Lifewire

How AI Is Learning to Read Your Thoughts

Brain scans are giving you away

by Sascha Brodsky Published March 23, 2021 03:00PM EDT

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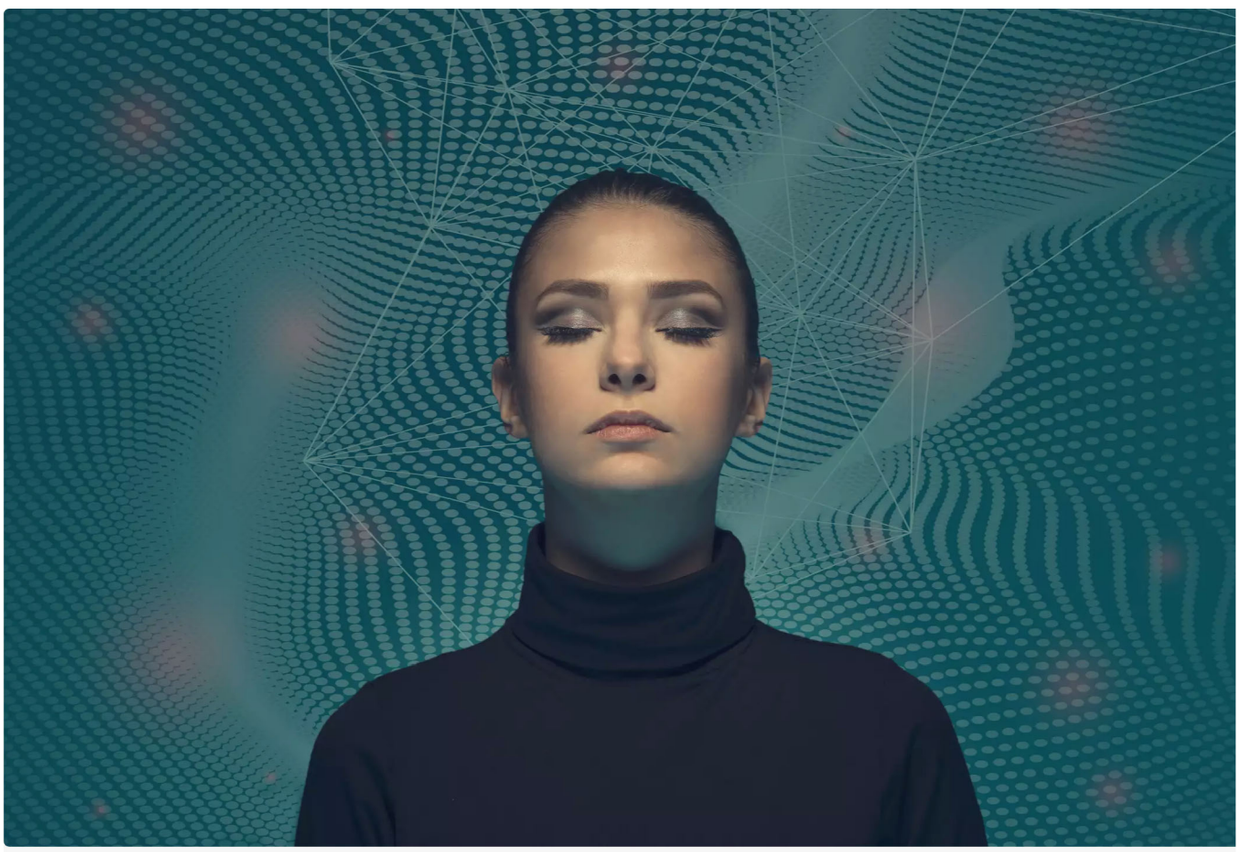
Key Takeaways

- Researchers are working on ways for computers to understand human thoughts.
- Artificial intelligence can discover who you're attracted to by examining brain scans, researchers claim.
- Current AI technology can learn from how traders behave in the financial markets and see what signs indicate that a stock is attractive to investors.



Francesco Carta fotografo / Getty Images

Computers one day could read your mind, making everything from online dating to video games a lot easier, experts say.

Artificial intelligence (AI) can discover who you are attracted to. A computer program could generate images of faces it knew certain users would find attractive by examining brain scans. It’s part of a growing effort to build computers that can understand our thoughts.

"Such a system might be used to select the content to be catered to a given user," Radek Kamiński, CEO of nexocode, a company that focuses on AI implementation and consulting, said in an email interview. "For example, we are likely to see personalized ads with both content and presentation optimized based on implicit and explicit signals collected from you."

Celebrities Attract the Brain

The AI, developed by a team from the University of Helsinki and University of Copenhagen, was designed to generate mock photos of faces. The researchers trained the system with 200,000 images of celebrities shown to 30 study participants, whose brain activity was monitored using electroencephalography, a way of measuring electric signals in the brain. There was an increase in brain activity when participants were shown a picture of a face they found attractive.

Some AI systems already available are trying to predict our thoughts without measuring the brain. For instance, AI technologies can learn from the way traders behave in the financial markets and see what signs indicate that a stock is attractive to investors.

"Similarly, today’s AI technologies can determine whether a company is attractive to its current employees," Jacob Sever, co-founder of Sumsub, a startup that provides companies with AI-driven identity verification tools, said in an email interview. "It can evaluate the person's actions in the office to see if they are ready to quit."

Facebook and Google both already have AI that can measure attraction based on your engagement, noted Matthew Armstrong, chief operating officer of Deepfakes, an AI-driven deepfake generator app, in an email interview.

"For example, Facebook knows whose profiles you are looking at and will start to show you more people in your feed who look similar based on their computer vision AI," he added.

> "Such a system might be used to select the content to be catered to a given user."

If it becomes available, AI that uses brain scans likely would be used for profit, Armstrong said.

"By increasing the attractiveness of people in ads, large advertising companies like Google and Facebook can expect higher click-through rates and more engagement on their platforms," he added. "It is also likely that nefarious actors can use this technology to exploit people by presenting you with a face you find highly attractive and then requesting money or other valuable information."

AI That Thinks Like Us

Instead of having computers read our thoughts, AI could become more like human brains, Manjeet Rege, the director of the Center for Applied Artificial Intelligence at the University of St. Thomas, said in an email interview.

"There are some structural similarities between certain aspects of the brain and a neural network," Rege said. For example, Rege noted that human visual and neural networks process images through different layers. And yet, despite that similarity, we still don’t really know how the human brain functions.

But getting AI to work like the brain is incredibly complex, experts say. Studying the brain, including the billions of brain cells, is comparable to examining the billions of stars in the sky, Pascal Kaufmann, president of AI organization Mindfire, said in an email interview.

"If you are too close, brain cells seem like chaotic devices," Kaufmann said. "If you are too far away, the brain tissue is daunting as it is the most complex structure we know."

Despite decades of slow progress, researchers are getting closer to understanding how the brain works, and the results could pay off in better computers.

"Understanding the principles of intelligence can be the ultimate booster to human progress," Kaufmann said. "And it could open an era of completely new applications."