Brain-Computer Interfaces: Where Are We Headed?

One globe, seven continents, and 195 countries. Despite so many distinctions, all of the people living here are unified by one thing: the human brain.

The brain is a complex organ, and we are still learning more and more about it. Yet the research being done and the technology being developed poses an unparalleled dilemma: is this all ethical?

One of the largest concerns neuroethics presents is managing data created by neuroscience research. This research could give us insights into topics like human consciousness or market trends. The data has significant value, but people have little choice in determining how their data is used and whether or not they wish to provide it.

However, it should be our decision whether to release this data or not. Being in control of the data we produce is a matter of our independence.

And in a world where our data is constantly mined by tech companies on social media and online applications, taking ownership of our data will set a precedent for future generations.

Now, onto our topic: brain-computer interfaces, also known as BCIs. BCIs can interact with the signal produced by a human brain, measuring it quantitatively. It can also act as an intermediary neuron that passes electrical signals throughout the rest of the body.

The idea almost seems like a cyborg from a science fiction movie: part human, part robot. Where these two meet, well, that's where many ethical debates stem from: it brings into question ideas like autonomy and personal responsibility.

BCIs can be used to cure neuromuscular disorders and give the patient the ability to control their muscles. But as technology controls more of our life, is it the user that possesses this ability, or is it the BCI? Does liability fall upon the user or the technology?

The effects can be especially catastrophic if the user is performing a dangerous task such as driving a car or handling a saw. Extensive testing needs to be done, and restrictions need to be placed on the range of activities that can be performed to ensure that the user is safe.

Invasive or not, if the technology is unable to perform under all circumstances, the user cannot be liable for any damages that result.

BCIs could redefine what it means to be human. The separation between the human and technology will become exponentially smaller as BCIs become more and more widespread.

As this happens, legislation that relies on this definition will have to be changed. Insurance premiums will have to be recalculated, test scores in classes will need to be weighted differently, you get the point.

Lastly, the socio-economic differences that exist in society today will most certainly be exacerbated by the use of BCI's.

Underrepresented communities will not have the same access to BCI's as a wealthy person would. The upper class could transcend their class status altogether and use BCI's to enhance themselves, leaving other groups of people at a disadvantage.

This difference could be seen when people compete for a job or in sports. Given the for-profit business models of tech companies today, BCIs, like other tech, will primarily benefit the wealthy.

And so, devoting resources towards the development of BCIs for social good needs to be a point of emphasis.

This is why we need ethics, because ethics creates boundaries, boundaries we need to enforce what's best for us.

And that's the thing, anyone can have a voice in deciding what these boundaries are. It's our responsibility to decide what role we want technology to play in our lives. Because, ultimately, if we don't start asking the hard questions, someone else will answer them for us.

BCI technology has the potential to impact millions of people in the future. The circumstances that dictate how they are to be used, however, need to be decided right now, to ensure that BCIs are headed in the right direction. Thanks for watching.