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News

Technology

A third of scientists working in Al say it could cause catastrophe on the scale of nuclear war

MORE than one-third of artificial intelligence researchers around the world agree that AI decisions could cause a catastrophe as bad as all-out nuclear war in this century.

The findings are from a survey of 327 researchers who recently co-authored papers on AI research in natural language processing. In recent years, there have been big advances in this area, with the development of large language AI models capable of writing computer code or creating novel images from text prompts.

The survey, by Julian Michael at New York University and his colleagues, reveals that 36 per cent of all respondents think nuclear-level catastrophe is possible.

"If it was actually an all-out nuclear war that Al contributed to, there are plausible scenarios that could

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get you there," says Paul Scharre at the Center for a New American Security, a think tank based in Washington DC. "But it would also require people to do some dangerous things with military uses of Al technology."

US military officials have expressed concern about arming drones with nuclear weapons, let alone giving AI a major role in nuclear command-and-control systems. But Russia is reportedly developing a drone torpedo with autonomous capabilities that could deliver a nuclear strike.

Fears about possible nuclear-level catastrophe were even greater when looking specifically at responses from women and people in underrepresented groups: 46 per cent of women saw this outcome as possible, as did 53 per cent of people in minority groups.

The survey may even have underestimated AI researchers' concerns. Some respondents said they would have agreed that AI poses serious risks in a less extreme scenario than an all-out nuclear war (arxiv.org/abs/2208.12852).

"Concerns brought up in other parts of the survey feedback include the impacts of large-scale automation, mass surveillance or Al-guided weapons," says Michael. "But it's hard to say if these were the dominant concerns when it came to the question about catastrophic risk."

" If it was an all-out nuclear war that Al contributed to, there are plausible scenarios"

Separately, 57 per cent of all respondents saw developments in large AI models as "significant steps toward the development of artificial general intelligence". That evokes the idea of an AI with intellectual capabilities equalling those of humans. Seventy-three per cent also agreed that AI automation of labour could lead to revolutionary societal changes on a par with the industrial revolution.

Given that researchers expect major advances in Al capabilities, it is somewhat heartening that just 36 per cent see a catastrophic risk from Al as plausible, says Scharre. But he cautioned that it is important to pay attention to any risks related to Al that can impact large swathes of society.

"I'm much more concerned about AI risk that seems less catastrophic than all-out nuclear war but is probably likely, because of the challenges in dealing with the systems as we integrate them into different industries and military operations," says Scharre.

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By Jeremy Hsu

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