




Weekly Ethicacy Neuralink

By Daniel Moscoe and Jack Padalino

What is Neuralink?

- A neural implant that can detect and generate electrical signals in the brain.
- An advancement of previous neural implant technology.
- An accompanying minimally invasive implantation procedure, carried out by robot.
- Reading/writing/information/bandwidth vs. recording/stimulating.

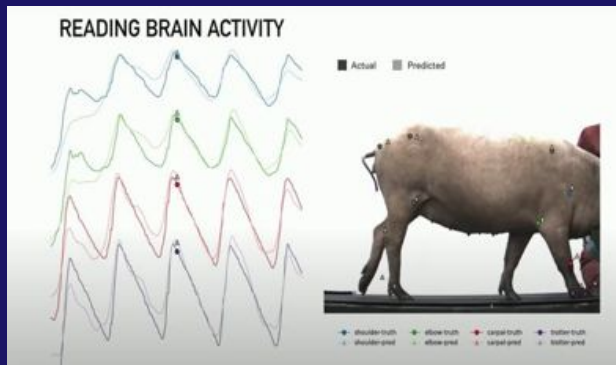
What is Neuralink?

- 
- Pretty good at “reading” from certain regions of the brain. (Predecessors used fewer electrodes, caused greater damage to surrounding tissue)
 - Not so good at “writing,” as distinguished from “stimulating.” (Predecessors are deep-brain stimulation, such as used in Parkinsons patients)

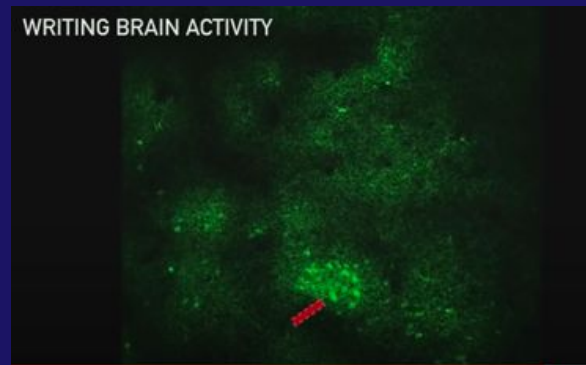
How's it work?



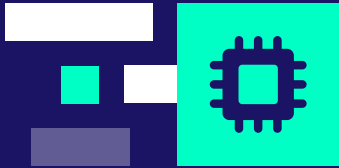
Read



Write

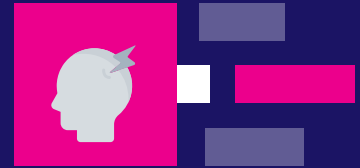


Potential uses – short term

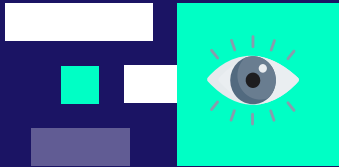


Paralysis - Patients
control electronic
prosthetics

Paralysis - Patients
control parts of their
own body

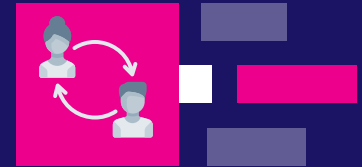


Potential uses – long term



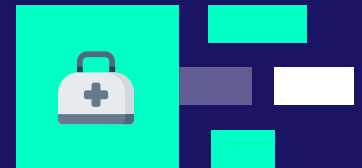
Curing blindness

Voiceless
communication
between humans
(telepathy!)



Enhanced memory and
cognition

“Healthy individuals
would want to have
them.”



Poll

- ☐ A. Full steam ahead. When and where do I get one?
- ☐ B. Interesting! Bt we need to be very cautious about this.
- ☐ C. We should not be meddling with this.

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Time to Climb



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Collaborate Board

Prompt 1 - Access

Let's assume Neuralink were a fully developed technology. What do you think access to this kind of technology would look like when it is first introduced. How do you think our society would be affected by that access?

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Collaborate Board

Prompt 2 - Telepathy?

Let's assume that Neuralink allows for full, voiceless communication between users. What could be some effects of this kind of innovation (good or bad)?


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Commentary – Favorable!

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- Musk: “In principle, [Neuralink could] fix almost anything that is wrong with the brain.”
 - “We’re already a cyborg, to some degree... It’s just that the data rate to the electronics is slow... Increasing the data rate can improve the symbiosis that is already occurring between man and machine.”

Commentary – Unfavorable!

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- A decorative graphic on the left side of the slide. It consists of several horizontal bars of varying lengths and colors (red, blue, green, yellow, and grey) stacked vertically. To the right of these bars is a large, stylized, light blue bracket that spans the height of the bars.
- “Brainjacking”
 - User data / privacy concerns
 - Moral / legal responsibility for human + tech-executed actions (what if Link misunderstands your intention?)
 - High cost of opting out

Resources

- <https://youtu.be/Gqdo57uky4o> (“Elon Musk Reveals New Details About Neuralink, His Brain Implant Technology”)
- <https://youtu.be/CLUWDLKAF1M> (“Neuralink: Elon Musk’s entire brain chip presentation in 14 minutes (supercut)”)
- <https://www.theverge.com/2020/9/29/21493224/elon-musk-neuralink-neuroscience-brain-machine>
- <https://www.scientificamerican.com/article/elon-musks-secretive-brain-tech-company-debuts-a-sophisticated-neural-implant1/>
- <https://www.theguardian.com/science/2019/sep/22/brain-computer-interface-implants-neuralink-braingate-elon-musk>