Brain-inspired artificial intelligence in robots
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Applying neuroscience in robotics, Professor Sang Wan Lee from the Department of Bio and Brain Engineering, KAIST and Professor Ben Seymour from the University of Cambridge and Japan's National Institute for Information and Communications Technology proposed a case in which robots should be designed based on the principles of the human brain. They argue that robot intelligence can be significantly enhanced by mimicking strategies that the human brain uses during decision-making processes in everyday life.

The problem with importing human-like intelligence into robots has always been a difficult task without knowing the computational principles for how the human brain makes decisions—in other words, how to translate brain activity into computer code for the robots’ "brains."

However, researchers now argue that, following a series of recent discoveries in the field of computational neuroscience, there is enough of this code to effectively write it into robots. One of the examples discovered is the human brain's 'meta-controller', a mechanism by which the brain decides how to switch between different subsystems to carry out complex tasks. Another example is the human pain system, which allows them to protect themselves in potentially hazardous environments.

"Copying the brain's code for these could greatly enhance the flexibility, efficiency, and safety of robots," Professor Lee said.
The framework for achieving this brain-inspired artificial intelligence was published in two journals, *Science Robotics* on January 16 and *Current Opinion in Behavioral Sciences* on February 6, 2019.


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