

Google's DeepMind AI becomes the best StarCraft 2 'gamer' in the world

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DeepMind's artificial intelligence platforms have been gaining popularity around the world in the last few years thanks to their excellent mastery over complex, need-to-play 'brain-intensive' games like chess and shogi. and Go. Over time, we slowly 'evolved', defeating our flesh-skinned gamers with advanced machine learning techniques.

Earlier this year, a new version of the AI model built specifically for real-time strategy game StarCraft 2, named AlphaStar, was introduced by DeepMind. AlphaStar has also inherited very well the tradition of the elder, which makes people ashamed with the overwhelming victory before many of the leading StarCraft 2 players in the world at the present time.



After nearly 10 months of "practicing" AlphaStar has now become the "best player" StarCraft 2 in the world literally! More specifically, on Wednesday, October 30 last. DeepMind has published a new study on AlphaStar in Nature, which details how far AlphaStar has traveled in StarCraft 2, and regretfully informing the StarCraft 2 gaming community that AlphaStar is currently has earned a Grandmaster rating, meaning this AI model can beat 99.8% of all StarCraft 2 gamers around the world.

The question is why are researchers building AI models for a suitable video game, and what can this AI model teach us about artificial intelligence technology and machine learning? ?

If you don't already know, StarCraft 2 is a real-time strategy game where players control one of the three teams (or "races", in the parlance). Each race possesses unique attributes and the player must control an army of hundreds of units on a large map. While managing resources to build military units, players will have to simultaneously attack enemies and defend their bases. With such gameplay, there are countless tactics as well as simple to complex strategies that players can apply in the end to win.

The complexity and depth of the game makes it an important challenge for AI. Unlike in chess or Go, in StarCraft II, players cannot see what their opponent is doing. Also, while chess or Go allows you to pause and ponder strategy - StarCraft II is a "real-time" game title, so once the game starts, only win or lose. can stop the clock.



DeepMind put AlphaStar through a fairly simple training mode. First, it saw nearly a million replays of top players to learn tactics and try to imitate. Then, AlphaStar was 'experimented' with another DeepMind AI model so that it could deduce which strategy worked best in a technique called reinforcement learning. . This process trains AI by showing it that winning is 'good' and losing is 'bad'.

In fact, AlphaStar also possesses several advantages over humans. For example, for a normal person, there are many objective factors that can limit the brain's ability to respond and respond to each situation. To be fair, the DeepMind team deliberately interfered with AlphaStar, delaying computation time, latency, and limiting the number of actions it could take per minute. However, AlphaStar still knows how to overcome them all and show excellence.

"I have found AlphaStar's gameplay to be extremely impressive," Dario "TLO" Wunsch, a German StarCraft II expert, said in a statement. "The system is very adept at assessing its strategic position and knows exactly when to join or let go of an opponent."

The fact that machines can completely defeat humans in a complex video game may sound intimidating as a scenario about the end of the world when robots invade the earth, but in reality, the DeepMind team develops AI models like AlphaStar to improve systems in the real world.

For researchers, mastering a complex real-time strategy game like StarCraft II is one of the first steps to creating better, safer AI for applications that can change humanity. like medical, autonomous vehicles and robots.

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