

In the news

PATTERN INTERPRETATION

Have you ever wanted to know what someone else is thinking? Well, now you (almost) can, provided you have an MRI scanner handy. Researchers from the University of California, Berkeley recently reported the ability to determine, with up to ~90% accuracy, what image a person is viewing from just their brain activity.

The group used functional MRI (fMRI) to record the activity that was elicited in the primary visual cortex of two individuals by each of 1,750 different photos. They then used computer models to decode this activation and match it to the properties of the images, such as the light contrast and the subject. Finally, they used these correlations to predict which of a set of randomly presented novel images the individuals were viewing, using only their fMRI signals.

The researchers achieved 92% accuracy for a set of 120 novel images in one of the two participants and 72% accuracy in the other. Steven Laureys, a neurologist at the University of Liege, says, "It's definitely an impressive result. It's pushing further still how we can make inferences about mental states from fMRI activity." (*Guardian.co.uk*, 5 March 2008.)

The technique represents a dramatic improvement in what can be deciphered from brain activity, and brings many exciting applications a step closer. "It could, perhaps, assist with psychotherapy, the interpretation of dreams or biofeedback," says Jack Gallant, an author of the study. (*Washington Post*, 5 March 2008.) However, John-Dylan Haynes, of the Max Planck Institute for Human Cognitive and Brain Sciences, cautions that "...it's very hard to set up models for other types of complex thoughts, such as memories and intentions." (*NewScientist.com*, 5 March 2008.)

So don't start fashioning protective hats out of tin foil just yet — actual thought reading is still a long way off.

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