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SWARM INTELLIGENCE: AI ALGORITHM PREDICTS THE FUTURE

BY [ANTHONY CUTHBERTSON](#) ON 1/25/16 AT 1:45 PM



A new A.I. algorithm that enables decision making through swarm intelligence could revolutionize democracy and transform healthcare.

TECH & SCIENCE ARTIFICIAL INTELLIGENCE

In February 2015, a few days before the Academy Awards, two groups of seven people were asked to predict who the winners would be. The first group—film critics gathered together by The New York Times—correctly guessed eight of the 15 Oscar winners. The second, the majority of whom had never even watched the nominated film, achieved 11 correct predictions.

Despite not being film buffs or statisticians, the second group managed to out-perform the industry experts thanks to [UNU](#), a new form of human-based artificial intelligence. One year on, UNU's creators

believe their platform can not only predict the winners of the 2016 Academy Awards, it could soon help revolutionize democracy.

“We focus on a unique form of artificial intelligence called artificial swarm intelligence,” UNU’s creator Louis Rosenberg tells Newsweek. “Ninety-nine percent of AI currently being developed is about replacing and ultimately exceeding human intelligence. Ours is different. It’s about amplifying human intelligence.”

Last year’s Oscar predictions formed part of the [pilot study](#) of UNU, offering tentative proof of the effectiveness of swarm intelligence.

It works like this: a group of people login to a [UNU](#) forum through their smartphones or computers. At the start of each decision, all participants are simultaneously presented with a question and a set of possible answers. Each participant has control of a graphical magnet that they can move about the screen to drag a puck to the answer they think is correct. The puck can only fall on one answer, and the group has 60 seconds to collectively come to a decision that best suits them all.

Polls Are Polarizing

The idea is that rather than dividing groups in the way that a poll would, UNU taps into the collective knowledge and intuition of the group to give a unified voice. The key is compromise.

“Taking a vote or poll is a great simple way to take a decision but it doesn’t help a group find consensus,” Rosenberg says. “It actually polarizes people and highlights the differences between them. People end up getting entrenched in their views.

“Beyond individual intelligence, nature has also cultivated intelligence through swarms. For example, bees, birds and fish act in a more intelligent way when acting together as a swarm, flock or school.”



UNU builds on the work of neurobiology professor Thomas Seeley, who found that bees used collective intelligence to locate the ideal location for a hive.

Rosenberg cites a 2010 study led by Thomas Seeley, a professor in the Department of Neurobiology and Behavior at Cornell University, who spent a decade observing how honey bees use swarm intelligence to find a new home. The life-or-death problem involves a process of collective fact-finding undertaken by several hundred scout bees working together to find possible locations.

When presented with five different nest site options by researchers, nearly all of the test swarms picked the location that best met the colonies needs in terms of food storage, size and rearing brood capabilities. The study of group decision making by honey bees might help human groups achieve collective intelligence and thus avoid collective folly,” Seeley concluded.

From Hives to Health Care

Groups of up to 150 people have been used in trials of the technology, with Rosenberg claiming larger groups deliver more accurate predictions. In a demonstration carried out exclusively for Newsweek, 70 people came together on the UNU platform to predict the winners of this year’s Oscars.

It took less than 10 minutes to get through all of the categories. Fans of the serially overlooked Leonardo DiCaprio will be pleased to know that if UNU proves correct again, 2016 is finally the year he wins an award for Best Actor.



The goal is to eventually make the platform available for everyone, from casual users wanting to predict scores to professionals. Rosenberg believes a group of doctors could use it to combine their collective intelligence in order to make more accurate diagnoses. One of the most obvious uses of UNU would be in politics, both for voters selecting candidates and politicians making policy decisions.

“Politicians have conflicting values but not conflicting knowledge,” Rosenberg says. “Forcing polarized groups into a swarm allows them to find the answer that most people are satisfied with. Our vision is to enable the power of group intelligence for everybody.”

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