

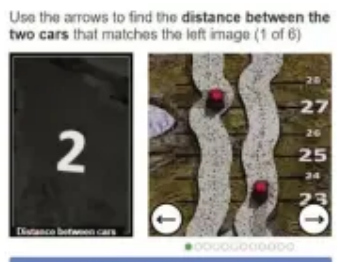
- Robots

Why have Captchas become so difficult to solve?

They're more like IQ tests than a simple check to prove you're human

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You know you're not a robot. We know you're not a robot. But the website you're trying to log into doesn't know. It has good reason to suspect you might be one of the new breed of automated programs – called bots – that can easily solve Captcha tests.



Captchas have never been straightforward. Deciphering the wiggly text of the first tests (pictured below right) often meant squinting and turning your head 90 degrees. This was beyond bots at the time, preventing them from logging in and spamming sites.

But they've evolved rapidly since then, driven by advances in AI. A study at the University of California last year found that bots solved distorted text with almost 100-per-cent accuracy. And as they've become smarter, so the tests have become trickier in response. It's a classic arms race that's left people bemused by Captchas they can't figure out.

The problem was highlighted in April by Kevin Gosschalk, head of Arkose Labs, a global security firm that designs the "strongest Captchas ever made". He told The Wall Street Journal that tests will have to get "even stranger" to combat the rise of large multimodal models. These are advanced AI systems that can understand information from many different types of data, including text, images and audio.

Crucially, they can decode wiggly and distorted text, recognise images and understand the context of a question. For example, it would know which boxes to select if it's asked to identify a fruit and is shown images of apples.

This is why the tests added images of items like buses and traffic lights that have become increasingly hard for us humans to recognise.

The Captchas created by Arkose are more like IQ tests than a quick check to see whether you're human. One asks you to move an object so it's facing in the same direction as the hand (see screenshot 1). Another asks you to find the distance between cars that matches a number 2.

Other tests ask you to click arrows to change the number of objects until it matches a number; select objects that are the same shape; and identify all non-aquatic animals.

Gosschalk says these Captchas can defeat bots because they have so many possible answers – over 1,250 in the toughest tests. The sheer variety makes it hard for bots to answer. But he also claims that they're understood by people across all languages and cultures. They

use “aesthetically pleasing images” that are large and easy to see, not blurry photos of traffic lights you have to zoom into.

Eventually bots might figure out how to answer even these. When this happens, Gosschalk says, Captchas will only be able to block bots by asking humans to do something “non-sensical”.

If so, it’s worth reminding

ourselves that Captcha stands for ‘Completely Automated Public Turing test to tell Computers and Humans Apart’.

Humans can be silly, irrational and inconsistent. Computers can’t. Will we have to behave in this manner – or maybe even get questions intentionally wrong – to prove we’re flesh and blood?

Only humans are intelligent enough to know when it’s smart to act stupid.