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A new computer game 'bot' acts just like a real person

A computer "bot" that hunts down and kills opponents in a video game has been judged to display behaviour that is indistinguishable from a human.

The bot, called UT^2, claimed first prize in the annual BotPrize competition.

Bots are computer program that control video game characters and play against real people

UT^2 fooled other players and judges that it was human during a game to win the prize.

The BotPrize competition is a form of Turing test. It involves real players and bots playing a modified version of a combat game called Unreal Tournament 2004.

To pass a the test a machine has to display intelligent behaviour that is indistinguishable from that of a human.

Inhuman behaviour

The game is a deathmatch in which both bots and humans explore a 3D world and attempt to kill each other by engaging in multiple rounds of combat.

During the BotPrize competition humans and bots use a special "judgement gun" to shoot opponents that they believe are human.

"We can't judge 'humanness' directly so we have to look at how often people mistakenly judge bots as human during a game," explained Philip Hingston, organiser of the BotPrize competition and an academic at Edith Cowan University in Australia.

Simple bots can be programmed to be extremely fast and accurate, but game players don't find these as fun to play against as real opponents, and they are easily distinguished from humans, he added.

That is because these bots act predictably, rarely make mistakes, and when they do make errors they repeat them again and again.

The competition had been run since 2008 and the bots entered in the contest had steadily been getting more human-like each year, Professor Hingston said.

This year for the first time two bots achieved humanness ratings of over 50%. The human players, by contrast, achieved average humanness ratings of just 40%.

These ratings are derived from the number of times that humans judge each bot to be human.

Until this year bots had always achieved significantly lower humanness ratings than real humans, and the previous highest rating by a bot was just 34.2%.

Military applications

Professor Hingston suggested that the artificial intelligence algorithms developed for the competition could have more serious applications than gaming in the future.

"They could be used in military training simulators to mimic the behaviour of villagers in Afghanistan or they could be to give robots more human behaviour," he said.

"When you think about robots as companions or carers, it's worth considering whether it would be advantageous to make them behave more like real humans."

He added that online poker players may also design bots that displayed human-like behaviour to avoid detection.

UT^2, the bot that achieved the highest rating, was produced by a team from the University of Texas at Austin.

The other bot to achieve a humanness rating of over 50% was developed by Mihai Polceanu, a doctoral student from Romania studying artificial intelligence in Brest, France.

The developers of the two bots will share a $7,000 (£4,323) prize provided by the competition's sponsor, California-based 2K Games.

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