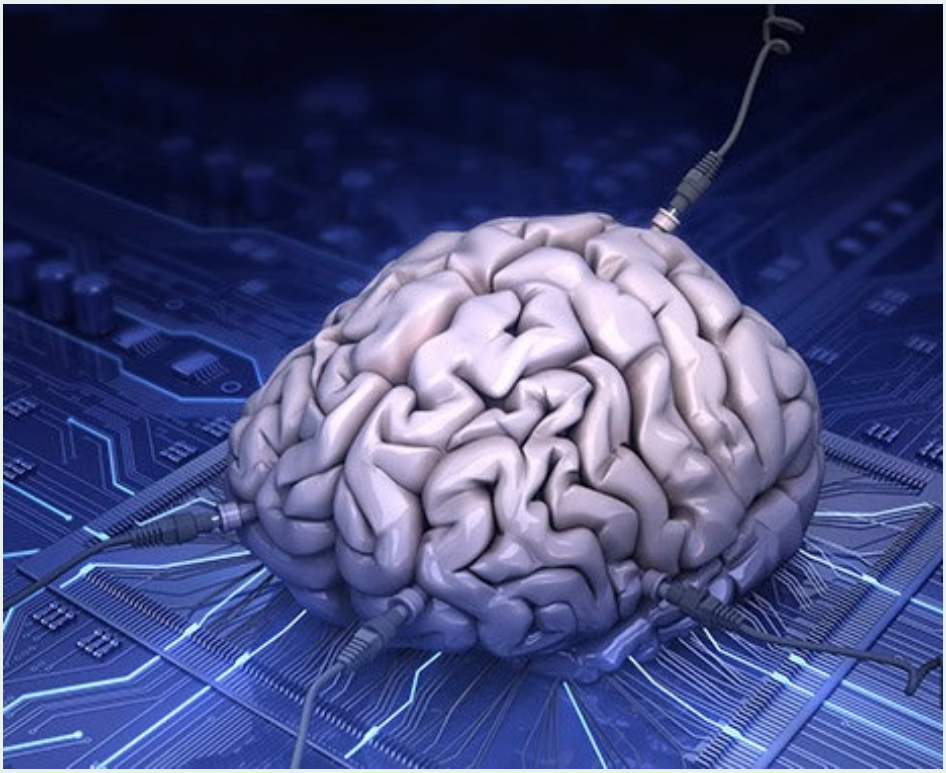

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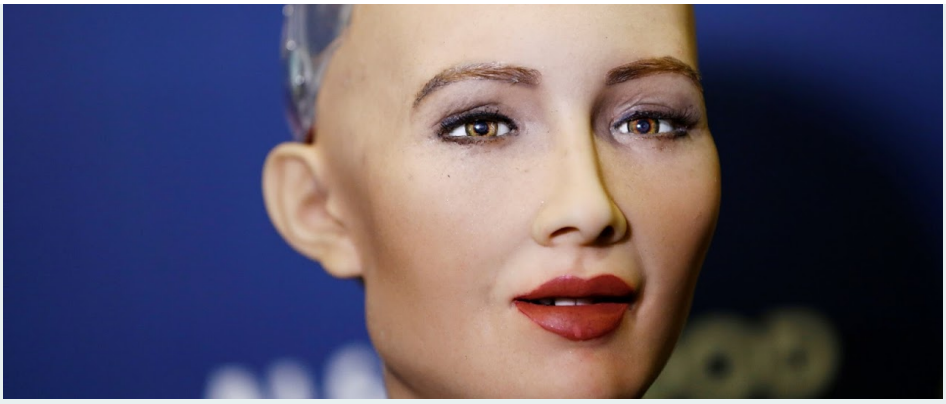


1). How are Robots Becoming More and More Human-like?

Issac Asimov's Three Laws of Robotics

1. A robot may not injure a human being or, through inaction, allow a human being to come to harm.

2. A robot must obey orders given it by human beings except where such orders would conflict with the First Law.

3. A robot must protect its own existence as long as such protection does not conflict with the First or Second Law.

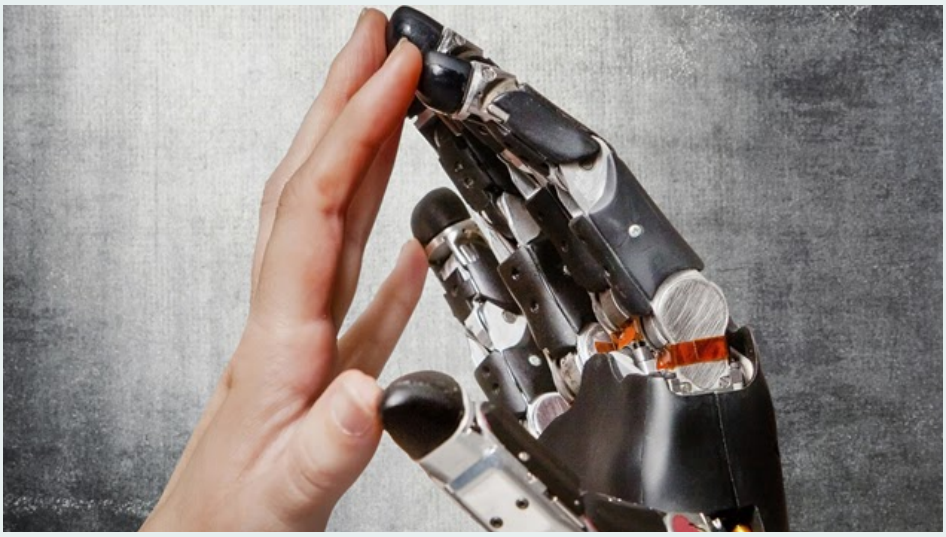
Sophisticated, human-like robots are now serving as platforms for the latest AI tech.

The question that is asked today is should AI robots have the right to citizenship?

This calls into question whether they or their creators can be responsible for their actions.Sophia is slightly unsettling in appearance and performance. Sophia has cameras in her eyes, the ability to mimic human facial expressions and carry on a conversation.

Robotics say they are choosing the human form for both social and technical reasons. Robots that operate indoors, in particular, must be able to navigate a world full of handles, switches, levers and doors that have been designed for humans.

"human-like" as they upgrade and develop the still relatively new technology.



2). Humans Taking Artifical Body Parts? What's the Limits?

Humans have been developing and using artificial limbs and organs for a very long time now. One of the many early examples is an artificial heart which acts as a replacement to the real thing if damage occurs.

Another example of artificial limbs is a more simple one. Appendage replacements like arms or legs. War veterans or other people who were in unfortunate accidents can be seen wearing prosthetic legs or arms, however the technology is advancing further and further as time goes on. Robotic arms are now being developed and are actually able to sense touch and other sensation.

Other limbs that are being replicated are eyes, noses, and even vital organs like a pancreas or lungs.

The eye for example, a Manchester man has had macular degeneration at the age of 80, and he was given a pair of glasses which help the optic nerve see.

The artificial lugs are still in the testing phase but were

the vital areas of where our lungs connect.

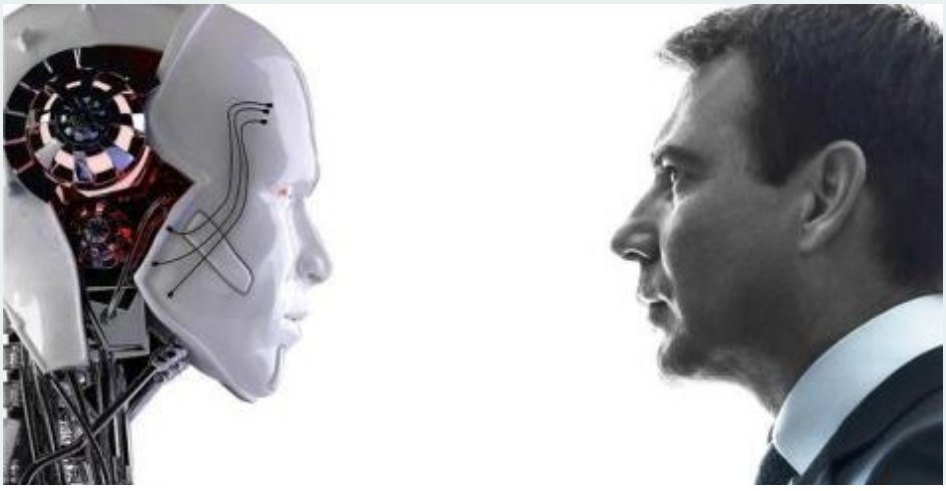
We are also using computers to connect with our brains. The BCI (Brain Computer Interface) is a input method that uses brain waves to act as an input device for computers or other software. In the medical field, it is used for neurorehabilitation.

However there are limits to how far we can push this. Some artificial limbs are not advanced enough for some tasks we have to perform. According to an Ingenia article, an example can be artificial legs being inefficient when walking down a ramp. The overall control of the leg is limited and patients report they have to use more force to use their new limbs compared to their original ones.

3). Are We Becoming Machines as Much as Robots are Becoming Humans?

- What separates humans from robots is our basic intelligence

- Autonomy and Free Will. Environment influences but does not control day to day life style.
- What raises such concern about this, is our inability to disconnect as we are becoming more "automated" than ever.
- We acknowledge how every day we come closer and more fluent in our technological use, but are we becoming more technical with each day that passes?
- Interpersonal relationships between humans are a key aspect to human existence
- While there are a number of jobs and actions that robots can replicate to an extent, there is an environment called creative economy, which refers to jobs that require creativeness or creative features to form a connection with cognitive abilities.
- “Emotion is something we reserve for ourselves: depth of feeling is what we use to justify the primacy of human life. If a machine is capable of feeling, that doesn’t make it dangerous in a Terminator-esque fashion, but in the abstract sense of impinging on what we think of as classically human.” Writer for the video game, "Detroit, Become Human"
- Empowering artificially intelligent bots/robots to think and behave like a human could prove to be detrimental to the society for human thinking is often influenced by emotions, triggered by experiences, and rarely disinterested.



4). What Separates the Future of Humans with Robots?

This is a question that is becoming increasingly interesting to answer as our tech knowldge is vastly increasing by the minute.

• A recent PWC report predicted that three out of 10 jobs in the UK would be lost to AI.

• While AI certainly helps consumers to find more of what they like, can AI do more than recommend books and music? Can robots create stories, compose melodies and even produce works of art?

• Humans have many roles specifically as movie producers and writers. Is the next futuristic movie going to be directed by an AI robot?

• What about emitons. Everyone goes through a series of emotions in life, but can an AI robot feel that same emotion and be emotional?

• Could an AI robot play a musical instrument, be a director of a band, sing songs for a crowd?

This section is from the Huffington Post article:

"In humans, empathy is felt due to the action of mirror neurons. In the empathetic observer these are the same neurons that fire whether witnessing the action of another or performing the action themselves, thereby 'mirroring' the same behaviour in the observer. This system of imitation learning is believed to underpin how humans feel empathy and understand emotions."

• This discovery from the Huffington Post article suggests that eventually AI too could learn to read the emotions of humans and react appropriately. Currently, the closest we have to empathetic robots are chatbots like Koko, that give

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will-ai-robots-like-sophia-become/

- https://www.huffingtonpost.co.uk/dr-mike-lynch/what-separates-humans-fro_b_16382878.html
- https://towardsdatascience.com/artificial-intelligence-vs-humans-why-the-slave-could-soon-become-the-master-71cf833ca126
- https://www.theguardian.com/technology/2018/jun/27/being-human-realistic-robots-google-assistant-androids
- https://qz.com/740401/instead-of-asking-are-robots-becoming-more-human-we-need-to-ask-are-humans-becoming-more-robotic/
- https://www.ingenia.org.uk/getattachment/Ingenia/Issue-68/Intelligent-prosthetics/intelligent-prosthetics.pdf
- https://www.inlander.com/spokane/within-breathing-distance/Content?oid=2186636
- https://www.nationalgeographic.com/magazine/2017/09/explore-health-robotic-arm-senses-touch/
- https://gajitz.com/he-robot-worlds-first-bionic-man-breathes-talks-walks/
- https://www.theguardian.com/science/shortcuts/2015/aug/25/appliances-science-bionic-body-parts-used-reconstruct-humans
- https://www.theguardian.com/uk-news/2015/jul/21/bionic-eye-pensioner-manchester-vision-restored
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