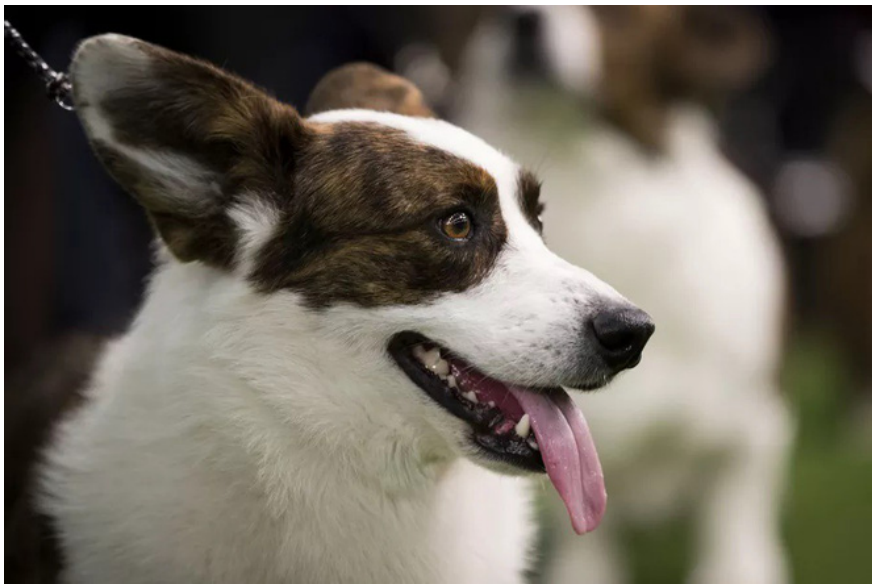
Researchers teach AI how to think like a dog and learn about the world around it

Scientists think learning from a dog will be easier for AI systems than previous training methods.

What can artificial intelligence learn from a dog? Plenty - researchers from the University of Washington and the Allen Institute of AI say. Recently, they created and trained AI to explain and predict dog behavior. Scientists say animals can provide a new source of training data for AI systems - including those used to control robots.

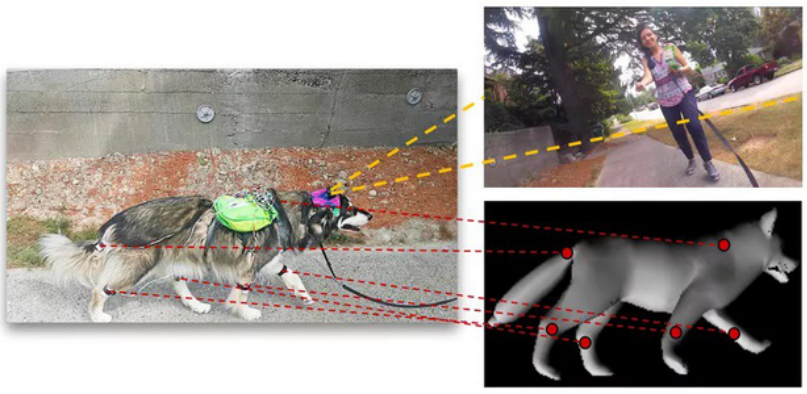


To train AI to think like a dog, researchers first need to have data. They gathered this information in video form by shooting the action of a Malamute dog named Kelp. A total of 380 short videos were shot from a GoPro camera mounted on the dog's head along with motion data from sensors on the legs and torso. Basically, Kelp was recorded in motion the same way as Hollywood actors using CGI (Computer Imaging Technology).

With these data in hand, the researchers analyzed Kelp's behavior using deep learning technology. This is an AI technique used to filter samples from a database. In this case, that means the AI ??will combine Kelp's limb motion data and visual data from GoPro to find a common relationship with dog activities. This information will be used to train the AI ??to predict how the dog will react in certain situations.

Talking to The Verge, lead author of the article, Kiana Ehsani explained that the predictive power of this AI system is accurate, but only for a short time. In other words, if the video shows an image of a stairway, you can guess the dog will climb them. But it is only a possibility, situations in life are not always simple to be accurately predicted. Ehsani, a graduate student at the University of Washington, says whether a dog will climb sometimes

depends on whether it sees an attractive object or toy upstairs.

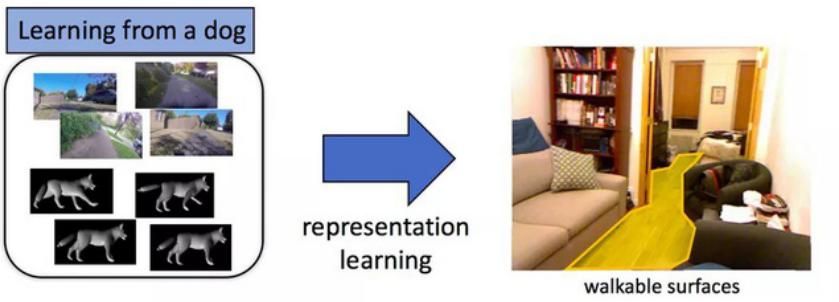


In another aspect of the research, scientists know that dogs 'show intelligence in their ability to observe, perceive food, obstacles, humans and other animals'. So can we train AI systems to react smartly like a dog in such situations?

The sentence is the word 'yes' but the ability is still very limited. The researchers applied two tests to their AI systems, asking it to identify different contexts (e.g. indoors, outdoors, on stairs, on balconies) and 'corpses'. The surface can be walked '. In both cases, the AI ??completed these tasks with great precision using basic data on dog movements and shelter.

Ehsani said: 'A dog's intuition is really good at determining where to walk. This is quite a difficult job with previous computer systems because it needs a lot of data. This knowledge may be a too sloping surface for walking or gaps that make it difficult to walk on. It takes a lot of time to program a robot with all these rules, but a dog will always know all this. So by monitoring Kelp's behavior, the AI ??system learns these rules without having to be taught. In other words, it learned from a dog.

Everything must be considered to proceed carefully. The software created by Ehsani and colleagues is not a brain model or a dog's consciousness. All it's doing is learning some very basic rules from a limited data set, like where dogs like to go for a walk. Similar to every other AI system, it simply finds patterns in the data. This is nothing new because scientists always train similar AI systems from databases.



However, Ehsani points out that this is the first time an AI system can learn from a dog and that animal data is also useful in developing AI systems that serve children. people. A dog can learn many useful things with robots. For example, dogs can recognize what people look like, the differences between adults and children. Dogs know

how to avoid cars and walk up the stairs safely, these are valuable lessons for any robot (controlled by AI) when it works in the human environment.

Of course, this article is just a very simple demonstration of how we can learn from animals but there is much more work to be done before this model works. But Ehsani is confident that it will bring more useful applications in the future. She said: *'This research made me immediately think of developing a robotic dog. It is a difficult job for a robot dog, it must know how to move and automatically decide where to go, what target to pursue.*

The new research will certainly help us develop a better and more effective robot dog. '

Reference: Theverge

China aggressively fosters AI for 500 teachers and 5,000 elite students in order to catch up with many great powers