

CNN News Highlights — Can AI Read Your Mind?

1) AI algorithms	2) fMRI	3) major breakthrough	4) mind reading	5) neuroscientists	6) thumbs up
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You're reading people's minds? So we don't like to use the term _____.

These _____ at the University of Texas in Austin say they've made a _____. They've figured out how to translate brain activity into words using artificial intelligence. These are different images.

Earlier this month, they published a paper explaining how they had researched. Volunteers listened to audio clips while having their brains scanned by an _____ machine. Over time, _____, the very same tech that's behind ChatGPT, were able to figure out what the volunteers were listening to just by watching their brains.

It is just crazy. You can watch how blood flows through the brain. And using AI and GPT and everything else to translate it into words? Yeah, it's wild that this works when you put it that way. _____, Donie.

To test it all out, Professor Alexander Huth and I had our brain scanned while listening to parts of The Wizard of Oz audiobook. Hi, Donie, we have a picture of your brain.

1) brick	2) decoder	3) groan	4) predict	5) scanned	6) startled
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I have a brain? Yes. It looks good. I was _____ first, followed by Professor Huth, capturing images of the changes in our brain's blood flow as we listened to the words from the audiobook and showing how our brains interpreted those words. When she had finished her meal and was about to go back to the road of yellow _____, she was _____ to hear a deep _____ nearby.

You can see that they're getting recordings every two seconds while he's listening to a story. We will feed this data through our _____ and try to _____ the story that he's currently listening to. The next morning, the results were in.

OK, so it's been 24 hours since we got our brain scanned. You can confirm I have a brain? Absolutely. Brilliant.

So we were able to decode some stuff from my brain, not so much from yours. So this is one from my brain. This is from The Wizard of Oz. So on the left side is the actual words that I heard. When she had finished her meal and was about to go back to the road of yellow brick, she was startled to hear a deep groan nearby.

1) incredible	2) model	3) phrases	4) specific	5) trained	6) versus
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And the decoded version of this is on the right. I was about to head back to school and I hear this strange voice calling out to me. So it gets some things right. So this like, was about to go back, was about to head back. It completely misses some things like the road of yellow brick _____ school, but then it gets this nice kind of example. So she hears something and then instead of a deep groan nearby, it said a strange voice calling out to me. That means something related, even if it's not exactly the right words. Still pretty _____ to think that was about to head back as something that was just about to head back is something... just by scanning your brain.

Yeah, I think that's one of the things that's really surprising to us about this. It can get things like that, can get these entire _____ of exact words now. So we expected mine not to be great? Because we haven't _____ the _____ on you. The reason it wasn't able to decode my brain was because the technology currently needs people to sit in the fMRI machine for more than 16 hours, so the AI models can train on _____ people's brains.

1) constructed	2) currently	3) large language model	4) neurosurgery	5) potential application	6) rule it out
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Are we going to live in a world where, you know, I can walk by somebody on the street and they'll be able to hold something up to my head and they'll know what I'm thinking?

_____, we're very far from that. That might also never be possible. We can't completely _____, but as far as we know, that certainly won't be possible in the next few decades. The real _____ of this is actually helping people who are unable to speak without them needing to get _____.

Now, we have this, like, snapshot of the brain. And Jerry Tang explains how they used OpenAI's GPT _____ to help decode the brain. The GPT model is made up of millions of pages of text from the Internet that the AI trains on and learns how sentences are _____ and how people talk and think. GPT basically made our predictions a lot better. But it doesn't just work listening to audio. Professor Huth showed us what happened when he watched a movie with no sound while his brain was scanned. Watch as the technology is able to decode what his eyes are seeing.

1) description	2) dystopian	3) enacting	4) evaluate	5) implications	6) lips
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She then took my hand and held it to her _____. She kissed it. I smiled. Oh my God.

And she put me in for a hug. I got her back for about hours. I had to stop the bleeding and gave her my shirt to put over it. It's pretty good. I don't know. It's a pretty good _____ of what was happening here.

Wow. Should we be scared by the work people like you are doing? We think it's really important to continually _____ the _____ of brain decoding and also to start thinking about _____ policies that protect mental privacy and regulate what brain data can be used for. Mental privacy — a rather _____ term, but one that we're going to be getting more used to as we enter this age of artificial intelligence. Back to you.

Translation

你在讀人的心思？所以我們不喜歡使用讀心這個詞。

德克薩斯大學奧斯汀分校的這些神經科學家表示，他們取得了重大突破。他們已經想出如何使用人工智能將大腦活動轉化為文字。這些是不同的圖像。

本月早些時候，他們發表了一篇論文，解釋了他們是如何進行研究的。志願者在用 fMRI 機器掃描他們的大腦時聽音頻剪輯。隨著時間的推移，人工智能算法（與 ChatGPT 背後的技術完全相同）能夠通過觀察志願者的大腦來弄清楚他們在聽什麼。

這太瘋狂了。您可以觀察血液如何流過大腦。並使用 AI 和 GPT 以及其他一切將其翻譯成文字？是的，當你這樣說的時候，這很有效。豎起大拇指，多尼。

為了全面測試，Alexander Huth 教授和我在聽《綠野仙蹤》有聲讀物的部分內容時對我們的大腦進行了掃描。嗨，多尼，我們有一張你大腦的照片。

我有腦子？是的。看上去不錯。我首先接受了掃描，然後是 Huth 教授，當我們聽有聲讀物中的單詞並展示我們的大腦如何解釋這些單詞時，捕獲了我們大腦血流變化的圖像。等她吃完飯，正要回到黃磚路上時，卻聽附近傳來一聲低沉的呻吟聲，嚇了一跳。

你可以看到，當他在聽故事時，他們每兩秒就會收到一次錄音。我們將通過我們的解碼器提供這些數據，並嘗試預測他當前正在收聽的故事。第二天早上，結果出來了。好吧，我們進行大腦掃描已經 24 小時了。你能證實我有大腦嗎？絕對地。傑出的。

所以我們能夠從我的大腦中解碼出一些東西，而不是你的。所以這是我的想法。這是來自綠野仙蹤。所以左邊是我聽到的實際單詞。等她吃完飯，正要回到黃磚路上時，卻聽附近傳來一聲低沉的呻吟聲，嚇了一跳。

它的解碼版本在右邊。我正要回學校，我聽到這個奇怪的聲音在呼喚我。所以它做對了一些事情。就這樣，要回去了，要回去了。它完全忽略了一些東西，比如黃磚之路與學校之路，但它得到了這樣一個很好的例子。所以她聽到了什麼，然後附近沒有發出低沉的呻吟聲，而是一個奇怪的聲音在呼喚我。這意味著一些相關的東西，即使它不是完全正確的詞。仍然令人難以置信的是，它即將回歸。正要回頭是什麼.....只要掃描你的大腦。

是的，我認為這是讓我們真正感到驚訝的事情之一。它可以得到類似的東西，現在可以得到這些完整的短語。所以我們期望我的不是很好？因為我們還沒有在你身上訓練模型。

它無法解碼我的大腦的原因是因為該技術目前需要人們坐在 fMRI 機器上超過 16 小時，因此 AI 模型可以訓練特定人的大腦。

我們是否要生活在這樣一個世界裡，你知道，我可以在街上從某個人身邊走過，他們可以把東西舉到我頭上，他們就會知道我在想什麼？

目前，我們離那個還很遠。這也可能永遠不可能。我們不能完全排除這種可能性，但據我們所知，這在未來幾十年內肯定是不可能的。它的真正潛在應用實際上是幫助那些不需要接受神經外科手術就無法說話的人。

現在，我們有了大腦的快照。Jerry Tang 解釋了他們如何使用 OpenAI 的 GPT 大型語言模型來幫助解碼大腦。GPT 模型由來自互聯網的數百萬頁文本組成，AI 在這些文本上進行訓練並學習句子的構造方式以及人們的談話和思考方式。GPT 基本上使我們的預測變得更好。但它不僅僅適用於收聽音頻。Huth 教授向我們展示了他在掃描大腦時觀看無聲電影時發生的情況。觀看該技術能夠解碼他的眼睛所看到的內容。

然後她拉起我的手，放在她的唇邊。她吻了它。我笑了。我的天啊。

她讓我擁抱。我讓她回來了大約幾個小時。我不得不止血，把我的襯衫給了她，讓她蓋在上面。挺好的 我不知道。它很好地描述了這裡發生的事情。

哇。我們應該被像你這樣的人所做的工作嚇到嗎？

我們認為，持續評估大腦解碼的影響並開始考慮制定保護心理隱私和規範大腦數據用途的政策非常重要。

心理隱私——一個相當反烏托邦的術語，但隨著我們進入這個人工智能時代，我們將越來越習慣這個術語。



You can access this activity here:

<https://linguadox.com/2023/06/02/cnn-news-highlights-can-ai-read-your-mind/>

Answers

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Earlier this month, they published a paper explaining how they had researched. Volunteers listened to audio clips while having their brains scanned by an 2) fMRI machine. Over time, 1) AI algorithms, the very same tech that's behind ChatGPT, were able to figure out what the volunteers were listening to just by watching their brains.

It is just crazy. You can watch how blood flows through the brain. And using AI and GPT and everything else to translate it into words? Yeah, it's wild that this works when you put it that way. 6) Thumbs up, Donie.

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You can see that they're getting recordings every two seconds while he's listening to a story. We will feed this data through our 2) decoder and try to 4) predict the story that he's currently listening to. The next morning, the results were in. OK, so it's been 24 hours since we got our brain scanned. You can confirm I have a brain? Absolutely. Brilliant.

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Yeah, I think that's one of the things that's really surprising to us about this. It can get things like that, can get these entire 3) phrases of exact words now. So we expected mine not to be great? Because we haven't 5) trained the 2) model on you. The reason it wasn't able to decode my brain was because the technology currently needs people to sit in the fMRI machine for more than 16 hours, so the AI models can train on 4) specific people's brains.

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2) Currently, we're very far from that. That might also never be possible. We can't completely 6) rule it out, but as far as we know, that certainly won't be possible in the next few decades. The real 5) potential application of this is actually helping people who are unable to speak without them needing to get 4) neurosurgery.

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Wow. Should we be scared by the work people like you are doing? We think it's really important to continually 4) evaluate the 5) implications of brain decoding and also to start thinking about 3) enacting policies that protect mental privacy and regulate what brain data can be used for. Mental privacy — a rather 2) dystopian term, but one that we're going to be getting more used to as we enter this age of artificial intelligence. Back to you.