"Discover the laws of physics on their own" artificial intelligence

Brandon Keim

Image credit: Science, images of the Foucault pendulum at the top of the site. Wikipedia Commons from

The answer was over a hundred years physicists have just arrived in a computer program. From the movement of the pendulum swing, he learns the laws of motion.

This program was developed by researchers at Cornell University, without any knowledge of geometry and physics, was able to reach the laws of nature.

This study has been expected to provide breakthroughs in the scientific community to handle the vast amounts of data.

Science is now level petabytes [one petabyte is a million gigabytes] which deals with the age data. Too complex for large, about the human brain can not analyze the data set, is trying to find out from there using a regular computer (Wired magazine's July 2008 article from The End of Science, we're on the topic.)

To find a rule from the raw data for years, has been thought to govern the realm of the human instinct rather than intelligence machinery. However, the human brain is unable to decipher and analyze complex data sets may come a time exhibited a shoulder tackle and a computer program of human scientists.

This program, Cornell University Associate Professor (Mechanical and Aerospace Engineering), Hod Lipson and his, to study the use of bio-engineering graduate students in the computer was developed by Michael Schmidt. The Science magazine's April 3 results of two studies
published in issue, can lead through a break in the attempt to realize it did not find that the laws of mathematics and science using the theory of Artificial Intelligence there. [Science4 March issue, just a hypothesis, experiment to test for artificial intelligence, Adam is also about]

Lipson and Schmidt, said the program was developed to identify factors related to each other in a given data set, to generate the equation that describes the relationship. The program will provide data sets, and single-pendulum oscillator connected to the spring, with describes the motion of dynamical systems as simple as a double pendulum. Both dynamic system is often used to teach physics to students.

Program is given a data set, the basic process first - addition, subtraction, multiplication, and division, and some algebraic operators - starting from the combination of the almost random.

At first, the equation generated by the program were not able to explain the data, the equation of slightly fewer errors than the other. The program uses an algorithm genetic equation to correct the mistakes most small, test them again, what good particular, repeat the same process again, to describe the dynamics of the final derived the equation. As a result, the equality of some of those very familiar - and the law of conservation of momentum, the first motion by Newton’s two things, each represented the law.

((2), posting a video to explain the program and experiment)

(2) continue to

Original WIRED NEWS (English)

sscoter market booming, "Super Cub clone" appeared

OQO Inc., stopped accepting new reservations: UMPC Future of?

Obama's special BlackBerry: 2 out of life now use the model

The Android’s online book of the Alpha 680, the base

)))

Lipon and Schmidt, said the program was developed to identify factors related to each other in a given data set, to generate the equation that describes the relationship. The program will provide data sets, and single-pendulum oscillator connected to the spring, with describes the motion of dynamical systems as simple as a double pendulum. Both dynamic system is often used to teach physics to students.

Program is given a data set, the basic process first - addition, subtraction, multiplication, and division, and some algebraic operators - starting from the combination of the almost random.

At first, the equation generated by the program were not able to explain the data, the equation of slightly fewer errors than the other. The program uses an algorithm genetic equation to correct the mistakes most small, test them again, what good particular, repeat the same process again, to describe the dynamics of the final derived the equation. As a result, the equality of some of those very familiar - and the law of conservation of momentum, the first motion by Newton’s two things, each represented the law.

((2), posting a video to explain the program and experiment)

(2) continue to

Original WIRED NEWS (English)