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Facebook Built an AI System That Learned to Lie to Get What it Wants

Humans are natural negotiators. We arrange dozens of tiny little details throughout our day to produce a desired outcome: What time a meeting should start, when you can take time off work, or how many cookies you can take from the cookie jar.

Machines typically don't share that affinity, but new research from Facebook's AI research lab might offer a starting point to change that. The new system learned to negotiate from looking at each side of 5,808 human conversations, setting the groundwork for bots that could schedule meetings or get you the best deal online.

Facebook researchers used a game to help the bot learn how to haggle over books, hats, and basketballs. Each object had a point value, and they needed to be split between each bot negotiator via text.

Here's how the bot works: After it sees what each item is worth, it begins generating a statement listing its demands, one word at a time. For instance, the bot would say, "I'd like all the books," because the books are worth more points to it than hats or basketballs. Based on how the neural network has seen humans negotiate in the past, it comes up with a combination of words in a particular order that should return the greatest reward.

Then, after generating its own statement, it generates likely responses from its opponent, and what it would respond to those responses, and then on and on until the end of the conversation. The system does this after every exchange, slowly narrowing down to the optimal outcome. The researchers set the system to not accept getting nothing from the transaction, meaning it can't walk away from the negotiating table. The bot has to haggle forever.

The pursuit of Facebook's AI isn't too different than other applications of AI, like the game Go. Each anticipates its opponent's future actions and works to maximize its winnings. But unlike Google's Go-playing AlphaGo, Facebook's algorithm needs to make sense to humans while doing so.

From the human conversations (gathered via [Amazon Mechanical Turk](#)), and testing its skills against itself, the AI system didn't only learn how to state its demands, but negotiation tactics as well—specifically, lying. Instead of outright saying what it wanted, sometimes the AI would feign interest in a worthless object, only to later concede it for something that it really wanted. Facebook isn't sure whether it learned from the human hagglers or whether it stumbled upon the trick accidentally, but either way when the tactic worked, it was rewarded.

The Facebook team says they can also vary how hard the bot negotiates by changing how much it can vary its responses. To accelerate this line of research, Facebook is open-sourcing all of its code and data from the research

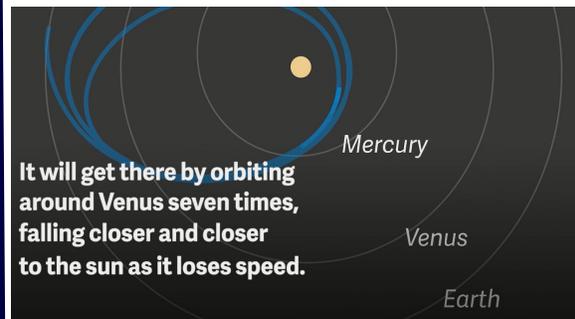
Source: NextGov - <http://www.nextgov.com/emerging-tech/2017/06/facebook-built-ai-system-learned-lie-get-what-it-wants/138705/?oref=site-nextgov-flyin-sailthru>

NASA's Going to the Sun

With a probe still operating far beyond Pluto and other missions orbiting Saturn, Jupiter, Ceres, Mars, Earth and the moon, NASA has eyes across the solar system like never before.

While more and more missions look outward, few have traveled the opposite direction—toward the sun that gives us light, heat and a stable orbit through space.

The summer of 2018, with its [Parker Solar Probe](#), NASA's going to change that. It will get within 4 million miles of the small star—several times closer than any previous missions. By going to the sun, rather than simply pointing a telescope in its direction, scientists hope to solve prevailing mysteries about its fiery atmosphere and its storms that can create huge problems here on Earth.



Placed in orbit within four million miles of the sun's surface, and facing heat and radiation unlike any spacecraft in history, the spacecraft will explore the sun's outer atmosphere and make critical observations that will answer decades-old questions about the physics of how stars work. The resulting data will improve forecasts of major space weather events that impact life on Earth, as well as satellites and astronauts in space.

[Watch the video here to see what they hope to find out](https://qz.com/996549/nasa-is-finally-going-to-one-of-our-solar-systems-final-frontiers-the-sun/), and why it's taken so long to make the mission a reality: <https://qz.com/996549/nasa-is-finally-going-to-one-of-our-solar-systems-final-frontiers-the-sun/>

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INTERLINK
P.O. Box 610246
DFW Airport, TX 75261-0246
Email: candy@interlink-ntx.org
Website: www.interlink-ntx.org

