



Bots on Amazon's Mechanical Turk are ruining psychology studies



Crowdworkers can earn as little as \$2 an hour filling in surveys
Mats Silvan/Getty

By **Chris Stokel-Walker**

AN ARMY of bots has infiltrated crowdsourcing.

Amazon's Mechanical Turk is a crowdsourcing platform that pays people small sums to take part in menial tasks, such as tagging photos or filling out forms. Essentially it is a way to get humans to perform robotic jobs that machines can't yet manage. But now bots are starting to take on the tasks themselves.

That is a problem, because the platform is widely used by scientists as a cheap way to carry out research. Hui Bai, a social psychologist at the University of Minnesota, was using it to collect data on the perception of far-right movements when he noticed a massive spike in support for groups including the Ku Klux Klan and the Nazi party.

Digging deeper into the data, he discovered a number of responses to open-ended questions within his survey didn't have any connection to the question. Instead, they simply said "Very good" or "Very nice". Bai also found that around half of his sample of 578 responders had the same GPS location as someone else. Around 50 were supposedly logging on from a statue in Buffalo, New York. A handful of others appeared to have taken the survey in the middle of a lake in Kansas.

These strange locations are a tell-tale sign of bots taking the survey, says Bai. "I was wondering, what is going on?"

He's not the only one to have noticed such problems with data. Erin Buchanan and John Scofield at Missouri State University and the University of Missouri identified bots completing Mechanical Turk tasks around 2 per cent of the time in a separate analysis conducted last year.

We already know that gathering scientific data with Mechanical Turk can be problematic. Previous research indicates that between 14 and 18 per cent of responses to surveys posted on Mechanical Turk are fraudulent in some way. "It makes it harder to see what actually happens in your data," says Buchanan. Adding bots to the mix will only make things worse.

Bai has set up an online survey for fellow researchers to report any anomalies in their data that may be the work of bots. He has received around 20 replies so far.



Kurt Gray at the University of North Carolina, Chapel Hill, is editor of a psychology journal, where he estimates at least half of the papers he reviews include data from Mechanical Turk.

“It’s worrying you’re not observing real people making real decisions,” he says. “We’re in the business of determining how and why people act, and if we’re not looking at people, we’re not doing our jobs.”

For those that rely on Mechanical Turk to make a living, using crowdworking bots is a natural progression as it becomes harder to earn enough money on these platforms, says Kristy Milland, who runs Turker Nation, a forum for workers on the site.

“Bots are not just there to take money from academics. They’re a way to level the playing field,” she says. “They give us control over our hourly rate. They give us control over the income we make.”

Amazon did not respond to a request for comment.

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