



**TECH** 06/03/2017 18:14 GMT

# This Mind-Controlled Robot Corrects Its Mistakes When It Senses It's Done Wrong



By Oscar Williams

## Brain-controlled Robots



Mind-controlled robots are nothing new, but Baxter is a little different.

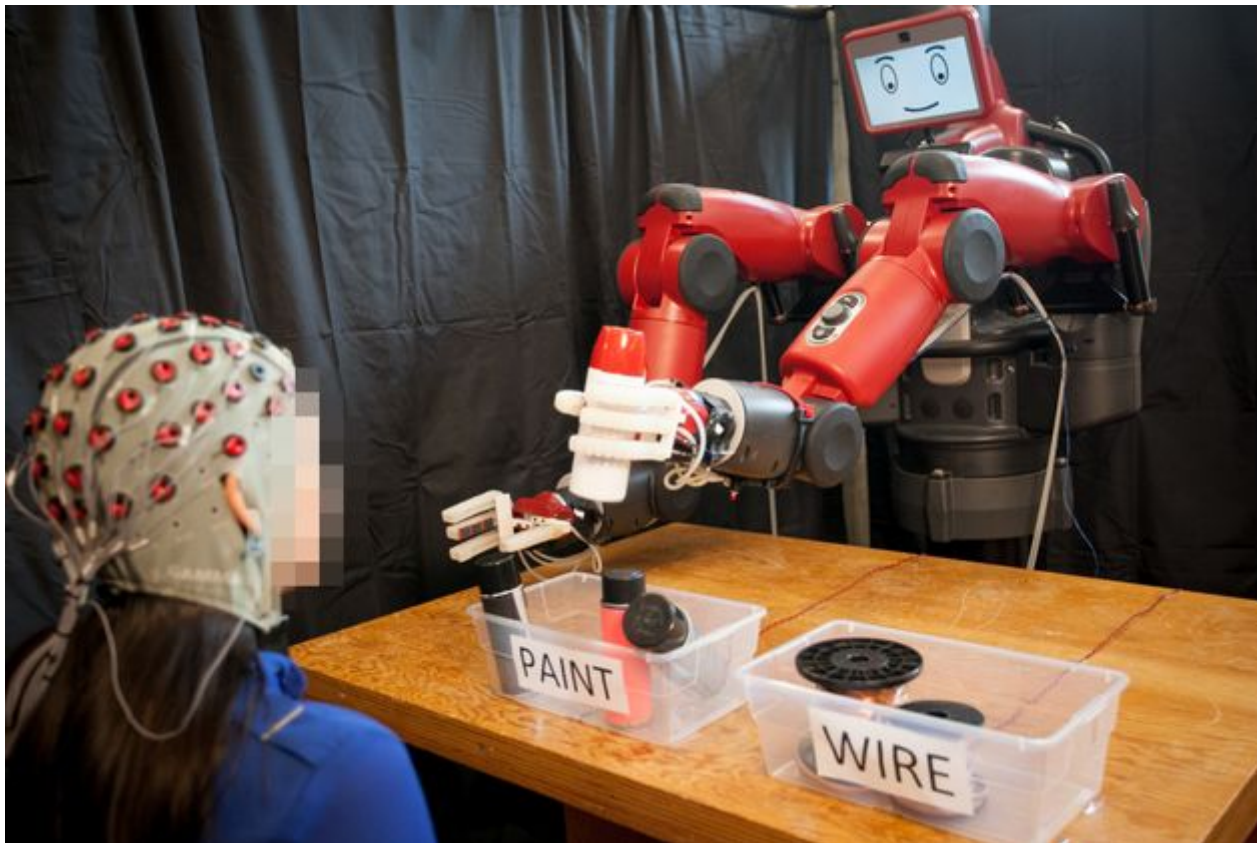
While most of its rivals require their operators to be trained to think in a prescribed way, Baxter can be operated by anyone, instantly.

As with other such robots, operators must don an EEG-cap that senses brain waves, but the type of waves it monitors are a lot more readable.

Baxter is able to detect “error-related potentials” – the signals our brain generates when we notice mistakes – and act on them.

In the video above, the robot tries to identify spray cans and wires and put them into the right box.

If it detects that the operator think it's making a mistake, it corrects itself, dropping the object in the right place.



JASON DORFMAN MIT CSAIL

The EEG monitoring and processing system was developed by researchers at MIT's Computer Science and Artificial Intelligence Lab (CSAIL), while Baxter was developed by Rethink Robotics, a company led by a former CSAIL director.

The researchers are hopeful that the robot could pave the way for more seamless interactions between robots and humans.

"Imagine being able to instantaneously tell a robot to do a certain action, without needing to type a command, push a button or even say a word," CSAIL Director Daniela Rus said in a statement.

"A streamlined approach like that would improve our abilities to supervise factory robots, driverless cars, and other technologies we haven't even invented yet."

Ad : (0:11) ?

A video player interface showing a man in a grey sweater and blue shirt drinking from a clear plastic cup. A dark menu overlay is positioned on the right side of the video frame. The menu is divided into two sections: 'ACTIONS' and 'PLAYER DETAILS'. The 'ACTIONS' section includes: 'Next Video', 'Previous Video', 'Load Time Analyzer', 'Reset Volume', and 'Copy Embed Tag'. The 'PLAYER DETAILS' section includes: 'Resolution: 720P', 'Size: 630W X 354H', 'Version: 21.1.269', and 'ID: 56c6056ee4b01f2b7e1b5f35' with a copy icon. At the bottom of the video player, there is a play button, a progress bar, and a volume icon. The text 'Ad: 00:11' is visible in the bottom right corner of the video frame.



**Oscar Williams**  
Tech reporter

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