

Musk's superhuman vision promise is dangerous: Researchers

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Researchers have criticized billionaire Elon Musk for promising that his brain implant technology could eventually provide patients with vision superior to normal human sight.

Musk has long promised that his Neuralink company was working on



implants that could restore sight to blind people, telling his 190 million followers on X in March that the product would be called "Blindsight".

He said the product was already working in monkeys, adding: "Resolution will be low at first, like early Nintendo graphics, but ultimately may exceed normal human vision."

But Ione Fine, <u>psychology professor</u> at the University of Washington, said it was "a dangerous thing to say".

Fine co-authored a paper published Monday in the journal *Scientific Reports* that used models known as "virtual patients" to simulate how such implants could work.

The article argues that the impact of novel implants including Musk's are likely to be limited by human biology.

Fine said Musk's idea rested on a flawed premise that high-resolution vision could be created by implanting millions of tiny electrodes into the <u>visual cortex</u>, the region of the brain that processes information received from the eye.

"Engineers often think of electrodes as producing pixels, but that is simply not how biology works," she said in a statement.

Creating an image in the brain involves not only stimulating individual cells in the way an <u>implant</u> can do, but also then generating a "<u>neural</u> <u>code</u>" that fires across thousands of cells.

She said scientists were not even close to finding the correct neural code in a blind person—meaning the impact of implants would be limited.

"Blindness doesn't make people vulnerable, but becoming blind late in



life can make some people vulnerable," she said.

"So, when Elon Musk says things like 'this is going to better than <u>human</u> <u>vision</u>', that is a dangerous thing to say."

More information: Ione Fine et al, A virtual patient simulation modeling the neural and perceptual effects of human visual cortical stimulation, from pulse trains to percepts, *Scientific Reports* (2024). DOI: 10.1038/s41598-024-65337-1

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