

Technology

Stephen Hawking warns artificial intelligence could end mankind

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Stephen Hawking: "Humans, who are limited by slow biological evolution, couldn't compete and would be superseded"

Prof Stephen Hawking, one of Britain's pre-eminent scientists, has said that efforts to create thinking machines pose a threat to our very existence.

He told the BBC: "The development of full artificial intelligence could spell the end of the human race."

His warning came in response to a question about a revamp of the technology he uses to communicate, which involves a basic form of AI.

But others are less gloomy about AI's prospects.

The theoretical physicist, who has the motor neurone disease amyotrophic lateral sclerosis (ALS), is using a new system developed by Intel to speak.

Machine learning experts from the British company Swiftkey were also involved in its creation. Their technology, already employed as a smartphone keyboard app, learns how the professor thinks and suggests the words he might want to use next.

Prof Hawking says the primitive forms of artificial intelligence developed so far have already proved very useful, but he fears the consequences of creating something that can match or surpass humans.



Stanley Kubrick's film 2001 and its murderous computer HAL encapsulate many people's fears of how AI could pose a threat to human life

"It would take off on its own, and re-design itself at an ever increasing rate," he said.



Cleverbot

Hi

Hi?

Whats up?

The sky.

What is your favorite food?

Pasta, yours?

Chocolate!

Good choice!

say to Cleverbot

CLEVERBOT

CLEVERBOT

Cleverbot is software that is designed to chat like a human would

"Humans, who are limited by slow biological evolution, couldn't compete, and would be superseded."

But others are less pessimistic.

"I believe we will remain in charge of the technology for a decently long time and the potential of it to solve many of the world problems will be realised," said Rollo Carpenter, creator of Cleverbot.

Cleverbot's software learns from its past conversations, and has gained high scores in the Turing test, fooling a high proportion of people into believing they are talking to a human.

Rise of the robots

Mr Carpenter says we are a long way from having the computing power or developing the algorithms needed to achieve full artificial intelligence, but believes it will come in the next few decades.

"We cannot quite know what will happen if a machine exceeds our own intelligence, so we can't know if we'll be infinitely helped by it, or ignored by it and sidelined, or conceivably destroyed by it," he says.

But he is betting that AI is going to be a positive force.

Prof Hawking is not alone in fearing for the future.

In the short term, there are concerns that clever machines capable of undertaking tasks done by humans until now will swiftly destroy millions of jobs.



Elon Musk, chief executive of rocket-maker Space X, also fears artificial intelligence

In the longer term, the technology entrepreneur Elon Musk has warned that AI is "our biggest existential threat".

Robotic voice

In his BBC interview, Prof Hawking also talks of the benefits and dangers of the internet.

He quotes the director of GCHQ's warning about the net becoming the command centre for terrorists: "More must be done by the internet companies to counter the threat, but the difficulty is to do this without sacrificing freedom and privacy."

He has, however, been an enthusiastic early adopter of all kinds of communication technologies and is looking forward to being able to write much faster with his new system.



Prof Hawking is using new software to speak, but has opted to keep the same voice

But one aspect of his own tech - his computer generated voice - has not changed in the latest update.

Prof Hawking concedes that it's slightly robotic, but insists he didn't want a more natural voice.

"It has become my trademark, and I wouldn't change it for a more natural voice with a British accent," he said.

"I'm told that children who need a computer voice, want one like mine."





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